

September 9, 2019

VIA ELECTRONIC FILING

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

**Re: *Public Service Company of Colorado*
Xcel Energy Operating Companies Open Access Transmission Tariff
Docket No. ER19-____-000
Revisions to Attachment N Large Generator Interconnection
Procedures**

Dear Secretary Bose:

Pursuant to section 205 of the Federal Power Act, 16 U.S.C. § 824d, part 35 of the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) regulations, 18 C.F.R. § 35.13 (2018), Order No. 714,¹ and the Commission’s January 31, 2019 “Order on Tariff Filing,”² Public Service Company of Colorado (“PSCo”)³ submits revisions to the Xcel Energy Operating Companies FERC Electric Tariff, Third Revised Volume No. 1 (“Xcel Energy Tariff” or “Tariff”).⁴ The revisions modify the Large Generator Interconnection Process (“LGIP”) provided in Attachment N of the Tariff, including the Large Generator Interconnection Agreement (“LGIA”) in Appendix 8 to Attachment N (the “Revised LGIP”). PSCo proposes moving from a “first-come, first-served” approach to a “first-ready, first-served” approach for processing generation interconnection requests. The Tariff revisions are applicable to the PSCo Transmission System in the Western Interconnection.

¹ *Electronic Tariff Filings*, FERC Stats. & Regs. ¶ 31,276 (2008) (“Order No. 714”).

² *Pub. Serv. Co. of Colo.*, 166 FERC ¶ 61,076 (2019) (hereinafter as “Guidance Order”), *order on reh’g*, 167 FERC ¶ 61,141 (2019) (hereinafter as “Rehearing Order”).

³ PSCo is the designated e-Tariff filing entity for the Open Access Transmission Tariff of Northern States Power Company, Northern States Power Company (Wisconsin), Public Service Company of Colorado, and Southwest Public Service Company (“Xcel Energy Tariff”), consistent with the requirements of Order No. 714.

⁴ Xcel Energy Operating Companies, FERC Electric Tariff, Third Rev. Vol. No. 1.

PSCo respectfully requests an effective date of December 5, 2019 for the tariff modifications proposed, eighty-seven (87) days after the date of this filing. The proposed revisions are intended to benefit Interconnection Customers by improving PSCo's ability to provide timely Interconnection Service.

In Order No. 2003,⁵ the Commission issued standardized interconnection procedures and agreements for the interconnection of large generating facilities. The Commission's goal was to reduce undue discrimination and expedite the development of new generation, while protecting reliability and ensuring that rates are just and reasonable.⁶ PSCo's current interconnection process based on the *pro forma* LGIP is unable to meet the goals of Order No. 2003 because its queue has become unmanageable due to a large number of interconnection requests.⁷ The proposed changes will reduce undue discrimination and expedite the development of new generation, while protecting reliability and ensuring that rates are just and reasonable by improving the processing of interconnection requests. Because the proposed process will better achieve the goals of Order No. 2003 than the process described in the *pro forma* LGIP, PSCo's proposal is consistent with or superior to the *pro forma* LGIP.

This filing is PSCo's second attempt at comprehensively reforming its LGIP. This Second Revised LGIP filing is similar to PSCo's First Revised LGIP filing,⁸ but has been modified in response to the Commission's specific guidance in its Guidance Order, as well as certain other modifications made in response to additional stakeholder feedback. As explained below, PSCo believes that this Second Revised LGIP Filing would alleviate PSCo's severe interconnection queue backlog in a manner compliant with the Commission's various policies regarding non-independent transmission providers.

PSCo is and has been attempting to reform its LGIP in order to provide meaningful relief to generation developers in the PSCo region. Without reform, the use of the *pro forma* LGIPs would cause the majority of projects in PSCo's queue to languish. This would severely constrain the ability for Colorado to have a competitive market for generation development. The Commission adopted open access transmission and interconnection policies in order to *allow* competition in the wholesale markets.

⁵ *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 104 FERC ¶ 61,103 (2003), *order on reh'g*, Order No. 2003-A, 106 FERC ¶ 61,220, *order on reh'g*, Order No. 2003-B, 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), *aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007), *cert. denied*, 552 U.S. 1230 (2008).

⁶ Order No. 2003, 104 FERC ¶ 61,103 at P 7.

⁷ As of June 30, 2019, PSCo has approximately 22,183 MW of Interconnection Requests in its Queue with area Network Load of only approximately 7,300 MW.

⁸ *Public Service Company of Colorado*, "Revisions to Attachment N Large Generator Interconnection Procedures" Docket No. ER19-366 (filed Nov. 19, 2018) (hereinafter as "First Revised LGIP").

However, in order for the Commission's open-access policies to achieve this purpose, functional tariff procedures must be in place. PSCo is now presented with a situation where rigid adherence to the *pro forma* LGIP, without reasonable and necessary modifications, will prevent the continued existence of a functioning market for generation development and will prevent viable projects from reaching operation. Generation projects should be able to reach operation because they are well-planned, are the most economic options, and are viable because their developers have acquired the land rights, permits, and other resources necessary to complete their development. The determining factor in the market for generation development should *not* be that a project happened to get in the queue first and "camped-out" by gaming the procedures and blocking other viable projects. Allowing projects that are not viable to block projects that are viable simply by obtaining a higher queue position stands FERC's open-access policy on its head.

PSCo notes, and as discussed in Sections V.C.7.a.i, V.C.5.b.v.b., and V.D.2 of the instant filing letter, that although the holistic reform is a package, three specific aspects of the filing are severable and independent proposals under Section 205: (1) the definition of Site Control, (2) the use of cash for security, and (3) suspension terms.⁹ The Commission may accept or reject these three aspects of the Second Revised LGIP filing independently from the remainder of PSCo's filing. For each of these aspects, PSCo consents to the specific alternative modification to its proposal discussed below.¹⁰ Such an action would not transform the filing into an entirely new rate but rather would constitute a minor deviation and prevent the unnecessary administrative burden of resubmitting the remaining provisions that the courts have found acceptable.¹¹

⁹ PSCo considers the following specific sections of the Revised LGIP to be severable: Section 1 [Site Control], 7.7.5, 5.16.1, and 5.16.2.

¹⁰ The United States Court of Appeals for the District of Columbia Circuit has held that, in certain circumstances, the Commission has "authority to propose modifications to a utility's [FPA section 205] proposal *if the utility consents to the modifications.*" *NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 114-15 (D.C. Cir. 2017); *see also Nevada Power Co.*, 167 FERC ¶ 61,086 at P 14 & n.17 (2019) (applying this standard to a utility's proposed reforms of its interconnection procedures).

¹¹ *See, e.g., City of Winnfield v. FERC*, 744 F.2d 871 (D.C. Cir. 1984); *Western Res., Inc. v. FERC*, 9 F.3d 1568 (D.C. Cir. 1993).

TABLE OF CONTENTS

	<u>Page</u>
OVERVIEW	7
I. Modifications From First Revised LGIP	9
A. “At-Risk” Financial Security	9
B. Treatment of Security If a Project Does Not Withdraw	14
C. Network Upgrade Cost Allocation	15
D. Definition of Site Control	17
1. Exclusivity.....	17
2. Alternative Modification to Revert to the <i>Pro Forma</i> Definition of Site Control	18
E. Alternative Demonstration of Site Control.....	18
F. LGIA Suspension Terms	20
G. LGIA Termination Process.....	21
H. Provisional Interconnection Service.....	22
I. Other Order No. 845 Related Items	22
J. Miscellaneous Changes Agreed to in FERC Proceeding.....	22
II. Background	23
A. Public Service Company of Colorado	23
B. PSCo’s Current Large Generator Interconnection Procedures.....	24
C. PSCo Interconnection Funding Policy	26
III. The Need for Reform	27
IV. Development of LGIP Reform Proposal.....	32
A. Commission’s 2008 Order on Interconnection Queue Practices	33
B. PNM Interconnection Orders	34
C. Interconnection Queue Reform by Other Non-Independent Transmission Providers.....	38
D. First Revised LGIP (Filing and Request for Rehearing)	39
E. Stakeholder Process For the Second Revised LGIP	42
V. Description and Justification of Proposed Tariff Revisions	42
A. Overview	42
B. Informational Interconnection Study	44
C. Definitive Interconnection Study Process.....	45
1. Overview	46
2. Study Cost Deposit and Study Cost Allocation	47
3. Upgrade Cost Allocation	49
4. Activities Occurring Prior to the Definitive Interconnection Study Process.....	49

a.	Submission of a Valid Interconnection Request	50
b.	DISIS Cluster	52
c.	Resource Solicitation Cluster.....	53
d.	Customer Engagement Window	55
5.	Definitive Interconnection System Impact Study	56
a.	Study Phases.....	56
(i)	Phase 1.....	57
(ii)	Phase 2.....	57
(iii)	Phase 3.....	57
(iv)	DISIS Timing.....	58
b.	Readiness Milestones	58
(i)	Overview	58
(ii)	Contract For Sale Option.....	59
(iii)	Inclusion in a Resource Plan Option	60
(iv)	Provisional Interconnection Service Option.....	61
(v)	Provision of Security <i>in lieu of a</i> Demonstration of Readiness and Readiness Milestone 5 (M5)	62
6.	Withdrawal Penalty - Amount.....	67
7.	Withdrawal Penalty – Distribution	73
a.	Site Control.....	75
(i)	Definition	75
(ii)	Use of Site Control to Show Readiness	77
D.	Modifications to the Large Generator Interconnection Agreement	78
1.	Clarification of Termination Procedures.....	78
2.	Effect of Missed Milestones and Effect of Suspension.....	80
E.	Transitional Process.....	81
1.	Overview	81
2.	Transitional Serial Process.....	84
3.	Transitional Cluster Process.....	85
F.	PSCo’s Proposal Is Consistent with Commission Policy.....	89
G.	Commitment to Re-Evaluate	91
VI.	Information Related to the Effect of the Rate Change.....	91
VII.	Additional Information Submitted in Support of Filing.....	91
A.	Information Required by Section 35.13 of the Commission’s Regulations, 18 C.F.R. § 35.13	91

1.	Contents of Filing – Section 35.13(b)(1)	92
2.	Requested Effective Date – Section 35.13(b)(2) Waiver Request	92
3.	The Names and Addresses of Persons to Whom a Copy of the Rate Change Has Been Posted – Section 35.13(b)(3)	92
4.	Brief Description of Rate Change – Section 35.13(b)(4)	93
5.	Statement of Reasons for Rate Change – Section 35.13(b)(5)	93
6.	Requisite Agreement for Rate Change – Section 35.13(b)(6)	93
7.	Statement Showing Expenses or Costs Included in Cost-of- Service Statements – Section 35.13(b)(7)	93
VIII.	COMMUNICATIONS AND CORRESPONDENCE	93
IX.	CONCLUSION	94

OVERVIEW

The PSCo Interconnection Queue is badly in need of reform. PSCo currently has over 22,000 MW of interconnection requests in a balancing authority area (“BAA”) with load of approximately 8,600 MW. These interconnection requests are almost all for network resource interconnection service to deliver power to load in the PSCo BAA. The sheer volume of requests has made PSCo’s Large Generator Interconnection Procedures unmanageable and they are no longer adequate to clear the queue. To that end, PSCo has been diligently working on reforming its LGIP to move from the “first-come, first-served” procedures provided for in Order No. 2003 to a “first-ready, first-served” interconnection process; a process that has been found to be consistent with or superior to the Order No. 2003 *pro forma* LGIP for both RTOs and independent Transmission Providers.

PSCo’s reform efforts began with extensive stakeholder processes that resulted in an initial filing of its queue reform proposal on November 19, 2018 in Docket No. ER19-366-000. In that filing – much of which is carried over into this instant reform filing – PSCo proposed to change its LGIP from a first-come, first-served approach to a first-ready, first-served approach. PSCo explained that, in developing its reforms, it started with the LGIP reforms adopted in 2011 by Public Service Company of New Mexico (“PNM”)¹² and then, having the benefit of seeing what had and had not worked in PNM’s experiences additional reform measures were developed. Among other things, PSCo proposed to implement cluster studies through a Definitive Interconnection System Impact Study (“DISIS”) process, and to combine the existing interconnection feasibility and system impact studies. To enter the DISIS, interconnection customers were required to demonstrate that their projects were viable. Customers were provided with both financial and non-financial options for demonstrating their projects’ viability, and all customers were required to provide some at-risk financial security prior to executing an LGIA.

On January 31, 2018, the Commission issued its Guidance Order rejecting PSCo’s proposed tariff provisions, without prejudice, and providing guidance on improvements to PSCo’s proposed queue reforms that would be acceptable to the Commission. PSCo interprets the Guidance Order as generally supportive of its queue reforms, subject to PSCo addressing the issues raised by the Commission. The Commission recognized that “PSCo has a large backlog of over 23,000 MW of generation interconnection requests” and found that “PSCo has demonstrated a need to address this issue.”¹³ The Commission held, however, that the First Revised LGIP should be modified in several respects and

¹² *Pub. Serv. Co. of N.M.*, 136 FERC ¶ 61,231 (2011) (hereinafter as “PNM Order”)

¹³ Guidance Order at P 30.

“provide[d] guidance to assist PSCo in alleviating [the Commission’s] concerns and refiling a modified proposal.”¹⁴ The Commission stated that it encouraged PSCo to implement the Commission’s identified changes and to refile.¹⁵

The Guidance Order specifically provided the following guidance:

- (1) PSCo’s proposed Revised LGIP impermissibly allocated the costs of Network Upgrades to interconnection customers;
- (2) PSCo did not sufficiently explain what would happen to the financial milestone payments upon execution of an LGIA;
- (3) PSCo’s proposal did not allow interconnection customers to provide the same alternative demonstration of the Site Control as approved in PNM. Additionally, the Commission found that the Site Control definition was overly restrictive due to the requirement for an interconnection customer to demonstrate exclusive land rights for a generating facility, excluding the possibility of co-located projects;
- (4) PSCo’s proposed termination provision in Article 2.3.1 included a misplaced reference;
- (5) PSCo’s proposed revisions to the suspension provisions of the LGIA impermissibly assigned Network Upgrade costs to a suspending interconnection customer, which is inconsistent with Order No. 2003;
- (6) PSCo’s revisions to the option to build provisions in Article 5.2(3) were unnecessary;
- (7) PSCo had not sufficiently supported why a customer under a Provisional LGIA should be denied the same suspension rights as customers constructing facilities under a standard LGIA. Further, PSCo should clearly address and support the criteria explained in Order No. 845; and
- (8) PSCo had failed to demonstrate that its tariff includes a process for utilizing and transferring Surplus Interconnection Service that is consistent with or superior to Order No. 845 and that PSCo should clearly address and support the criteria explained in Order No. 845.

Upon receipt of the Guidance Order and after the rehearing process had

¹⁴ *Id.*

¹⁵ *Id.*

concluded, PSCo continued to examine and revise its queue reform proposal. In addition to making the changes encouraged by the Commission in the Guidance Order, PSCo also undertook an additional stakeholder process to obtain input and feedback from stakeholders regarding PSCo's new queue reform. After undertaking this process, PSCo now presents to the Commission its revised queue reform proposal.

Consistent with its understanding of the Guidance Order, PSCo's queue reform proposal largely aligns with its proposal in Docket No. ER19-366-000. The most significant changes in this proposal from the previous one are revisions intended to conform this Second Revised LGIP with Commission and stakeholder guidance. For the benefit of the interested parties, including the Commission and its staff, the instant filing first describes the specific changes to PSCo's proposal made in response to the Guidance Order. This filing letter then provides a comprehensive discussion of PSCo and its queue reform proposal consistent with PSCo's burden of proof pursuant to Section 205 of the Federal Power Act.

I. Modifications From First Revised LGIP

Exhibit XES-300 is the proposed LGIP marked to show the changes between the First Revised LGIP and the Second Revised LGIP. Since revisions associated with Order No. 845 were incorporated into PSCo's LGIP between the First Revised LGIP filing and this Second Revised LGIP filing, the Order No. 845 language is not shown as a revision, as that language has already been incorporated into PSCo's Tariff.

As discussed above, the Commission provided guidance on six primary issues. The description of how PSCo has modified its proposal for each issue in response to the Commission guidance is provided below.

A. "At-Risk" Financial Security

In the Guidance Order, the Commission rejected PSCo's at-risk financial security proposal where, if a customer withdrew from the queue, financial security could be forfeited in certain circumstances and be applied toward the costs of Network Upgrades needed to interconnect other customers' projects.¹⁶ In its Rehearing Order, the Commission clarified that it rejected the proposed at-risk financial security provisions because forfeited amounts were proposed to "fund network upgrades needed to interconnect other projects in the same DISIS study cluster, or in lower queued study clusters (i.e. equal- or lower- queued projects)."¹⁷ The Commission explained that this revenue distribution proposal would run "afoul of Commission precedent prohibiting the

¹⁶ Guidance Order at P 55.

¹⁷ Rehearing Order at P 16.

direct assignment of network upgrade costs [to Interconnection Customers]”¹⁸in non-RTO or ISO areas.

To address the concerns expressed in the Guidance Order, PSCo has removed the linkage between financial security and Network Upgrades. Instead, security provided by customers in the study process (i.e., when a customer elects to use financial security to satisfy Readiness Milestones *in lieu* of a non-financial demonstration of readiness) is calculated as a multiple of the study deposit. Security will be refunded to the Interconnection Customer upon commercial operation or withdrawal and settlement of final invoices. For Interconnection Customers who withdraw from the queue or for whom an LGIA is terminated prior to commercial operation, the security maybe drawn upon to the extent needed to settle any final invoice where the final invoice may include a withdrawal penalty.

In this proposal, the withdrawal penalty is only applied in circumstances where the withdrawal negatively impacts equal or lower queued projects and the allocated upgrades did not significantly increase in cost between study phases. Further details regarding calculation, implementation, and collection of the withdrawal penalty are further discussed in Sections V.C.6 and V.C.7 below.

The withdrawal penalty is intended to aid the transition to a first-ready, first-served queue process by creating financial exposure for the Interconnection Customer. By creating a mechanism to incentivize customers to have ready projects prior to entering the queue, the withdrawal penalty is expected to enable a more timely and streamlined interconnection process for customers with ready projects. Thus, PSCo’s proposal is consistent with the Commission’s objectives in adopting Order No. 2003 to facilitate non-discriminatory resource interconnection and further improves upon the *pro forma* LGIP because it will resolve barriers to interconnection of ready projects due to delays in queue processing caused by not-ready projects that are clogging the queue.

Similar to the approach taken by PNM in its own LGIP reforms, the withdrawal penalty amount is based on multiples of the project’s study costs. This withdrawal penalty reflects the potential restudy costs which could result from the project’s withdrawal from the queue, as well as other harms which are caused by late-stage withdrawals; but most importantly, the withdrawal penalty will discourage disorderly use of interconnection service. Also like the PNM approach, the withdrawal penalty is only used to fund study costs, and is not used to fund Network Upgrades. This proposal is responsive to the Commission’s guidance and, as discussed below, is consistent with Commission policy and is consistent with or superior to the *pro forma* LGIP.

¹⁸ *Id.* at P 17.

The Commission has previously held that charging Interconnection Customers multiples of study costs as a penalty, and using such study amounts to fund interconnection studies is consistent with Commission policy and also consistent with or superior to the *pro forma* LGIP. In the Rehearing Order, the Commission referenced PNM's LGIP reform¹⁹ and explained that:

[The Commission] previously found an interconnection reform proposal filed by a non-RTO/ISO that included at-risk deposits to be consistent with or superior to the *pro forma* LGIA, in that case the forfeited funds were proposed to be used for interconnection study costs, which does not raise the same concerns as PSCo's proposal.²⁰

In the PNM Order, the Commission did not explicitly discuss the withdrawal penalty, but instead determined PNM's "proposal to streamline its interconnection procedures to address a backlog of interconnections requests," inclusive of the withdrawal penalty and the refundable security, was "consistent with or superior to the *pro forma* LGIP because it allows PNM to better manage this process."²¹

The Commission continued in the PNM Order by saying that the "transition towards a 'first-ready, first-served' approach is consistent with the guidance provided by the Commission in the Technical Conference Order."²² The Commission went on to find that "PNM's proposal should discourage speculative projects from entering more advanced stages of the study process, allowing PNM to focus on more developed projects, while also providing options for interconnection customers seeking informational studies."²³

PSCo's refundable security and withdrawal penalty proposal is consistent with or superior to the *pro forma* LGIP for the same reasons as PNM's modifications were determined to be consistent with or superior to the *pro forma* LGIP. Just as PNM did in its LGIP filing, PSCo proposes security and withdrawal penalties to "streamline its interconnection procedures to address a backlog of interconnections requests."²⁴ Also like PNM, PSCo proposes to use such funds for "interconnection study costs."²⁵ The concept of requiring security during the study process and of imposing withdrawal

¹⁹ PNM Order at P 80.

²⁰ Rehearing Order at P18 (citing PNM Order).

²¹ PNM Order at P 77.

²² *Id.* at P 79.

²³ *Id.* at P 80.

²⁴ *Id.* at P 77.

²⁵ *Id.* at P 80.

penalties when an Interconnection Customer withdraws from the PSCo queue is consistent with or superior to the *pro forma* LGIP, because, just like with PNM, such a concept is a needed element to “to streamline its interconnection procedures to address a backlog of interconnections requests.”²⁶

The use of penalties to encourage customer behavior is also generally consistent with the *pro forma* OATT. In the *pro forma* OATT, there are two instances where the Commission uses penalties to discourage disruptive customer behavior.

One penalty is intended to encourage customers to reserve the amount of transmission capacity needed before flowing energy over a transmission system. Under the *pro forma* OATT, Transmission Providers charge twice the posted rate for unreserved use of the transmission system. In Order No. 890, the Commission stated that the “unreserved use penalty itself will help discourage disorderly use of transmission service.”²⁷ The Commission did not limit the application of the unreserved use penalty only to instances where unreserved use causes the specific harm of jeopardizing reliable operations of the transmission system. The Commission stated, “Absent a penalty in all instances, transmission customers would have an increased incentive to under-reserve transmission service, which would lead to an increase in the likelihood that system reliability would be impaired. In addition, a transmission customer that uses more transmission service than it has reserved, even in periods when system reliability has not been impaired, has nonetheless disturbed the orderly allocation of transmission service.”²⁸

In this instance, PSCo is proposing a withdrawal penalty in order to discourage disorderly use of the interconnection process. The withdrawal penalty helps encourage a disciplined approach to the interconnection service queue by creating a financial incentive to enter the queue only when a project is ready and to leave the queue as soon as readiness of a project falters. These financial incentives help limit the risk of developing a clogged and unmanageable queue and therefore discourage disorderly use of interconnection service.

²⁶ *Id.* at P 77.²⁷ *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 118 FERC ¶ 61,119 at P 835 (2007), *order on reh'g*, Order No. 890-A, 73 FR 2984 (January 16, 2008), 121 FERC ¶ 61,297 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009), *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

²⁷ *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 118 FERC ¶ 61,119 at P 835 (2007), *order on reh'g*, Order No. 890-A, 73 FR 2984 (January 16, 2008), 121 FERC ¶ 61,297 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009), *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

²⁸ *Id.* at P 838.

Another penalty described in Order No. 890 is the imbalance penalty. This penalty works in conjunction with the unreserved use penalty to discourage inaccurate scheduling of energy. In the case of imbalance penalties, the Commission “recognize(d) the need to provide transmission customers with the appropriate incentives not to intentionally dump power on the system or lean on other generation.”²⁹ In a similar fashion, PSCo proposes that the Commission recognize the need to provide interconnection customers an appropriate incentive to enter the queue only when they have a ready project under a first-ready, first-served design and not clog the queue with not-ready projects.

The Commission imposes non-refundable financial commitments in the *pro forma* LGIP. In Order No. 2003, the Commission required non-refundable payments if Site Control is not established. Under the *pro forma* LGIP, these non-refundable deposits are cumulative and increase through the interconnection process. Per the *pro forma* LGIP, if an Interconnection Customer does not demonstrate Site Control, it must provide a deposit of \$10,000 to enter the queue, and 25 times that amount (\$250,000) to enter into an LGIA. Both of these amounts may be non-refundable.³⁰ The Commission noted that among other things, the additional non-refundable deposit/security is “sufficient incentive to an Interconnection Customer to refrain from engaging in ... speculative behavior...”³¹ PSCo’s proposal expands on this concept to achieve the same goals, and is therefore conceptually consistent with the *pro forma* LGIP.

It is critical to PSCo’s proposal that interconnection customers be subject to a penalty in the event that the customer withdraws from the interconnection queue. If a developer determines that its project is not viable, the developer should be incentivized to withdraw its project from the queue as soon as possible. Delaying such a withdrawal until the last possible moment harms other interconnection customers because it causes study delays and restudies and results in misinformation about interconnection costs for lower queued projects. Further, delays in interconnecting lower-queued projects can result in added costs for developers due to impacts on land options, financing cost risk, potential loss of equipment deposit costs, and other factors. In some cases, lower queued ready projects may never move forward if delays in interconnecting frustrate business

²⁹ *Id.* at P 676.

³⁰ *Pro forma* LGIP Section 3.4.1: “If Interconnection Customer demonstrates Site Control within the cure period specified in Section 3.4.3 after submitting its Interconnection Request, the additional deposit shall be refundable; otherwise, all such deposit(s), additional and initial, become **non-refundable**.” and Section 11.3: “Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer shall provide Transmission Provider (A) reasonable evidence that continued Site Control or (B) posting of \$250,000, **non-refundable** additional security, which shall be applied toward future construction costs.”

³¹ Order No. 2003 at P 101. As evidenced by PSCo’s currently clogged queue, these amounts have not been sufficient to discourage speculative behavior.

objectives of the developer. In these cases, developers may be forced to write-off significant project development costs. Further, customers may be harmed from both a cost and reliability perspective if completion of needed generation projects is stymied because of speculative projects in the queue.

PSCo's foremost reason for proposing modifications to the LGIP is to address its current queue backlog and avoid development of future queue backlogs. PSCo's current backlog - and backlogs experienced by other transmission service providers - is driven, in large part, by the presence of speculative projects. The proponents of these speculative projects currently have no incentive to withdraw from the queue but rather have an incentive to hold their queue position for as long as possible on the off chance that they may find an off-taker or may find someone with a ready project to buy out their queue position.

PSCo's proposal to penalize withdrawals and to use any penalty revenues to fund interconnection studies is superior to or consistent with the *pro forma* LGIP because it will transition PSCo to a first-ready, first-served LGIP design that prioritizes ready projects over speculative projects.

B. Treatment of Security If a Project Does Not Withdraw

In the Guidance Order, the Commission stated that it was unclear in the First Revised LGIP Filing what would happen to Financial Security Readiness Milestones following a customer's execution of an LGIA, "i.e., if the customer does not withdraw" from the interconnection queue.³² The Commission stated that "it appears that these financial milestone payments upon execution of an LGIA where an interconnection customer does not withdraw[] will go to PSCo" and that "[t]his is not appropriate."³³

In response, PSCo proposes additional language to clarify that the security is refunded to the customer if the interconnection customer remains in the queue, signs an LGIA, and the project reaches commercial operation. To be clear, security will not go to PSCo under the Revised LGIP.

Section 7.7.5 of the proposed Revised LGIP identifies the total amount of security required at each milestone. Previously provided security is carried forward and applied toward the newly determined amount at the next phase of the process. Section 7.7.5 also states that the security is refunded to the Interconnection Customer if the project reaches commercial operation, is withdrawn from the queue, or if the LGIA terminates, subject to final settlement of invoices which may include withdrawal penalties in accordance with

³² Guidance Order at P 55.

³³ *Id.*

the tariff.

The additional language is responsive to the Commission's guidance. The language clarifies how financial security is processed and returned to the customer when the project reaches commercial operation.

C. Network Upgrade Cost Allocation

In its Guidance Order, the Commission rejected PSCo's proposals for allocating Network Upgrade costs between customers within the study cluster.³⁴ Specifically, the Commission found PSCo had not clearly explained how costs of specific categories of upgrades should be assigned and allocated between customers in the cluster.

PSCo originally modeled its Network Upgrade cost allocation language on the language the Commission accepted for PNM. This language was revised through the stakeholder process conducted by PSCo, resulting in deviations from the approved PNM language. In this Second Revised LGIP filing, PSCo has reverted back to the PNM language³⁵ and added additional clarifying language.

Like PNM, PSCo proposes two categories of Network Upgrades for purposes of cost allocation. The first category consists of "station equipment including all switching stations," which is the same language used by PNM. For this category of upgrades, costs are allocated to generating facilities interconnecting to the station on a per capita basis. PNM uses the term "pro rata" for cost allocating these types of upgrades, which we understand has the same meaning as "per capita," in that, costs are allocated on a per Interconnection Request basis.

The second category used by PNM is "transmission lines, transformers and

³⁴ Guidance Order at P 36. Also note consistent with Order No. 2003, PSCo provides transmission credits as reimbursement to interconnection customers that fund needed network upgrades. Order No. 2003, 104 FERC ¶ 61,103 at PP 28-29, 696. PSCo is not proposing revisions to its crediting policy.

³⁵ PNM's Network Upgrade cost allocation language contained in Section 4.2.4 states as follows: "For Network Upgrades identified in Cluster Studies, the Transmission Provider shall calculate each Interconnection Customer's share of Network Upgrade costs in the following manner:

- a. Station equipment including all switching stations will be allocated based on the number of Generating Facilities interconnecting at an individual station on a pro rata basis.
- b. All transmission lines, transformers and voltage support related Network Upgrades will be allocated based on the proportional capacity of each individual Generating Facility in the Cluster Studies requiring such Network Upgrades." *Public Service Company of New Mexico*, Attachment N - Large Generation Interconnection Procedures ("LGIP") and Large Generator Interconnection Agreement ("LGIA") at Section 4.2.4, Docket No. ER11-3522-000 (May 5, 2011) (hereinafter as "PNM OATT").

voltage support related Network Upgrades.” For this category of upgrades, PNM allocates costs based on the proportional capacity of each individual Generating Facility in the Cluster Studies requiring such Network Upgrades. In its proposal, PSCo added another type of facility to this category in addition to the types of facilities identified by PNM - additional breakers not located in the substation in to which the generating facility proposes to connect. PSCo clarifies that it will use (1) “distribution factor analysis” to measure the “proportional impact” of transmission lines and transformers, (2) “voltage impact analysis” to measure the “proportional impact” of voltage support related Network Upgrades, and (3) “short circuit analysis” to measure the “proportional impact” of upgrades to existing breakers not physically located in a point of interconnection substation or associated with a new transmission facility. The direct testimony of Dr. Liam Noailles provides an illustrative example of the proposed Network Upgrade cost allocation and PSCo plans to incorporate the same or similar examples in a business practice that will be posted on our OASIS site.³⁶

The revised upgrade cost allocation tariff language is provided below, with the language proposed in this Second Revised LGIP marked against the language proposed in the First Revised LGIP (deletions are shown in strike out and additions are shown in underline).

4.2.4 Transmission Provider’s Interconnection Facilities and Network Upgrade Cost Allocation.

For Transmission Provider’s Interconnection Facilities and Network Upgrades identified in Cluster Studies, Transmission Provider shall calculate each Interconnection Customer’s share of costs in the following manner:

- a) Station equipment Network Upgrades required for direct interconnection, including all switching stations, shall be allocated based on the number of Generating Facilities interconnecting at an individual station on a per capita basis (i.e. on a per Interconnection Request basis). If multiple Interconnection Customers are connecting to the Transmission Provider’s System through a single Interconnection Customer’s Interconnection Facility (i.e. sharing the Interconnection Customer’s Interconnection Facility connecting to the Transmission Provider’s Interconnection

³⁶ Ex. XES-200, Noailles Testimony at 39; Ex. XES-205.

Facility(ies)), those Interconnection Customers shall be considered one Interconnection Customer for the per capita calculation described in the ~~proceeding~~ preceding sentence. Shared Transmission Provider's Interconnection Facilities shall be allocated based on the number of Generating Facilities sharing that Transmission Provider's Interconnection Facility on a per capita basis.

- b) All Network Upgrades other than those identified in Section 4.2.4.a ~~shall~~ will be allocated based on the proportional impact of each individual Generating Facility in the Cluster ~~Study~~ has Studies on such Network Upgrades. The proportional impact of such Network Upgrades shall be calculated as follows. All transmission lines and transformers identified as Network Upgrades shall be allocated using distribution factor analysis. Voltage support related Network Upgrades shall be allocated using a voltage impact analysis which will identify each Generating Facility's contribution to the voltage violation. Network Upgrades associated with upgrading existing breakers not physically located at the substation to which the Generating Facility is interconnecting or associated with a new transmission facility shall be allocated based on short circuit analysis.
- c) Costs of Transmission Provider's Interconnection Facilities ~~that serve only one~~ are directly assigned to the Interconnection Customer~~are directly assigned to that Interconnection Customer(s)~~ using such facilities.

This additional language provides the needed clarification, is responsive to the Commission's guidance and therefore should be determined to be consistent with or superior to the *pro forma* LGIP.

D. Definition of Site Control

1. Exclusivity

In the Guidance Order, the Commission found PSCo's definition of Site Control "is overly restrictive because . . . the requirement for an interconnection customer to

demonstrate exclusive land rights for a generating facility... appears to exclude the possibility of co-located projects, such as solar generation and energy storage.”³⁷ The Commission provided guidance that “to the extent PSCo proposes in a future filing to revise its interconnection procedures, PSCo should provide more clarity as to how its proposed definition does not prevent interconnection customers that are co-located from being able to demonstrate Site Control.”³⁸ In its Second Revised LGIP Filing, PSCo provides this clarity by adding the following sentence to the definition of Site Control: “Exclusive site control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects.”³⁹

2. Alternative Modification to Revert to the *Pro Forma* Definition of Site Control

If the Commission believes PSCo’s revised definition of Site Control is not consistent with or superior to the *pro forma* LGIP, PSCo would accept the modification to revert to the definition of Site Control in the *pro forma* LGIP paired with the removal of the increasing percentages of Site Control required for each phase. With the removal of the “exclusivity” requirement in the definition of Site Control, PSCo would require full (i.e., 100%) site control to enter and proceed through the Definitive Interconnection Study Process. PSCo would accept this modification and would file the appropriate changes to the tariff in e-tariff upon compliance.⁴⁰

E. Alternative Demonstration of Site Control

In the Guidance Order, the Commission determined that PSCo’s proposal in the First Revised LGIP would not have allowed interconnection customers to provide an alternative deposit or demonstration *in lieu* of the Site Control requirements as established by Order No. 2003.⁴¹ The Commission stated that it accepted PNM’s

³⁷ Guidance Order at P 62.

³⁹ This language provides sufficient flexibility to accommodate many different types of land-owner/developer arrangements for co-located projects.

Note that PSCo does not have the same issue as the Commission identified in *MISO* where MISO’s current policies require the submission of a separate interconnection request for each of the generating units (including storage devices) that use a distinctly different type of fuel source (i.e., if there is more than one primary fuel source included in the proposed generating facility). *Midcontinent Independent System Operator, Inc.*, 166 FERC ¶ 61,187 at PP 43 and 44 (2019). PSCo has already accepted single interconnection requests that compose solar plus storage and proposes to continue to allow single interconnection requests to represent such facilities.

⁴⁰ In situations such as this, the Commission is authorized to propose such modifications to a rate filing when the utility consents to the modifications. See *Nevada Power Company*, 167 FERC ¶ 61,086 at P 14 (2019) (citing *NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 114-15 (D.C. Cir. 2017)).

⁴¹ Guidance Order at P 61.

proposal to remove the option to provide a \$10,000 deposit in lieu of Site Control in the PNM Order⁴² because PNM's OATT includes an option for a customer to propose an alternative demonstration of Site Control.⁴³

In the Guidance Order, the Commission stated that to the extent PSCo proposes in a "future filing to revise its interconnection procedures; PSCo should propose an alternative demonstration of Site Control [similar to the alternative demonstration accepted in the PNM Order]."⁴⁴

PNM's tariff states, "Interconnection Customer may propose alternative specifications for site size for Transmission Provider approval."⁴⁵ The entire Section 3.3.1(iii) referenced in the Guidance Order is below:

- (iii) A demonstration of Site Control; provided, however, demonstration of Site Control is not required for inclusion of an Interconnection Request in the PISIS Queue. Specifications for acceptable site size for the purpose of demonstrating Site Control are posted on the Transmission Provider's OASIS website (http://www.oatiaoasis.com/cwo_default.htm%20) Interconnection Customer may propose alternative specifications for site size for Transmission Provider approval.⁴⁶

To be clear, PNM does not allow a deposit *in lieu* of Site Control. PNM does not allow anything other than Site Control as an alternative to Site Control. PNM only allows for an alternative site size from the site size requirements posted on the PNM OASIS. In the PNM Order, the Commission determined that removing the deposit as an alternative to Site Control was consistent with or superior to the *pro forma* LGIP because PNM allowed for alternative demonstrations of site size. In this Second Revised LGIP, PSCo proposes the same.

PSCo's Second Revised LGIP will now use the same language used by PNM, with a few minor exceptions to account for differences between PNM's LGIP and PSCo's proposed Revised LGIP. Therefore, PSCo's proposal to remove the option to provide a \$10,000 deposit *in lieu* of Site Control is consistent or superior to the *pro forma* LGIP, just as it was for PNM.

⁴² PNM Order at PP 23, 81.

⁴³ Guidance Order at P 61.

⁴⁴ *Id.*

⁴⁵ See PNM OATT, LGIP, §3.3.1(iii).

⁴⁶ *Id.*

One difference between PSCo's proposed language and PNM's accepted language is the removal of the clause, "provided, however, demonstration of Site Control is not required for inclusion of an Interconnection Request in the PISIS Queue" because PSCo does not propose to use a PISIS process or PISIS Queue.⁴⁷

Consistent with PNM's approach, PSCo proposes to allow the Interconnection Customer to propose alternative specifications for site size. PSCo proposes language in addition to what approved in PNM to clarify the process of evaluating alternative demonstrations of site size. In the event Transmission Provider and Interconnection Customer cannot reach agreement on adequacy of site size, the Transmission Provider will accept a site plan stamped by a Professional Engineer licensed in the state of Colorado that depicts the proposed generation arrangement for the interconnection customer and specifies the maximum facility output for that arrangement. PSCo believes this approach is a reasonable way to address potential disputes between the customer and Transmission Provider in a nondiscriminatory manner.

The revised alternative demonstration of Site Control tariff language is provided below, with the language proposed in this Second Revised LGIP marked against the language proposed in the First Revised LGIP (deletions are shown in strike out and additions are shown in underline).

- c. A demonstration of Site Control as defined in ~~Section~~ Sections 1 and 7.7 of the Revised LGIP. ~~Additional specifications~~ Specifications for acceptable site size for the purposes of demonstrating Site Control are posted on Transmission Provider's OASIS website. Interconnection Customer may propose alternative specifications for site size to those posted on OASIS for Transmission Provider approval; In the event Transmission Provider and Interconnection Customer cannot reach agreement related to adequacy of site size, Transmission Provider will accept a Professional Engineer (licensed in the state of Colorado) stamped site plan drawing that depicts the proposed generation arrangement and specifies the maximum facility output for that arrangement;⁴⁸

F. LGIA Suspension Terms

In its Guidance Order, the Commission determined that PSCo did not demonstrate how the proposed modification to its suspension language is consistent with or superior to the *pro forma* LGIA. Specifically, the Commission rejected PSCo's proposal to require

⁴⁷ In lieu of a PISIS process, PSCo does propose to have an Informational Interconnection Study Process, but that process is separate from the Definitive Interconnection Study Process associated with Section 3.4.1 and does not require Site Control.

⁴⁸ Revised LGIP, Section 3.4.1.c.

a suspending customer to fund shared Network Upgrades upon suspension. In this filing, PSCo proposes to remove the requirement to fund shared network upgrades upon suspension.

PSCo proposes to retain the new Article 5.16.1 (Effect of Missed Interconnection Customer LGIA Milestones) of the LGIA proposed in the First Revised LGIP filing. This clarifies that missing a LGIA milestone results in a breach of contract.

PSCo also proposes to retain, but modify the language of Article 5.16.2 (Effect of Suspension; Parties Obligations) added in the First Revised LGIP filing. This Article explains that the *LGIA* Appendices A and B shall be updated upon exiting suspension to update construction sequencing and milestone timelines.⁴⁹ The Article also confirms that if the Commercial Operation Date is extended more than three cumulative years from the date specified in the application for interconnection service, such an extension may be a Material Modification and result in the termination of the LGIA. Finally, this section requires maintenance of Site Control during any suspension period. This is further described in Section V.D.2 of this letter.

G. LGIA Termination Process

In PSCo's First Revised LGIP, PSCo proposed language clarifying that the timelines for extension of the commercial operation date provided for in both the LGIP and LGIA are limited to a cumulative period of three years under all circumstances. PSCo has retained this proposal, which is consistent with the Commission's Order on Paper Hearing in *MISO* and the *pro forma* LGIP.⁵⁰

The Commission rejected PSCo's proposed changes in the First Revised LGIP because reference to the material modification subsection of the LGIP was misplaced.⁵¹ PSCo now corrects this reference to comply with the Commission's guidance.

PSCo also replaces the term "may" with "shall" in Article 2.3.1 of the LGIA, eliminating any discretion on the part of PSCo regarding termination of the LGIA when the commercial operation date is extended beyond three years making the section consistent with the language the Commission ordered in MISO's Order on Paper

⁴⁹ This provision is consistent with the Commission's recent decision in *Nevada Power Company*, 167 FERC ¶ 61,086 at PP 28-29 (2019).

⁵⁰ *Midcontinent Independent System Operator, Inc.*, 163 FERC ¶ 61,210 at P 33 (2018). "We also agree with MISO that the GIP and *pro forma* GIA are intended to work together, and although the *pro forma* GIA 'memorializes the arrangements reached in the GIP,' the GIP does continue to apply even after execution of a GIA; therefore, specifically referring to the correct section of the GIP in the *pro forma* GIA is preferable to separating the two documents entirely in these circumstances."

⁵¹ Guidance Order at P 64.

Hearing.⁵²

PSCo also proposes to define the initial commercial operation date as the date supplied in the Interconnection Request (Revised LGIP Appendix 1 Section 4.d) in Section 4.4.5 of the Revised LGIP. These changes provide clarity and certainty to Interconnection Customers and are consistent with or superior to the *pro forma* LGIP and LGIA.

H. Provisional Interconnection Service

In its Guidance Order, the Commission required PSCo to remove the limiting conditions PSCo proposed to impose on Provisional Interconnection Service; namely the (1) condition that Provisional Interconnection Service may not be suspended under any circumstances and (2) the condition that only ready projects that demonstrate commitment to achieve interconnection and commercialization may use Provisional Interconnection Service.⁵³ PSCo has removed these conditions and has reverted to the *pro forma* Provisional Interconnection Service language promulgated in Order No. 845.

I. Other Order No. 845 Related Items

PSCo filed all Order No. 845 related provisions in Docket ER19-1864, and so the Order No. 845 related items discussed in the Guidance Order are addressed in that Docket. In this Second Revised LGIP filing, PSCo does modify the study processing time calculations described in Sections 3.5.1.1 – 3.5.1.4 to be consistent with the multi-phase Definitive Interconnection Study Process. These modifications should be considered consistent with or superior to the *pro forma* LGIP because the calculations align with the proposed timelines in the tariff.

J. Miscellaneous Changes Agreed to in FERC Proceeding

The modifications proposed in this Second Revised LGIP reflect a number of edits agreed to in Docket No. ER19-366. Specifically, (1) clarifying language confirming that the Resource Planning/Resource Solicitation Process Readiness Milestone option includes planning entities located outside of the PSCo BAA, (2) ministerial edits to the

⁵² *Id.* at P 35. Specifically PSCo modified the following sentence: “This LGIA ~~may~~ shall be terminated by Transmission Provider if the Generating Facility or a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.45 of the Revised LGIP, including any extension provided thereunder, or, having previously achieved Commercial Operation, has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the Generating Facility, after giving Interconnection Customer ninety (90) Calendar Days advance written notice.”

⁵³ Guidance Order at P 80.

Readiness Milestone Provisions, (3) edits to LGIP Section 10.1 that clarify the interaction with Section 10.2 and (4) correction of typos such as adding “comments” to LGIP Appendix A-2. These modifications were agreed to by PSCo in response to comments on the First Revised LGIP.

II. Background

A. Public Service Company of Colorado

PSCo is a wholly-owned subsidiary of Xcel Energy Inc. (“Xcel Energy”), a public utility holding company. PSCo is an integrated electric utility that, *inter alia*, generates, transmits, distributes, and sells regulated, cost-based electric energy to approximately 1.5 million retail customers in the state of Colorado subject to the jurisdiction of the Colorado Public Utilities Commission (“CPUC”).⁵⁴ PSCo also provides wholesale, cost-based power sales (production) services to six wholesale customers pursuant to rate schedules on file with the Commission. PSCo provides open-access wholesale transmission service and ancillary-only services to transmission customers and ancillary services customers under Parts II, III, or IV of the Xcel Energy Tariff, respectively. The ancillary-only customers represent load located in the PSCo BAA that are not directly connected to the PSCo Transmission System. PSCo offers non-discriminatory generator Interconnection Service for generators greater than 20 MW under Attachment N of the Tariff.⁵⁵

PSCo operates a BAA in the Western Interconnection region and is not a member of a regional transmission organization (“RTO”). The PSCo system is relatively isolated from the rest of the electric grid in the Western Interconnection. PSCo is bordered to the east by Eastern Interconnection, with one 210-MW capacity High Voltage Direct Current (“HVDC”) interconnection with Southwestern Public Service (“SPS”) at Lamar, Colorado. PSCo is bordered to the west by the Rocky Mountains and the Western Area Power Authority (“Western” or “WACM”) BAA. With the exception of a single 230-

⁵⁴ Xcel Energy Services, Inc. (“XES”) is the centralized service company for the Xcel Energy holding company system and, *inter alia*, provides corporate and other services to PSCo and the other Xcel Energy Operating Companies. As such, XES makes filings with, and appears in proceedings before, the Commission on behalf of PSCo and the other Xcel Energy Operating Companies. The other Xcel Energy Operating Companies are Northern States Power Company, a Minnesota corporation, Northern States Power Company, a Wisconsin corporation (collectively “NSP” or the “NSP Companies”), and Southwestern Public Service Company (“SPS”). The NSP Companies operate in the MISO region, and SPS operates in the Southwest Power Pool, Inc. (“SPP”) region. Thus, the proposed Tariff revisions apply only to the PSCo system.

⁵⁵ PSCo also provides non-discriminatory Interconnection Service to Generators 20 MW or smaller under Attachment P to the Xcel Energy Tariff, the Small Generator Interconnection Procedures (“SGIP”). The proposed Tariff revisions would not change the Small Generator Interconnection Agreement set forth in Attachment P.

kilovolt (“kV”) interconnection with PNM, all BAA boundary interconnections at transmission voltage in the Western Interconnection are with non-jurisdictional transmission owners.⁵⁶ Although the PSCo system serves much of Colorado, PSCo serves one major load center: the Denver metropolitan area. PSCo’s 2018 total peak Network Load was 7,307 MW, of which 6,873 MW was PSCo native load.⁵⁷ The 2017 peak load in the PSCo BAA was 8,657 MW.⁵⁸ The additional loads in the PSCo BAA are connected to third-party transmission systems within the BAA.⁵⁹

PSCo and other public utilities in Colorado procure generation resources subject to electric resource plan (“ERP”) and competitive solicitation processes regulated by the CPUC. Approximately 4,500 MW, or 40 percent, of PSCo’s Designated Network Resources are non-affiliated third party generation.⁶⁰ All third-party generation connected to PSCo’s Transmission System (*i.e.*, generation not owned by a load-serving entity (“LSE”)) is sold under long-term power purchase agreements (“PPAs”) with an LSE (such as the PSCo load serving function). There are no merchant generators (*i.e.*, generators that are supported solely by selling power into a wholesale market) interconnected to the PSCo transmission system.

B. PSCo’s Current Large Generator Interconnection Procedures

In Order No. 2003, the Commission standardized interconnection procedures and agreements for the interconnection of large generating facilities. The Commission’s goal was to reduce undue discrimination and expedite the development of new generation while protecting reliability and ensuring that rates are just and reasonable.⁶¹ To achieve greater standardization of interconnection terms and conditions, Order No. 2003 required such public utilities to file revised Open Access Transmission Tariffs (“OATTs”) containing the *pro forma* LGIP and LGIA.⁶² PSCo submitted its Order No. 2003

⁵⁶ PSCo has approximately 75 BAA interconnections at transmission voltage (69 kV and above) with the Western BAA. PSCo also has interconnections at transmission voltage with Tri-State Generation and Transmission Association, Inc. (“Tri-State”), Platte River Power Agency (“PRPA”), Intermountain Rural Electric Association (“IREA”), Yampa Valley Electric Association (“YVEA”), Colorado Springs Utilities (“CSU”), and Black Hills Colorado Electric, Inc. (“Black Hills”). Tri-State, PRPA, YVEA, CSU, and IREA are non-jurisdictional utilities.

⁵⁷ Ex. XES-100, Benson Testimony at 12.

⁵⁸ *Id.*

⁵⁹ PSCo does not offer Interconnection Service on third-party Transmission Provider’s systems inside of PSCo’s BAA. The other Transmission Providers in the PSCo BAA are: Tri-State, PRPA, Black Hills, IREA and Municipal Energy Agency of Nebraska (“MEAN”).

⁶⁰ Ex. XES-100, Benson Testimony at 13.

⁶¹ Order No. 2003 at P 11.

⁶² *Id.* at P 2.

compliance filings in Docket No. ER04-419-000 *et al.*⁶³

Pursuant to Order No. 2003, Transmission Providers are permitted to seek variations from the *pro forma* LGIP and LGIA for reasons other than simply recognized regional reliability requirements.⁶⁴ For non-independent Transmission Providers, these requests for variation must be “consistent with or superior to” the terms of the *pro forma* LGIP and LGIA.⁶⁵

In its initial Order No. 2003 compliance filings, PSCo largely adopted the *pro forma* LGIP. PSCo did, however, propose to modify the *pro forma* LGIP and LGIA to comply with Colorado state integrated resource planning and competitive acquisition requirements.⁶⁶ As a jurisdictional electric utility subject to the regulatory authority of the CPUC, PSCo is required to evaluate its electric resource needs and to develop its proposed resource portfolio using an electric resource plan (“ERP”) and competitive acquisition process reviewed and approved by the CPUC. Reflecting this requirement, PSCo added resource-solicitation procedures to its LGIP. These procedures allow a soliciting load-serving entity to request its own position in the interconnection queue as agent for bidders participating in a resource solicitation process.⁶⁷ With a single queue position for the soliciting entity, PSCo’s transmission function can perform clustered Feasibility and System Impact Studies on combinations (portfolios) of bids and determine interconnection and transmission system upgrade costs for each portfolio.⁶⁸ In 2004, the Commission approved these procedures as being consistent with or superior to the terms in the *pro forma* LGIP after requiring PSCo to make several adjustments.⁶⁹ The Commission stated that it hoped that PSCo’s resource solicitation cluster procedures, as modified and conditioned by the Commission, would limit the number of projects in the Queue that have little or no chance of actually getting built (so-called speculative projects).⁷⁰

⁶³ *Xcel Energy Operating Cos.*, 106 FERC ¶ 61,260 (2004) (“PSCo Implementation Order I”); *Xcel Energy Operating Cos.*, 107 FERC ¶ 61,313 at P 29 (2004) (“PSCo Implementation Order II”); *Xcel Energy Operating Cos.*, 109 FERC ¶ 61,072 (2004) (“PSCo Implementation Order III”) (collectively, “2004 PSCo Implementation Orders”).

⁶⁴ Order No. 2003 at PP 822-24, 826.

⁶⁵ *Id.* at P 825.

⁶⁶ PSCo Implementation Order I at P 5; PSCo Implementation Order II at PP 13-18; PSCo Implementation Order III at PP 7-12.

⁶⁷ PSCo Implementation Order III at P 11

⁶⁸ *Id.*

⁶⁹ *Id.* at PP 22, 26-37.

⁷⁰ *Id.* at PP 38-39.

C. PSCo Interconnection Funding Policy

PSCo follows the *pro forma* funding policy set forth in Order No. 2003.⁷¹ There, the Commission stated that, where the transmission provider is not an RTO/ISO, it is appropriate for the Interconnection Customer to “be solely responsible for the costs of Interconnection Facilities,” but Network Upgrades are ultimately paid by transmission service customers.⁷²

Order No. 2003 states that Network Upgrades are to be “funded initially by the Interconnection Customer unless the Transmission Provider elects to fund them.”⁷³ This upfront payment from the Interconnection Customer “serves not as a rate for interconnection or transmission service, but simply as a financing mechanism that is designed to facilitate the efficient construction of Network Upgrades.”⁷⁴

On the PSCo system, Interconnection Customers are responsible for the costs of two types of facilities: Interconnection Customer’s Interconnection Facilities (“ICIF”)⁷⁵ and Transmission Provider’s Interconnection Facilities (“TPIF”). This means that, besides their own facilities (*i.e.*, ICIF), Interconnection Customers are responsible only for the costs of TPIFs. Although Interconnection Customers may be required to initially fund Network Upgrades associated with generation interconnection, the costs of Network Upgrades are ultimately borne by PSCo transmission service customers in transmission rates.⁷⁶ This ultimate cost allocation for TPIF and Network Upgrades places less weight on Network Upgrades from the Interconnection Customer’s perspective.

⁷¹ Ex. XES-200, Noailles Testimony at 35-36; see *Reform of Generator Interconnection Procedures and Agreements; Notice of Proposed Rulemaking*, FERC Stats. & Regs. ¶ 32,719 at PP 65-66 (2016) (“2016 LGIP/LGIA Reform NOPR”) (summarizing *pro forma* funding policy).

⁷² Order No. 2003 at P 676.

⁷³ *Id.*

⁷⁴ Order No. 2003-A at P 612.

⁷⁵ Revised LGIP, Section 1 (“**Interconnection Customer’s Interconnection Facilities** shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the generating Facility and the Point of Change of ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider’s Transmission System. Interconnection Customer’s Interconnection Facilities are sole use facilities (e.g. for generator interconnection).”).

⁷⁶ See PSCo LGIA, Article 11.3 (“Transmission Provider or Transmission Owner shall design, procure, construct, install and own the Network Upgrades and Distribution Upgrades . . . , Interconnection Facilities, Network Upgrades and Distribution Upgrades. The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Unless Transmission Provider or Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by Interconnection Customer.”).

PSCo's wholesale transmission service rates for Network Integration Transmission Service ("Network Service" or "NITS") and Point-to-Point ("PTP") transmission service are calculated pursuant to Attachment O-PSCo to the Xcel Energy Tariff. Attachment O-PSCo is a forward looking transmission formula rate template subject to a true-up to actual costs in the year after each Rate Year. Network Service customers bear their load ratio share of the PSCo annual transmission revenue requirement ("ATRR") on a monthly coincident peak ("12 CP") basis.⁷⁷

III. The Need for Reform

Although PSCo serves only approximately 7,300 MW of Network Load, of which 6,900 MW is native load, PSCo currently has over 22,000 MW of generation Interconnection Requests (from 82 separate requests) pending in its LGIP Queue as of June 30, 2019.⁷⁸ Approximately 95 percent of Interconnection Customers have requested NRIS to deliver the output of their proposed generators to PSCo native load.⁷⁹ This is infeasible since the requests are more than triple the amount of PSCo's Network or native load.⁸⁰ The requests also vastly exceed the amount of anticipated load growth projected in the PSCo BAA, which is projected to be approximately 600 MW over the next five years.⁸¹ Additionally, announced generation retirements within the PSCo BAA total 660 MW by 2025.⁸² There is almost no firm available transmission capacity ("ATC") for any transmission path to export from the PSCo system to a neighboring BAA in the Western Interconnection.⁸³

Because the amount of generation requesting interconnection is significantly

⁷⁷ The PSCo ATRR does not include the costs associated with third party transmission facilities within the PSCo BAA. The third party transmission providers recover their ATRR pursuant to their own tariffs.

⁷⁸ See *PSCo Generation Interconnection Requests* OASIS, OATI OASIS, https://www.rmao.com/public/wtpp/PSCO_Transmission_Studies.html.

⁷⁹ Most, but not all, NRIS requests specify delivery to PSCo native load. See Ex. XES-100, Benson Testimony at 13-14.

⁸⁰ *Id.*

⁸¹ PSCo has identified a load growth demand forecast of approximately 450 MW by 2023, and total projected load growth among all LSEs in the PSCo BAA over the next five years is approximately 600 MW. See Ex. XES-100, Benson Testimony at 18-19.

⁸² This includes one 325 MW facility set to retire in 2022 and one 335 MW set to retire in 2025. *Id.* at 18.

⁸³ *Id.* at 19-20.

greater than the region's needs,⁸⁴ only a small fraction of the generating projects making Interconnection Requests into the PSCo Queue are likely to reach commercial operation. Developers do not want to initiate construction before securing a contract for sale of the output of their facilities. The project can remain in the PSCo Queue, however. They may even complete the study process and execute an LGIA, and then be placed in suspension for up to three years, only to withdraw from the Queue when the suspension period expires. In previous filings with the Commission, such projects were termed "zombie" projects, "speculative" projects, or "non-viable" projects.⁸⁵ These projects interrupt the efficient processing of Interconnection Requests that represent ready-to-interconnect generation.

Because PSCo is required to (1) model all higher queued projects in its study models⁸⁶ and (2) balance all new modeled generation to existing load,⁸⁷ PSCo cannot evaluate more NRIS requests than it has load.⁸⁸ Therefore, PSCo cannot study more new

⁸⁴ When discussing the ability to study the currently queued requests, the Colorado Independent Energy Association ("CIEA"), which represents generation developers in Colorado, stated: "Due to the lack of resource need, market access, or transfer capability to surrounding BAAs, this outcome is physically impossible." Stakeholder Comments of Colorado Independent Energy Association at 4 (June 4, 2018), http://www.oasis.oati.com/woa/docs/PSCO/PSCODocs/20180604_CIEA_Comments_to_PSCo_Re_Initial_Queue_Reform_Proposal_7046024.pdf.

⁸⁵ See *Xcel Energy Operating Co.*, ER04-419-004, Request for Rehearing of Xcel Energy Services Inc. on Behalf of the Xcel Energy Operating Companies at 11 (July 26, 2004) (citing PSCO Implementation Order II at 62,474 (Kelly, Comm'r, dissenting)); *Xcel Energy Operating Co.*, ER04-419-002, Compliance Filing and Proposed Revisions to Joint OATT (Apr. 26, 2004).

⁸⁶ PSCo's currently-effective LGIP, like the FERC *pro forma* LGIP, requires that projects be studied "at full output," see PSCo LGIP, Section 3.2.2.2, and also requires that the studies account for all higher queued interconnection projects, see PSCo LGIP, Section 6.2 ("The Interconnection Feasibility Study will consider the Base Case as well as all generating facilities (and with respect to (iii), any identified Network Upgrades) that, on the date the Interconnection Feasibility Study is commenced: . . . (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System . . ."); *id.*, Section 7.3 ("The Interconnection System Impact Study will consider the Base Case as well as all generating facilities (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued interconnection) that, on the date the Interconnection System Impact Study is commenced: . . . (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System . . .").

⁸⁷ A general condition of solving a power flow study model is that load and generation are balanced. Also, PSCo's currently effective LGIP, like the FERC *pro forma* LGIP, requires that the Transmission Provider must determine whether new generation can be delivered to load on the Transmission Provider's system and requires that existing Network Resources be deemed to be "displaced" by the new generation. See PSCo LGIP, Section 3.2.2.2 (requiring Transmission Provider "to determine whether, with the Large Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on Transmission Provider's Transmission System. . . . This approach assumes that some portion of existing Network Resources is displaced by the output of Interconnection Customer's Large Generating Facility.").

⁸⁸ In light of the requirements that PSCo consider all higher queued projects in its interconnection studies and that it balance newly interconnecting resources with existing load, PSCo is unable to model all

NRIS generators than there is load to sink the energy. Any additional generation would need to be modeled as sold off-system, which is contrary both to the concept of NRIS and to the specific Interconnection Customer's request to sink the generation to PSCo native load. Because of study model limitations, PSCo is unable to process the majority of its pending NRIS requests.⁸⁹ Beyond the point of study infeasibility, all lower queued NRIS requests must wait for higher queued NRIS requests to withdraw from the Queue before PSCo can even begin the interconnection studies. This demonstrates that, for PSCo, the process is broken as it functionally eliminates NRIS as an option for all but the highest queued Interconnection Customers, and those projects may not be commercially viable projects.

PSCo is currently processing all Interconnection Requests in a serial manner, consistent with the *pro forma* LGIP.⁹⁰ As part of this process, PSCo assumes that all higher queued generation is in-service in the study models. If a higher queued generator is modified or withdraws from the Queue, all impacted lower queued projects may need to be restudied.⁹¹ Due to the configuration of the PSCo system and the fact most requests are for NRIS,⁹² the study results for almost all lower queued requests are affected by changes (withdrawals or modifications) of higher queued projects.⁹³ Because PSCo utilizes the Order No. 2003 process consisting of Interconnection Feasibility Studies, System Impact Studies, and Facilities Studies, if and when an Interconnection Request is withdrawn, it will affect all lower queued requests in any study phase, thus further complicating the restudy process. For example, the withdrawal of a higher queued Interconnection Request that has completed the Facilities Study phase could require a lower queued request in the Facilities Study phase to move backwards by requiring a system impact restudy. This system impact restudy would then be followed by a new Interconnection Facilities Study.⁹⁴ This serial study process, exacerbated by numerous

Interconnection Requests because the total amount of generation seeking to interconnect with NRIS exceeds the total amount of Network Loads on the system. See Ex. XES-100, Benson Testimony at 22-24.

⁸⁹ *Id.* at 23-24.

⁹⁰ Although PSCo could initiate a cluster study under the currently LGIP, the LGIP requires 180 days' notice prior to initiating a cluster. PSCo received numerous interconnection requests in a short period of time. As a result, initiating a cluster study process under the current LGIP would be ineffective. Ex. XES-100, Benson Testimony at 28.

⁹¹ See PSCo Implementation Order III at PP 28, 38-39.

⁹² Approximately 95 percent of all interconnection projects in the PSCo Queue have requested NRIS. See Ex. XES-100, Benson Testimony at 24 & n.17.

⁹³ *Id.* at 24.

⁹⁴ See, e.g., 2008 Technical Conference Order at P 4 ("For example, the need for restudy when multiple projects withdraw from a queue and the complexity of designing interconnections within a system with

restudies, has resulted in delays to PSCo's processing of Interconnection Requests.⁹⁵ These backlogs are also depriving generation developers with ready projects of needed business certainty.

Over the past two years, PSCo increasingly has relied on consultants to process the backlogged Queue.⁹⁶ Even though PSCo and its contractors have expended significant effort to remedy the backlog,⁹⁷ major process issues remain. PSCo has determined that these issues cannot be solved by increased personnel resources alone; the process itself must be modified.

Additionally, most of the Interconnection Customers requested in-service dates in the near future.⁹⁸ Many requests to interconnect to the PSCo system are for the types of resources that can be constructed relatively quickly. For instance, wind, solar, and storage resources can be constructed in less than 18 months, whereas a fossil-fired resource (such as natural gas) requires a longer construction period. Many of the existing requests representing wind and solar resources in PSCo's current Queue⁹⁹ are trying to achieve commercial operation prior to expiration or phase-down of federal production tax credits ("PTCs") or Investment Tax Credits ("ITCs") if they can also find a counterparty to purchase their power.¹⁰⁰

Nevertheless, PSCo estimates that upgrades associated with interconnection requests generally require approximately 18 to 36 months to construct after the Interconnection Customer agrees to proceed. This timeline includes the time required to obtain a CPCN from the CPUC. Thus, the backlog of Interconnection Requests may jeopardize the ability of ready projects to qualify for tax benefits. These projects may become non-viable if they are unable to interconnect by the requested date, and so the developer and its off taker may lose the ability to take advantage of lower cost energy. PSCo expects that in the future, most Interconnection Requests will continue to be generation resources with quick development schedules that can be designed, engineered,

limited excess transmission capacity are not confined to RTOs and ISOs. All Transmission Providers should be evaluating whether changes are needed to their queue management practices to ensure the expediency called for by Order No. 2003.").

⁹⁵ Ex. XES-100, Benson Testimony at 24-25 (providing recent examples of restudies required by withdrawal from the Queue or by modification of an Interconnection Request from NRIS to ERIS).

⁹⁶ *Id.* at 27.

⁹⁷ *Id.* at 28.

⁹⁸ *Id.* at 17.

⁹⁹ *Id.* at 15, Table 1 and Fig. 2 (summarizing current Interconnection Requests by Resource Type, including 12,995 MW (33 requests) wind; 8,192 MW (40 requests) solar; and 985 MW (8 requests) other).

¹⁰⁰ *Id.* at 25-26.

and constructed in less than two years (i.e., wind, solar or storage). A more efficient queue process will be important for these types of requests.

PSCo's experience is that when a speculative project advances through the Queue and executes an LGIA, the project is immediately placed in suspension.¹⁰¹ Under the current PSCo LGIA, a developer simply provides PSCo written notice of suspension. There is little cost to Interconnection Customers for moving to an LGIA and then suspending it—sometimes for years. If the LGIA does come out of suspension, restudies for interconnection facilities are usually needed due to changes to the Transmission System that have occurred during the suspension period. Further, as a result of the restudies and the suspension, a generator's actual commercial operation date is well beyond the Interconnection Customer's originally requested commercial operation date. On the other hand, if the project does not reach commercial viability within three years of being in suspension—usually because it was not needed or was not economically efficient enough to be developed and so does not find an off taker—the project's LGIA terminates, which may then require additional restudies of lower queued projects.

PSCo's current LGIP attempts to provide lower queued generators the ability to bypass the “languishing” higher queued project through “construction sequencing.” Under “construction sequencing,” if a lower queued project is ready in the same location as a higher queued project that is in suspension, that lower queued generator may interconnect by paying to advance the facilities that have been identified as Network Upgrades for the higher queued request.¹⁰² Then if the higher queued generator ultimately interconnects, the upgrade cost responsibility is determined by the results of the Interconnection Studies (*e.g.*, the lower queued Interconnection Customer pays for the facilities that the higher queued project uses, and vice versa). While this construction sequencing concept is theoretically simple, it quickly becomes unwieldy.¹⁰³ The sheer volume of the pending queue and the relatively small size of the PSCo system mean that that construction sequencing cannot be used to remedy the issues facing PSCo's queue.¹⁰⁴

In short, PSCo's queue is broken, and PSCo is unable to provide full Interconnection Service under the current interconnection process to many of its Interconnection Customers with potentially viable projects. Therefore, PSCo determined that it needed to develop reforms to its Tariff so PSCo could effectively process

¹⁰¹ *Id.* at 29.

¹⁰² This “construction sequencing” concept is included in the *pro forma* Tariff for Network Upgrades (*see* PSCo LGIP, Section 12.2). PSCo plans to use construction sequencing to interconnect provisional resources prior to the full completion of their studies.

¹⁰³ In his testimony, Ian Benson discusses drawbacks to construction sequencing that prevent it from serving as a solution to PSCo's queue backlog. *See* Ex. XES-100, Benson Testimony at 31-33.

¹⁰⁴ *Id.*

Interconnection Requests that will (or are most likely to) ultimately reach commercial operation. As discussed in Section IV below, PSCo developed its queue reforms through a review of Commission precedent and a survey of other queue reform proposals, followed by a robust stakeholder process. After a first attempt to reform its interconnection process, PSCo is incorporating Commission guidance provided specifically for our first proposal. PSCo developed this Second Revised LGIP in concert with its stakeholders. PSCo's resulting Second Revised LGIP proposal is for the benefit of Interconnection Customers. The changes proposed in this instant filing are just and reasonable and represent an approach that is consistent with the Commission's policies on generation interconnection. Because the current first-come, first-served process based on the Order No. 2003 *pro forma* tariff language results in barriers to interconnection for viable projects, the proposed first-ready, first-served process is superior to the current process and should be accepted by the Commission.

IV. Development of LGIP Reform Proposal

Once the need for queue reform became clear, PSCo undertook a survey of first-ready, first-served interconnection procedures to appropriate lessons learned from other utilities and RTOs. Guiding this effort was the Commission's 2008 Technical Conference Order on Queue Reform.¹⁰⁵ Upon undertaking this research, PSCo determined that the best starting point for its queue reform proposal was the queue process of PNM, which was accepted on September 30, 2011 in Docket No. ER11-3522, *et al.*¹⁰⁶ PNM's tariff changes were intended to address issues similar to those that PSCo is currently facing with its queue; namely, a large number of Interconnection Requests far above the available PNM BAA load sink and export capacity. To attempt to address this issue, PNM developed modified tariff provisions designed to clear its interconnection queue and move to a first-ready, first-served approach.¹⁰⁷

While a feasible starting point, upon a more in-depth review of the PNM process and consultation with PNM, PSCo concluded that the PNM approach could reduce, but could not fully resolve, the challenges facing PSCo's interconnection queue. PNM's queue and cluster size continue to grow as is shown in Exhibit XES-201. Consequently, PSCo analyzed other approaches that placed greater Interconnection Customer "skin in the game" such as in MISO and CAISO. Additionally, PSCo engaged in a robust stakeholder process that culminated in the instant filing.

¹⁰⁵ See generally *Interconnection Queuing Practices*, "Order on Technical Conference," 122 FERC ¶ 61,252 (2008) (hereinafter as "2008 Technical Conference Order").

¹⁰⁶ See *Pub. Serv. Co. of N.M.*, 136 FERC ¶ 61,231 (2011) ("PNM Order").

¹⁰⁷ *Id.* at P 10.

A. Commission's 2008 Order on Interconnection Queue Practices

In 2008, the Commission reviewed the effectiveness of interconnection queue management and found that “[s]urges in the volume of new generation development are taxing the current queue management approach in some regions” and that “the unprecedented demand in some regions for new types of generation, principally renewable generation, places further stress on queue management because such generation technologies can, for example, be brought online more quickly than traditional generation.”¹⁰⁸

In response to concerns about the effectiveness of queue management, the Commission held a technical conference and issued its 2008 Technical Conference Order. While the Commission did not require a particular solution to resolve queue management inefficiencies, the Commission suggested the following types of variations that, individually or in combination, could speed up queue processing while remaining faithful to the goals of Order No. 2003: (1) increasing the requirements for obtaining and keeping a queue position, such as increasing deposit amounts; (2) eliminating the Interconnection Feasibility Study as a separate step to reduce processing time without harming Interconnection Customers; and (3) instituting a first-ready, first-served approach, under which Interconnection Customers who demonstrate the greatest ability to move forward with project development are processed first.¹⁰⁹ The Commission also stated that it would consider methods of clustering other than the Order No. 2003 approach, which was based on a first-come, first-served paradigm as clusters are limited to requests filed within the same time frame.¹¹⁰

The Commission recognized in the 2008 Technical Conference Order that the business of developing generation is dynamic and requires the coordination of a host of factors beyond interconnection.¹¹¹ The Commission acknowledged that in the absence of alternative sources of information about available transmission capacity, the interconnection-related study process may be the only reliable vehicle an Interconnection Customer has to evaluate the merits of different interconnection points and configurations.¹¹² Thus, the Commission stated that “it is critical that reforms applicable to future and early-stage existing interconnection requests provide Interconnection Customers with enough flexibility and information to respond to business

¹⁰⁸ 2008 Technical Conference Order at P 3.

¹⁰⁹ *Id.* at PP 15-18.

¹¹⁰ *Id.* at P 18.

¹¹¹ *Id.* at P 14.

¹¹² *Id.*

uncertainties.”¹¹³

The Commission also acknowledged that the “actions of one party in the queue can affect the interest of other parties in the queue.”¹¹⁴ Thus, the Commission encouraged proposals that would prioritize the processing of Interconnection Requests on an equitable basis and ensure that the flexibility for individual generators does not undermine the certainty and speed needed for the queue as a whole.¹¹⁵ The Commission reasoned that the more stringent the requirements, the more important it is to ensure that customers have access to alternative sources of reliable information about available transmission capacity to help customers tailor Interconnection Requests more narrowly toward a final acceptable interconnection configuration.¹¹⁶

Although the Commission’s 2008 Technical Conference Order directed RTOs and ISOs to make modifications, the Commission identified that non-RTO and non-ISO areas could also propose reforms consistent with those identified in the Order. The Commission has permitted the use of the “first-ready, first-served” approach to interconnection queue reform to be applied to non-independent transmission providers. As discussed further below, the Commission relied on the precedent established in the 2008 Technical Conference Order when it approved interconnection queue reform proposals filed by PNM. PNM’s proposals to use a cluster study methodology, to require increased deposit amounts, and to apply a withdrawal penalty were found to be appropriate because they were consistent with the guidance provided by the Commission in the 2008 Technical Conference Order.¹¹⁷

B. PNM Interconnection Orders

In 2011, the Commission approved the request of PNM to reform its interconnection queue by transitioning from a first-come, first-served serial study process to a first-ready, first-served cluster study process.¹¹⁸ The PNM queue reform tariff changes were designed to clear the then existing backlog of requests and transition PNM’s LGIP to one that can move ready projects through the process more efficiently. At the time of PNM’s petition, the utility had 44 large generator interconnection requests totaling nearly 15,000 MW in PNM’s BAA, which at the time had an historic peak load

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.* at P 17.

¹¹⁷ PNM Order at PP 79-80.

¹¹⁸ PNM Order at P 1.

of approximately 2,600 MW.¹¹⁹ The magnitude of the requests in PNM's queue had led to a significant backlog in the study process.¹²⁰ In addition, PNM posited that there were viable projects in the queue that could be placed in service sooner if such requests could be processed more quickly by implementing a first-ready, first-served LGIP study approach.¹²¹

PNM contended that its proposed LGIP would: (1) create a fast-track approach for customers that meet specific milestones; (2) reduce the impact of suspended projects on other projects; (3) encourage speculative projects to enter into a preliminary queue; and (4) discourage speculative projects from entering the final definitive queue by increasing deposits and requiring project readiness milestones.¹²²

Specifically, PNM proposed to conduct cluster interconnection studies via two interconnection queues: (1) the preliminary interconnection system impact study queue ("preliminary queue"); and (2) the definitive interconnection system impact study queue ("definitive queue"). The preliminary queue was intended to provide customers with an opportunity for an optional preliminary queue study that would help customers refine interconnection requests and determine a project's economic feasibility before entering the definitive queue stage.¹²³ Conversely, the definitive queue was intended to study projects that are commercially viable and ready to proceed.¹²⁴ In order to discourage speculative projects from entering the definitive queue, PNM established milestones for a customer to meet, including increased deposit requirements, site control demonstration, and increased technical information requirements.¹²⁵

In furtherance of this basic structure, the PNM proposal, among other things, established a financial penalty for projects that withdraw from the queue, including holding the withdrawing customer responsible for two times its actual allocated study costs from the definitive queue and facilities study.¹²⁶ The PNM proposal also established guidelines for allocation of cluster study costs and network upgrade costs to

¹¹⁹ *Id.* at P 4.

¹²⁰ *Id.*

¹²¹ *Id.* at P 10.

¹²² *Id.*

¹²³ *Id.* at PP 12-14.

¹²⁴ *Id.* at P 15.

¹²⁵ *Id.* at PP 15, 21-23.

¹²⁶ *Id.* at P 20.

each customer in the cluster.¹²⁷

PNM initially proposed to allow existing interconnection projects to remain in the serial queue if they did not wish to transition to the PNM's cluster study approach. The Commission, however, determined that it would be better for all existing projects that had not yet executed a Facility Study agreement to transition to the cluster approach.¹²⁸ Accordingly, to effect the transition from serial study to cluster study, PNM created a transitional definitive queue cluster window¹²⁹ and established procedures to transition to the cluster studies.¹³⁰ The transition procedures provided that: (1) interconnection requests for which a facilities study agreement had been executed would not be required to participate in the revised LGIP; and (2) interconnection requests for which a Facilities Study Agreement had not been executed as of the effective date of the revised LGIP would be subject to the revised LGIP.¹³¹

The Commission found that the clearing of PNM's interconnection queue backlog as soon as possible would be beneficial to all customers seeking interconnection and would enable a more efficient interconnection process going forward.¹³² Furthermore, the Commission found that the cluster study approach was consistent with Commission precedent.¹³³ The Commission likewise approved the increased deposit requirements and revised site control procedures,¹³⁴ along with PNM's proposed cluster study cost allocations.¹³⁵ Lastly, the Commission accepted PNM's proposed limited transition stage and transition procedures from the serial method to the cluster method.¹³⁶

¹²⁷ *Id.* at PP 24-26.

¹²⁸ *Id.* at PP 72-76 & n.37.

¹²⁹ *Id.* at P 16.

¹³⁰ *Id.* at PP 30-31.

¹³¹ *Id.* at P 30; *see Pub. Serv. Co. of N.M.*, 139 FERC ¶ 61,155 at PP 5, 7-10 (2012) ("PNM Order Denying Rehearing") (denying request of First Wind for rehearing to grant projects in queue for which facilities study had commenced, but without a facilities study agreement, the discretion to choose whether to participate in serial study queue rather than a cluster study group).

¹³² PNM Order at P 72.

¹³³ *Id.*

¹³⁴ *Id.* at P 81.

¹³⁵ *Id.* at P 86.

¹³⁶ *Id.* at P 89. PNM initially requested that the Commission grant a one-year waiver of its serial queue provisions in order to immediately move any interconnection requests submitted after the date of the filing into a cluster window for study. PNM's initial proposal would have allowed any existing customers in the interconnection queue to either participate in the reformed cluster studies discussed below or to remain in PNM's serial queue. The Commission rejected this waiver request, finding PNM's request to be unclear and ambiguous, and one which was not limited in scope and would likely result in undesirable

In the Commission's Order Denying Rehearing of PNM, the Commission applied the findings in the 2008 Technical Conference Order to a non-independent transmission provider (PNM) to determine PNM's revised LGIP process is consistent with or superior to the *pro forma* LGIP.¹³⁷ The Commission recognized that moving from a serial approach to a cluster study approach could cause some initial delay for projects midway in the process, but that such delay is necessary in order to resolve the queue backlog.¹³⁸

The PNM design allowed PNM to process an unmanageable queue by moving from an approximately a 15,000 MW serially processed queue to an approximately 2,000 MW transitional queue.¹³⁹ In light of this, and the similarities between PNM and PSCo's queue issues, the preliminary queue and definitive queue cluster approach adopted by PNM made sense as a starting point. Nevertheless, while PNM's reforms did result in an initial dramatic improvement to the queue backlog, consultations with PNM indicated that the reforms did not provide a permanent solution. After PNM's transitional queue, the sizes of the next five clusters in PNM's redesigned study process were manageable, but many requests withdrew between the System Impact Study and the Interconnection Facilities Study phase.¹⁴⁰ More recently, however, the size of the clusters (in MW) has steadily and significantly increased. Nevertheless, PNM's current queue is still smaller than the size of its queue prior to PNM's queue reform.¹⁴¹

PSCo believes the lingering challenges with PNM's queue can be traced to the fact that there is little risk or cost for Interconnection Customers to withdraw proposed projects and therefore little incentive to enter only truly ready projects in the definitive study phase. For this reason, PSCo's proposal works to enhance the PNM proposal by increasing the withdrawal penalty amounts. Additional modifications to the PNM process proposed here came about as a result of PSCo's engagement with stakeholders. PNM provides an important example of a non-RTO transmission provider working to remedy its queue issues by moving toward a first-ready, first-served approach. PSCo and

consequences for customers. *Id.* at PP 74-76. The effect of the Commission's denial of the waiver, coupled with the Commission's conditional acceptance of the proposal, resulted in the permanent implementation of the cluster study approach.

¹³⁷ PNM Order Denying Rehearing at P 8.

¹³⁸ *Id.* at P 9.

¹³⁹ None of the PNM transitional projects ultimately executed an LGIA and thus never commenced commercial operation. In other words, none of the projects in PNM's transitional cluster were apparently truly ready, and none ever became ready, to interconnect. *See* Ex. XES-200, Noailles Testimony at 10-11.

¹⁴⁰ *See id.* at 11.

¹⁴¹ *See id.* A summary of PNM's current interconnection queue is available on PNM's OASIS at *Status of PNM's Interconnection Requests and Studies* (Oct. 31, 2018), <http://www.oasis.oati.com/woa/docs/PNM/>. Click on the "Generation Interconnection-Transmission Delivery" folder then the "Status of System Impact Studies" folder.

its stakeholders, having the benefit of hindsight and additional experience around the nation, have built upon and added to PNM's approach in a way PSCo believes will appropriately address the problems faced by Interconnection Customers with ready projects in its own queue.

C. Interconnection Queue Reform by Other Non-Independent Transmission Providers

In addition to PNM, the Commission has approved interconnection reforms filed by other non-independent transmission providers. In 2011, Arizona Public Service Company ("APS") filed LGIP revisions which implemented standardized six-month study clusters, eliminated Feasibility Studies, and increased the LGIP's initial deposit amounts.¹⁴² Like PNM, APS stated that it had used a stakeholder process to develop its proposed reforms.¹⁴³ The Commission accepted these revisions and permitted the new requirements to apply to existing interconnection requests for which a feasibility study had not yet been commenced.¹⁴⁴

El Paso Electric Company ("El Paso Electric") also reformed its LGIP in 2011.¹⁴⁵ Among other reforms, El Paso Electric created six-month queue cluster windows, replaced the FERC *pro forma* LGIP deposit requirements with a new two-level deposit, made the required deposits increasingly non-refundable as the interconnection process proceeded, and eliminated feasibility studies.¹⁴⁶ El Paso Electric proposed to grandfather existing requests which had already executed feasibility study agreements.¹⁴⁷ The Commission approved these reforms.¹⁴⁸

Additionally, in 2012 Nevada Power Company ("NV Energy") filed LGIP revisions after it was faced with a 2,000 MW queue backlog.¹⁴⁹ NV Energy proposed to create a pre-application requirement intended to ensure that interconnection customers had obtained the proper land permits for their projects, to eliminate feasibility studies, to adjust the required deposit amounts, and to group requests into standardized six-month

¹⁴² *Ariz. Pub. Serv. Co.*, 137 FERC ¶ 61,099 (2011).

¹⁴³ *Id.* at P 5.

¹⁴⁴ *Id.* at P 25.

¹⁴⁵ *El Paso Elec. Serv. Co.*, 137 FERC ¶ 61,101 (2011).

¹⁴⁶ *Id.* at P 7.

¹⁴⁷ *Id.* at P 25.

¹⁴⁸ *Id.* at PP 8-27. The Commission rejected El Paso Electric's separate proposal to adopt a standardized Engineering & Procurement agreement and to use a new interest rate for deposits. *Id.* at PP, 18, 27.

¹⁴⁹ *NV Energy, Inc.*, 142 FERC ¶ 61,165 at P 4 (2013). NV Energy jointly filed this proposal with its affiliate, Sierra Pacific Power Company.

clusters.¹⁵⁰ Like PNM and APS, NV Energy used a stakeholder process to develop its proposal.¹⁵¹ FERC accepted the tariff reforms and allowed the new procedures to apply to any existing request for which a system impact study had not yet been completed.¹⁵²

PSCo has reviewed the APS, NV Energy, and El Paso Electric reforms and has determined that, while they were beneficial for those utilities, such reforms on their own would not be sufficient to address the issues confronting the PSCo queue. Nevertheless, these utilities' reform efforts provide additional precedent for non-independent Transmission Providers reforming their interconnection queues.

D. First Revised LGIP (Filing and Request for Rehearing)

PSCo's First Revised LGIP filing was preceded by a survey of other queue reform structures that could inform PSCo's work, followed by a multi-month robust stakeholder process to obtain feedback and guidance on PSCo's revisions to its LGIP. PSCo circulated an initial LGIP and LGIA reform proposal in May 2018, and thereafter held twelve stakeholder meetings. Over thirty parties participated in this process and PSCo received thirty-five sets of written stakeholder comments. PSCo extensively revised its reform proposal in response to this feedback and developed a final proposal which had widespread stakeholder support.

On November 19, 2018, PSCo filed its comprehensive reform proposal with the Commission. PSCo proposed to address its queue backlog and create a more effective set of interconnection procedures by departing from the first-come, first-served approach of the Commission's *pro forma* LGIPs and adopting elements of a first-ready, first-served approach. Among other things, PSCo proposed: (1) to provide interconnection customers with the option of receiving informational interconnection studies (rather than submit an interconnection request in order to obtain such information), (2) to replace the *pro forma* serial study process with a cluster-based Definitive Interconnection Study Process or "DISIS," (3) to require interconnection customers participating in the DISIS to comply with Readiness Milestones to show that their projects are making progress toward completion, (4) to clarify the LGIP's Site Control requirements, (5) to require interconnection customers suspending their LGIAs to post security for their projects' assigned upgrades if other interconnection customers will rely on those upgrades to interconnect their project, and (6) to adopt a transitional procedure for use in processing the existing backlog of requests.

On January 31, 2019, the Commission issued the Guidance Order rejecting the First Revised LGIP Filing without prejudice. The Commission recognized that "PSCo has

¹⁵⁰ *Id.* at PP 11-12, 18-19, 24, 26.

¹⁵¹ *NV Energy, Inc.*, Docket No. ER13-679-000, Section 205 Filing at 4 (Dec. 31, 2012).

¹⁵² *NV Energy, Inc.*, 142 FERC ¶ 61,165 at PP 16, 21, 25, 27. 25, 27.

a large backlog of over 23,000 MW of generation interconnection requests” and found that “PSCo has demonstrated a need to address this issue.”¹⁵³ The Commission held, however, that the First Revised LGIP should be modified in several respects and “provide[d] guidance to assist PSCo in alleviating [the Commission’s] concerns and refiling a modified proposal.”¹⁵⁴ The Commission stated that it encouraged PSCo to implement the Commission’s identified changes and to refile.¹⁵⁵

On February 11, 2019, PSCo filed a Motion for Errata Order Correcting Order on Tariff Filing, seeking a clarification regarding the Guidance Order’s statement that “it is not appropriate for forfeited financial security to be non-refundable in the event that an interconnection customer withdraws from the queue.”¹⁵⁶ On March 4, 2019, PSCo filed a Request for Rehearing and Clarification of the January 31 Order.¹⁵⁷ PSCo challenged three aspects of the January 2019 Order. First, as the Commission had not yet acted on its Motion for Errata Order, PSCo again sought clarification or rehearing of the

¹⁵³ Guidance Order at P 30.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* The specific guidance provided by the Commission is discussed in detail above. For reference, however, the Commission held that:

- (1) PSCo’s proposed Revised LGIP required additional clarity regarding how the costs of Network Upgrades would be allocated under its proposal;
- (2) PSCo did not sufficiently explain what would happen to the financial milestone payments upon execution of an LGIA;
- (3) PSCo’s proposal did not allow interconnection customers to provide an alternative deposit in lieu of the Site Control requirements established by Order No. 2003. Additionally, the Commission found that the Site Control definition was overly restrictive due to the requirement for an interconnection customer to demonstrate exclusive land rights for a generating facility, excluding the possibility of co-located projects;
- (4) PSCo’s proposed termination provision in Article 2.3.1 included a misplaced reference;
- (5) PSCo’s proposed suspension provisions of the LGIA impermissibly assigned Network Upgrade costs to a suspending interconnection customer, which is inconsistent with Order No. 2003;
- (6) PSCo’s revisions to the option to build provisions in Article 5.2(3) were unnecessary;
- (7) PSCo had not sufficiently supported why a customer under a Provisional LGIA should be denied the same suspension rights as customers constructing facilities under a standard LGIA and that PSCo should clearly address and support the criteria explained in Order No. 845; and
- (8) PSCo had failed to demonstrate that its tariff includes a process for utilizing and transferring Surplus Interconnection Service that is consistent with or superior to Order No. 845 and that PSCo should clearly address and support the criteria explained in Order No. 845.

¹⁵⁶ *Public Service Company of Colorado*, Docket No. ER19-366-001, “Motion for Errata Order Correcting Order on Tariff Filing” at 7-9 (Feb.11, 2019) (citing and quoting Guidance Order at P 55).

¹⁵⁷ *Public Service Company of Colorado*, Docket No. ER19-366-001, “Request for Rehearing and Clarification” (Mar. 4, 2019).

Commission's statement in paragraph 55.¹⁵⁸ Second, PSCo asserted that the Commission erred in rejecting PSCo's proposal to require that interconnection customers suspending their LGIAs provide security for their projects' assigned upgrade costs.¹⁵⁹ Third, PSCo asserted that the Commission erred in rejecting its proposal to allow use of Provisional Interconnection Service in a way that would permit Provisional LGIAs to be used by interconnection customers to demonstrate readiness.¹⁶⁰

On May 16, 2019, the Commission issued its Order Denying Rehearing and Clarification ("Rehearing Order"). The Commission affirmed its determination that PSCo did not demonstrate that its proposal regarding at-risk (i.e., non-refundable) financial security in the event that an interconnection customer withdraws from the queue was consistent with or superior to the *pro forma* LGIP.¹⁶¹ The Commission explained that this was the case because "longstanding Commission policy establishes that the costs of network upgrades may not be directly assigned to the interconnection customer because network upgrades are not 'sole use' facilities and they provide a benefit to all transmission system users," and that "using financial security from customers who have withdrawn from the queue to fund other customers' network upgrades appears to run afoul of Commission precedent prohibiting the direct assignment of network upgrade costs."¹⁶² Thus, the Commission held that PSCo may not require that customers provide non-refundable deposits which would be applied towards other customers' network upgrade costs in the event of forfeiture. The Commission did not, however, hold that it is impermissible to require interconnection customers to bear any financial risk whatsoever.

In the Rehearing Order, the Commission also affirmed its determination that PSCo had not demonstrated that its proposal to require interconnection customers that suspend their LGIAs to provide security for the cost of upgrades assigned because of their suspended projects is consistent with or superior to the *pro forma* LGIA.¹⁶³ Finally, the Commission affirmed its determination that PSCo had not demonstrated that its proposal to prohibit suspensions of Provisional LGIAs that would be used by interconnection customers to demonstrate readiness is consistent with or superior to the *pro forma* LGIA.¹⁶⁴

¹⁵⁸ *Id.* at 2-3

¹⁵⁹ *Id.* at 24-31.

¹⁶⁰ *Id.* at 32-35.

¹⁶¹ Rehearing Order at P 11.

¹⁶² *Id.* at P 16 (citing Order No. 2003-A, 106 FERC ¶ 61,220 at P 424).

¹⁶³ *Id.* at P 24.

¹⁶⁴ *Id.* at P 30.

E. Stakeholder Process For the Second Revised LGIP

After the Commission issued its Rehearing Order on the First Revised LGIP filing, PSCo reopened its stakeholder process by developing a new proposal responsive to the Commission's guidance and holding a meeting on June 5, 2019. In advance of the meeting, PSCo posted on OASIS (1) a presentation describing the changes it was proposing in response to the Commission's guidance, (2) draft Second Revised LGIP tariff language, and (3) a comparison document showing the modifications PSCo was proposing from the First Revised LGIP. PSCo requested written comments two weeks after the June 5th stakeholder meeting. After receiving feedback and discussing the proposal with stakeholders, PSCo presented its modified design to stakeholders on July 9, 2019. Stakeholders provided written feedback one week thereafter. PSCo posted and sent out to stakeholders additional tariff modifications at the end of July and August of 2019, where additional revisions were responsive to stakeholder feedback. PSCo took stakeholder comments seriously and the Second Revised LGIP presented here reflects PSCo's reasonable accommodation of stakeholder comments and requests.

V. Description and Justification of Proposed Tariff Revisions

A. Overview

The Revised LGIP will better accommodate ready or near-ready projects entering the queue by implementing two complementary concepts. First, the Revised LGIP will enable PSCo to provide more flexibility for developers who desire to obtain specific interconnection information prior to entering the queue. Second, the Revised LGIP will provide greater certainty to developers that are ready to interconnect by incentivizing Interconnection Customers to only enter near ready projects into the queue, so ready projects can proceed through the interconnection process with fewer disruptions.

With more limited participation in the Definitive Interconnection Study Process¹⁶⁵ (i.e., only the ready projects), PSCo will implement a clustered interconnection study process that groups projects together and minimizes the delays that can arise from cascading re-studies when higher queued projects withdraw from the queue. PSCo has learned from the efforts of PNM's transition from a serial to a clustered study process and will implement transitional serial and transitional cluster study processes to help manage the backlog of Interconnection Requests in the current queue that must be accommodated

¹⁶⁵ Revised LGIP, Section 1 (“**Definitive Interconnection Study Process (“Definitive Interconnection Study”)** shall mean the complete definitive study process inclusive of the DISIS Request Window, Customer Engagement Window, Definitive Interconnection System Impact Study, and the Interconnection Facilities Study. Both the Resource Solicitation Cluster and the DISIS Cluster are processed under the Definitive Interconnection Study.”).

by the Revised LGIP proposal. Those Interconnection Customers who enroll in the Definitive Interconnection Study Process will thus have increased certainty that projects in the queue are likely to advance through the study process in a timely manner and will be less likely to bear the added costs and delays associated with not-ready projects languishing in the queue and restudies associated with withdrawal of higher queued projects.

Through our stakeholder meetings, developers expressed that they value both flexibility and certainty. The importance developers ascribe to these characteristics relates directly to the relative maturity of their projects. For instance, a developer with a more speculative project values a flexible process that provides an avenue to obtain information about interconnection before fully committing to the costs associated with interconnection. Conversely, a “ready project” values a process that delivers certainty with respect to study timelines and outcomes. PSCo’s proposal provides flexibility in that it provides customers with information needed for business decisions and it provides certainty by streamlining the processing of the queue so that ready projects may interconnect.

As discussed above, the Commission has recognized generation developers use the interconnection process for different reasons including evaluating the merits of different interconnection points and configurations.¹⁶⁶ PSCo’s proposed process provides the interconnection-related information developers need to help determine whether their projects are ready. First, PSCo proposes to offer an Informational Interconnection Study,¹⁶⁷ which is a customizable study that will aid the developer with a less mature project in making informed business decisions. Second, during the 75-day Customer Engagement Window phase of the proposed Definitive Interconnection Study Process, the Interconnection Customer can evaluate the other requests in their cluster to determine whether they want to remain in the cluster.¹⁶⁸ In addition, PSCo has already incorporated the requirement of Order No. 845 to post models and assumptions, which is intended to facilitate a developer’s determination of readiness.

¹⁶⁶ 2008 Technical Conference Order at P 14 (“The Commission recognizes that the business of developing generation is very dynamic and requires the coordination of a whole host of factors beyond interconnection, many of which are outside the full control of the developer. In the absence of alternative sources of information about available transmission capacity, the interconnection-related study process may be the only reliable vehicle a customer has to evaluate the merits of different interconnection points and configurations.”).

¹⁶⁷ Revised LGIP, Section 1 (“**Informational Interconnection Study** shall mean an analysis based on assumptions specified by Interconnection Customer in the Informational Interconnection Study Agreement.”).

¹⁶⁸ Revised LGIP, Section 1 (“**Customer Engagement Window** shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.”).

These aspects of PSCo's Revised LGIP will enable an Interconnection Customer to continue to refine its understanding of its own project, individually and in relation to other potential projects in the cluster, and to assess its readiness (or willingness) to enter the queue

PSCo will also provide enhanced certainty to Interconnection Customers entering the queue by shifting to a first-ready, first-served approach. As discussed in detail below, the proposed Definitive Interconnection Study Process is a cluster-based study that requires increasing demonstrations of readiness as a project advances through the process. The demonstrations of readiness include both Readiness Milestones¹⁶⁹ as well as Site Control¹⁷⁰ requirements. Through experience, PSCo may find some aspects of this proposal may need to be adjusted to achieve the desired balance between flexibility and certainty. Accordingly, PSCo commits to make an informational filing with the Commission in this docket two years after the effective date of the Revised LGIP. If PSCo continues to experience issues with processing Interconnection Requests or if the process could otherwise benefit from additional refinement, PSCo may file under FPA Section 205 to make further revisions and rebalance the LGIP process.¹⁷¹

B. Informational Interconnection Study

To move to a first-ready, first-served process, PSCo is proposing that Interconnection Customers be able to evaluate interconnection feasibility by means of a fully customizable Informational Interconnection Study prior to entering into the Definitive Interconnection Study and accepting a queue position.¹⁷² Although the

¹⁶⁹ Revised LGIP, Section 1 ("**Readiness Milestone(s)** shall have the meaning set forth in Section 7.7 of the Revised LGIP.>").

¹⁷⁰ Revised LGIP, Section 1 ("**Site Control** shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection facilities. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities; or (3) any other documentation that clearly demonstrates the right of the Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition.>").

¹⁷¹ The commitment to make an informational filing does not preclude PSCo from making additional reforms, if needed, ahead of this date.

¹⁷² Although PSCo offers the Informational Interconnection Study so that Interconnection Customers can evaluate their Interconnection Request prior to entering the Queue, PSCo does not require that

Informational Interconnection Study is modeled after and replaces the “Optional Study” from the Order No. 2003-based *pro forma* LGIP, the Informational Interconnection Study is much more flexible than the Optional Study under the current LGIP.

First, an Interconnection Customer can request that PSCo perform an Informational Interconnection Study at any time (and at the Interconnection Customer’s cost), instead of only after the completion of the System Impact Study, as otherwise required in the *pro forma* LGIP.

Second, the Informational Interconnection Study allows the Interconnection Customer to study almost any interconnection scenario, including the evaluation of interconnection location, voltage, and size of potential generation. The Informational Interconnection Study process may also evaluate the impact of other clustered generation on a specific Interconnection Request. For example, an Informational Interconnection Study may identify the costs associated with a 200 MW request, assuming 400 MW of other requests are in a Cluster.

The Informational Interconnection Study scope may be limited, much like a traditional Feasibility Study, or may be similar to a full System Impact Study that includes power-flow, voltage, stability, and short circuit analysis.

Importantly, Informational Interconnection Studies are for information only and are not queued studies. Informational Interconnection Studies do not determine the ultimate cost or responsibility of facilities required for interconnection as the studies are outside of the queue, but the results can be used to form the basis of a Provisional LGIA, which as discussed below, can satisfy a Readiness Milestone needed to advance in the queue.

Because of the varied scope of these studies, the actual costs may vary widely. PSCo proposes to require a \$10,000 deposit for the Informational Interconnection Study subject to true-up based on actual costs.

C. Definitive Interconnection Study Process

Interconnection Customers must complete an Informational Interconnection Study prior to proceeding to the Definitive Interconnection Study. PSCo acknowledges that developers may have other means to evaluate optimal interconnection locations and may incorporate such considerations as part of their own business planning to determine whether a project is ready to enter the Definitive Interconnection Study. Moreover, PSCo expects that developers will be better positioned to evaluate potential interconnection locations outside of PSCo’s queue process now that PSCo’s models and assumptions are made available upon implementation of Order No. 845.

1. Overview

The Definitive Interconnection Study Process consists of a clustered system impact study (“DISIS”),¹⁷³ and individual Interconnection Facilities Studies.¹⁷⁴ As shown in Figure 2 below, the Definitive Interconnection Study consists of four sequential phases. Interconnection Customers must meet certain milestones that demonstrate increasing readiness over the course of the process. The milestones must be satisfied before moving to the next phase. For instance, Readiness Milestone 1 (“M1”) is satisfied before moving to Phase 1, Readiness Milestone 2 (“M2”) is satisfied before moving to Phase 2, Readiness Milestone 3 (“M3”) is satisfied before moving to Phase 3 and Readiness Milestone 4 (“M4”) is satisfied before moving to Phase 4. The Definitive Interconnection Study Process is followed by “Phase 5,” which is execution of the LGIA. Readiness Milestone 5 (“M5”) is required 15 business days after receipt of the final LGIA.

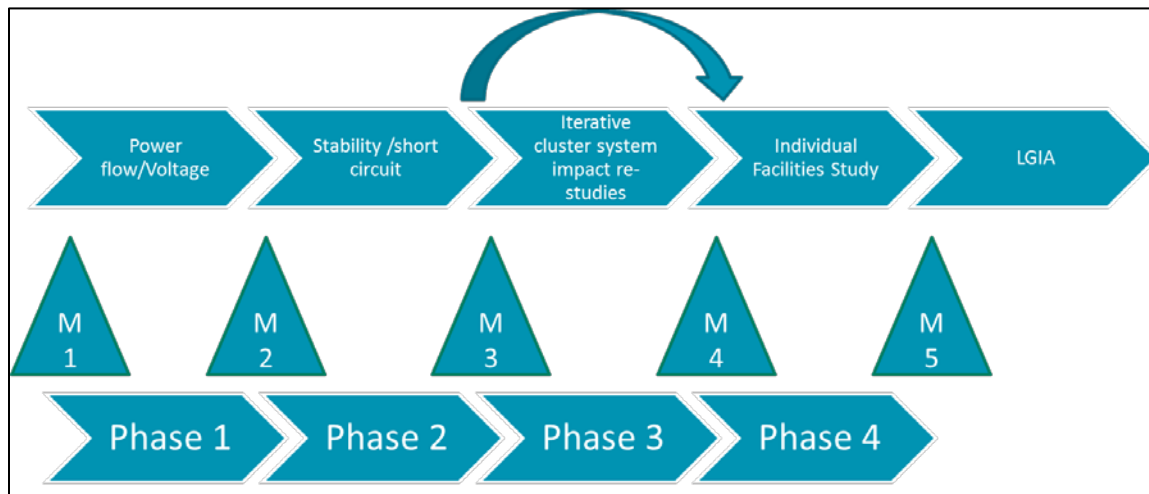


Figure 1: Definitive Interconnection Study Process

All Interconnection Requests in a specific Cluster are considered equally queued, and subsequent lower queued clusters assume that all Interconnection Requests and the

¹⁷³ Revised LGIP, Section 1 (“**Definitive Interconnection System Impact Study (“DISIS”)** shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of the Transmission System and, if applicable, an Affected System.”).

¹⁷⁴ Revised LGIP, Section 1 (“**Interconnection Facilities Study** shall mean a study conducted by the Transmission Provider or a third party consultant for the Interconnection Customer to determine a list of facilities (including Transmission Provider’s Interconnection Facilities and Network Upgrades as identified in the Definitive Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Provider’s Transmission System. The scope of the study is defined in Section 8 of the Revised LGIP.”).

associated transmission enhancements in higher queued Clusters are in-service and so are included in the lower queued Cluster's models.

Queue position also dictates cost assignment. Interconnection Requests contained in subsequent Clusters are lower queued than Interconnection Requests in earlier Clusters, so available transmission capacity or new upgrades are allocated to the Cluster that first uses or needs the available or newly-installed capacity.¹⁷⁵ In this fashion, a specific Cluster may take advantage of any available transmission capacity identified for that Cluster. Conversely, if transmission capacity is limited, that entire Cluster will require additional facilities to be constructed in order for that entire Cluster to interconnect.

2. Study Cost Deposit and Study Cost Allocation

PSCo proposes study deposits and study cost allocation that appropriately balance the deposit amounts required of Interconnection Customers with a recognition that Interconnection Customers will pay the actual costs of the study. PSCo's proposed study deposits are similar to those accepted for PNM.¹⁷⁶ Specifically, the study deposits will be as follows:

Size of Project Associated With Interconnection Request	Amount of Deposit ¹⁷⁷
Less than 50 MW	\$75,000
Greater than 50 MW, but less than 200 MW	\$150,000
200 MW or greater	\$250,000

PSCo consultants estimate that these study deposit amounts approximate the total cost of the Definitive Interconnection Study Process. Therefore, the study deposit is for the full Definitive Interconnection Study Process, which includes the Interconnection

¹⁷⁵ Such cost assignment to interconnection requests in a study cluster is already permitted under *pro forma* and PSCo LGIP Section 4.1.

¹⁷⁶ See, e.g., PNM Order at PP 21-24, 80-81; *Pub. Serv. Co. of N.M.*, Docket No. ER11-3522-000, PNM LGIP Reform Filing at 8 (May 5, 2011) ("2011 LGIP Reform Filing"). Specifically the study deposits for PNM are: \$75,000 for requests less than 50 MW, \$150,000 for requests greater than 50 MW but less than 200 MW, and \$250,000 for requests of 200 MW or greater.

¹⁷⁷ PSCo will review if these study deposits are appropriate in its report after two years following the Commission's approval of the Tariff revisions.

Facilities Study.¹⁷⁸ Nevertheless, consistent with Order No. 2003, Interconnection Customers are responsible for the actual costs of their studies.¹⁷⁹

For the clustered DISIS portion of the Definitive Interconnection Study Process, study costs are allocated similarly to the allocation approved for PNM: (1) 50 percent of the applicable study costs are assigned to Interconnection Customers in the Cluster on a per-capita basis based on a number of Interconnection Requests included in the applicable Cluster Study; and (2) 50 percent of the applicable study costs are assigned to Interconnection Customers in the Cluster on a pro-rata basis based on requested megawatts included in the applicable Cluster Study.¹⁸⁰ For example, for a 1,000 MW Cluster Study consisting of a 100 MW Interconnection Request and a 900 MW Interconnection Request, the 50 percent of costs allocated on a per capita basis would be allocated equally to each request (25 percent to 100 MW request and 25 percent to the 900 MW request). For the other 50 percent of costs allocated on a pro rata basis, the costs would be allocated 90 percent to the 900 MW request (45 percent total costs) and 10 percent to the 100 MW request (5 percent total costs). This overall allocation results in 30 percent of the study cost allocated to the 100 MW Interconnection Request and 70 percent to the 900 MW Interconnection Request. Please see the table below for a demonstration of the calculation.

	1,000 MW capacity in Cluster Study	
	100 MW Interconnection Request	900 MW Interconnection Request
50% per capita allocation	$50\% \times 1/2 = 25\%$	$50\% \times 1/2 = 25\%$
50% pro rata allocation	$50\% \times 1/10 = 5\%$	$50\% \times 9/10 = 45\%$

¹⁷⁸ See PSCo LGIP, Section 8.1. Note: PSCo is not requiring the additional \$100,000 deposit for the Interconnection Facilities Study phase that is required in PSCo's current LGIP.

¹⁷⁹ Order No. 2003 at P 37; *pro forma* LGIP, Section 8.1.

¹⁸⁰ See PNM Order at P 24; *id.* at P 86 (“[W]e agree with PNM’s proposed method to allocate costs for studies . . . among cluster study participants. We find that allocating 50 percent of an interconnection customer’s study costs based on the number of interconnection requests in a cluster, and 50 percent based on the interconnection customer’s requested capacity strikes a reasonable balance between capacity-related costs and those costs which are independent of the capacity of the individual generating facilities.”). Also note that if a customer withdraws, study costs are calculated at the end of the phase from which the Interconnection Customer withdraws.

TOTAL Study Cost Allocation of the System Impact Cluster Study	25% + 5% = <u>30% total</u>	25% + 45% = <u>70% total</u>
Study Deposit Amount	\$150,000	\$250,000
Total System Impact Study Cost Allocation if Total System Impact Cluster Study equals \$300,000	\$90,000	\$210,000

3. Upgrade Cost Allocation

PSCo also proposes to allocate the costs of facilities required for interconnection in a fashion similar to what was approved in PNM.¹⁸¹ The cost allocation of Network Upgrades is described in detail in the Testimony of Dr. Noailles and an illustrative example is provided as an Exhibit to his testimony.¹⁸² The cost allocation of Network Upgrades will determine the initial funding requirements for Interconnection Customers so that Interconnection Customers account for the overall impacts to the Transmission System when developing their Generation Facilities.¹⁸³ Under PSCo's funding policy, Network Upgrade costs are ultimately funded by PSCo's transmission customers.¹⁸⁴

4. Activities Occurring Prior to the Definitive Interconnection Study Process

The following section describes certain activities that occur prior to the

¹⁸¹ See PNM Order at P 86 (“[W]e agree with PNM’s proposed method to allocate costs for . . . network upgrades among cluster study participants. . . . We also find to be reasonable PNM’s proposed method of allocating network upgrade costs resulting from the cluster studies on a pro-rata basis for station equipment (including all switching stations) based on the number of generating facilities interconnecting at an individual station, and proportionally for all transmission lines, transformers, and voltage support related to network upgrades, based on the capacity of each individual generating facility in the cluster study requiring such network upgrades.”); see also PNM LGIP Reform Filing at 15.

¹⁸² Ex. XES-200, Noailles Testimony at 35-39; Ex. XES-205.

¹⁸³ As part of optimizing a specific Cluster, the study may identify a Transmission Provider’s Interconnection Facility that is used by more than one Interconnection Customer but is still solely used for interconnection (e.g., is not a Network Upgrade). PSCo proposes clarifying edits to the definition of Transmission Provider’s Interconnection Facilities to account for this possibility.

¹⁸⁴ Ex. XES-100, Benson Testimony at 35.

commencement of the Definitive Interconnection Study Process, including (1) what must be submitted in order to constitute a valid Interconnection Request; (2) entering the queue as part of a Definitive Interconnection System Impact Study Cluster (“DISIS Cluster”);¹⁸⁵ (3) entering the queue as part of a Resource Solicitation Cluster;¹⁸⁶ and (4) a description of the Customer Engagement Window. Please note that Interconnection Requests enter the queue either as part of a DISIS Cluster or a Resource Solicitation Cluster, but both types of Cluster follow the same Definitive Interconnection Study Process and the requirements for Interconnection Customers in both Clusters are identical.

a. Submission of a Valid Interconnection Request

Section 3.4.1 of the Revised LGIP enumerates the required items necessary for a valid Interconnection Request:

- a. The application fee and study deposit described in Section 3.1;
- b. A completed application in the form of Appendix 1 to the Revised LGIP (including applicable technical information);
- c. A demonstration of Site Control as defined in Sections 1 and 7.7 of the Revised LGIP. Specifications for acceptable site size for the purposes of demonstrating Site Control are posted on Transmission Provider’s OASIS website. Interconnection Customer may propose alternative specifications for site size to those posted on OASIS for Transmission Provider approval. In the event Transmission Provider and Interconnection Customer cannot reach agreement related to adequacy of site size, Transmission Provider will accept a Professional Engineer (licensed in the state of Colorado) stamped site plan drawing that depicts the proposed generation arrangement and specifies the maximum facility output for that arrangement;
- d. A Point of Interconnection;

¹⁸⁵ Revised LGIP, Section 1 (“**Definitive Interconnection System Impact Study Cluster (“DISIS Cluster”)** shall mean an engineering study that evaluates the impact of the proposed interconnection(s) on the safety and reliability of Transmission System and, if applicable, an Affected System.”).

¹⁸⁶ Revised LGIP, Section 1 (“**Resource Solicitation Cluster** shall mean a Cluster Study associated with a Resource Solicitation Process.”).

- e. If the request is for NRIS and if Transmission Provider has not been notified pursuant to Section 29.2 of Part III of the Tariff that Interconnection Customer's proposed Generating Facility is to be designated as a Network Resource within Transmission Provider's Control Area, the point of delivery or the geographic location on Transmission Provider's system at which Interconnection Customer intends to deliver output out of Transmission Provider's Control Area;
- f. Generating Facility size (MW) (and requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity);
- g. One of the following Readiness Milestone ("M1") options totaling the entire capacity of the Generating Facility (or requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity) or security equal to one times the study deposit described in Section 3.1 in the form of an irrevocable letter of credit or cash *in lieu* of the Readiness Milestone. The security is refunded to the Interconnection Customer according to Section 7.7.5. and;
 - i. Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale (1) of the constructed Generating Facility, or (2) of the Generating Facility's energy, or (3) of the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;
 - ii. Reasonable evidence that the project has been selected in a Resource Plan or Resource Solicitation Process; or
 - iii. Provisional Large Generator Interconnection Agreement filed with FERC that contains a commitment to move forward with constructing the Generating Facility and is not suspended; and

- h. Security equal one times the study deposit described in Section 3.1 in the form of an irrevocable letter of credit or cash. The security is refunded to the Interconnection Customer according to Section 7.7.5.

These changes are intended to ensure that a valid Interconnection Request represents a generator that is nearing the end of its development phase, but not necessarily a generator that is determinatively ready. Besides the study deposit and technical data required for modeling, a developer must provide: (1) evidence of site control for only 50 percent of the Generating Facility;¹⁸⁷ (2) Readiness Milestone 1; and (3) security equal to the study deposit amount. Readiness Milestone 1 can be achieved by means of: (i) an executed term sheet; (ii) evidence it has been selected in a Resource Plan; or (iii) a Provisional Interconnection Agreement filed with the Commission. Alternatively, Readiness Milestone 1 is met by providing security *in lieu* of demonstrating readiness. The intention behind this initial requirement is plain—to ensure that Interconnection Customers show sufficient development efforts prior to executing an Interconnection Study Agreement,¹⁸⁸ thereby reducing the likelihood of queue withdrawal and the resulting harm to other Interconnection Customers.

b. DISIS Cluster

To be considered in the DISIS Cluster, Interconnection Customers must submit a valid Interconnection Request before the close of the DISIS Request Window.¹⁸⁹ The DISIS Request Window will open for a 45-day period every six months, with one window opening on February 1st and the other window opening on August 1st.¹⁹⁰ This means that it is likely that PSCo will be studying multiple clusters at once and that withdrawals or delays in one cluster will impact subsequent clusters.

PSCo's decision to conduct two DISIS Clusters per year (instead of one per year or starting the next study when the previous study concludes) represents a compromise reached with stakeholders that endeavors to balance the flexibility and certainty needed

¹⁸⁷ Revised LGIP, Section 1 (“**Generating Facility** shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include Interconnection Customer's Interconnection Facilities.”).

¹⁸⁸ Revised LGIP, Section 1 (“**Interconnection Study Agreement** shall mean any of the following agreements: the Informational Interconnection Study Agreement, the Definitive Interconnection System Impact Study Agreement, or the Interconnection Facilities Study Agreement described in the Standard Large Generator Interconnection Procedures or Revised LGIP.”).

¹⁸⁹ Revised LGIP, Section 1 (“**DISIS Request Window** shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.”).

¹⁹⁰ Ex. XES-202 (Timeline: Appendix A-1).

by developers with PSCo's need to ensure the efficient administration of the Queue. According to the developer community, conducting more than one DISIS Cluster per year enables Interconnection Customers to act more quickly if a new opportunity advances a project forward to readiness, because a new DISIS Request Window is never more than six months away. Stakeholders also acknowledge that holding two cluster windows per year results in more opportunity that cluster studies will become stacked and restudies of the higher queued cluster will cause delays for the customers in the lower queued clusters.

c. Resource Solicitation Cluster

Consistent with the existing provisions of the PSCo LGIP allowing for Resource Solicitation Clusters,¹⁹¹ PSCo proposes to continue offering a Resource Planning Entity¹⁹² the ability to have projects it is considering acquiring studied as a separate cluster. The Resource Planning Entity may request a Resource Solicitation Cluster at any time. There are a number of potential Resource Planning Entities in the region, and the Resource Planning Entity is not required to be connected to PSCo's Transmission System.¹⁹³ PSCo will work with the Resource Planning Entity to determine the scope and timeline to initiate the Resource Solicitation Cluster.

The Resource Solicitation Cluster is modeled off of the Resource Solicitation Cluster option included in PSCo's currently-effective and Commission-approved tariff.¹⁹⁴ The Resource Solicitation Cluster will respect queue position, which means that projects included in already-initiated DISIS Clusters will be included in the models of the Resource Solicitation Cluster. Upgrades identified in the Resource Solicitation Cluster Study will be allocated to Interconnection Requests in that Cluster in the same way as similar upgrades are allocated to Interconnection Requests in a specific DISIS Cluster. In

¹⁹¹ See PSCo LGIP, Section 4.2.2; *see also supra* note 67 and accompanying text. As discussed above, the PSCo LGIP's existing Resource Solicitation Cluster study option is an approved deviation from the Commission's *pro forma* LGIPs. *See* PSCo Implementation Order III at P 22.

¹⁹² Revised LGIP, Section 1 ("**Resource Planning Entity** shall mean any entity subject to or conducting a Resource Solicitation Process.").

¹⁹³ Although a Resource Planning Entity is not required to be connected to the PSCo Transmission System to be subject to the Revised LGIP, the potential Generating Facility(ies) must interconnect to the PSCo Transmission System. Examples of potential Resource Planning Entities that could avail themselves of the Resource Solicitation Cluster study process are Black Hills, Tri-State, CSU, and PNM.

¹⁹⁴ *See* PSCo Implementation Order III at P 22. Previously, the Commission has similarly approved the clustering of projects in a resource solicitation in MISO's Group Study process. *See* 2008 MISO Queue Reform Order at PP 112-14 (approving MISO proposal to perform System Impact Studies and Facilities Studies in group study format); MISO FERC Electric Tariff, Attach. X (Generator Interconnection Procedures), Section 4.2 ("Transmission Provider may elect to perform Group Studies: (i) in connection with a resource solicitation process with the concurrence of Transmission Provider; . . .").

fact, the study process and requirements for Interconnection Requests in a Resource Solicitation Cluster and a DISIS Cluster are the same; both are subject to the same Definitive Interconnection Study Process described in Section 7 of the Revised LGIP.

An Interconnection Customer may retain more than one queue position during the early phases (*i.e.*, Phase 1 and 2) of the Resource Solicitation Cluster Study – one associated with the Resource Solicitation Cluster and the other with a separate earlier or later queued DISIS Cluster. An Interconnection Request that already has a queue position as part of an earlier DISIS Cluster may have a second queue position as part of the Resource Solicitation Cluster. Alternatively, an Interconnection Request that is part of a Resource Solicitation Cluster may have two queue positions by entering a later DISIS Cluster in addition to being part of an existing Resource Solicitation Cluster. This second queue position effectively represents an alternative business path in the case that the particular project is not selected in the Resource Planning Entity's selected portfolio but is included in the Resource Solicitation Cluster until the Resource Planning Entity has committed to a specific set of resources in its Resource Solicitation Process.¹⁹⁵ The Resource Planning Entity must choose a specific portfolio with which to move forward after receiving the Phase 2 Study Report. Even though a Generating Facility is associated with two queue positions, it will not be double counted in the models.¹⁹⁶

If the Resource Planning Entity rejects a Generating Facility in its Resource Solicitation Process the Generating Facility may no longer hold a queue position associated with the Resource Solicitation Cluster. Conversely, if a Generating Facility is selected in the Resource Solicitation Process, it cannot keep its other queue position associated with a DISIS Cluster. Allowing an Interconnection Customer to have two queue positions during the evaluation phase of the Resource Solicitation Process was previously required by the Commission and almost identical language is contained in PSCo's currently-effective tariff.¹⁹⁷

By respecting queue position, the Resource Solicitation Cluster determines and allocates the cost of Interconnection Facilities¹⁹⁸ and Network Upgrades to the

¹⁹⁵ Revised LGIP, Section 1 (“**Resource Solicitation Process** shall mean any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources by an entity interconnecting to the Transmission System of Transmission Provider.”).

¹⁹⁶ Revised LGIP, Section 4.2.2.

¹⁹⁷ *Xcel Energy Operating Cos.*, ER04-419-006, Compliance Filing and Proposed Revisions to Joint OATT, LGIP Section 4.2.2 (Nov. 26, 2004), accepted by delegated letter order dated April 5, 2005.

¹⁹⁸ Revised LGIP, Section 1 (“**Interconnection Facilities** shall mean the Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System.

Interconnection Customers in that Cluster. Because of this, the costs of such upgrades needed for the Resource Plan are not allocated to other Interconnection Customers that are interconnecting to the PSCo Transmission System outside of a specific Resource Solicitation Process. As it did in 2004, PSCo continues to commit that “all studies must be performed in accordance with the provisions of the Revised LGIP, and may not be delayed as a result of the Resource Solicitation Process.” These provisions address the Commission’s primary concern as described in the 2004 Order, “that the consideration being given to the soliciting entity and participants in the resource solicitation process not spill over and harm other Interconnection Customers in the Queue.”¹⁹⁹ The use of a Resource Solicitation Cluster explicitly protects other Interconnection Customers in the queue because it protects those customers from sharing the costs of upgrades identified as needed for the resources included in that Resource Solicitation Cluster.²⁰⁰ Stakeholders generally support the use of a Resource Solicitation Cluster as a way for the ultimate purchaser of the generation, the LSEs, to identify the best projects and facilitate interconnection of those resources.

d. Customer Engagement Window

The Interconnection Request is followed by a 75-day Customer Engagement Window during which PSCo will work with applicable Interconnection Customers to build models, verify data, hold stakeholder meetings (including Scoping Meetings, as appropriate), work with requestors to cure any deficiencies in the Interconnection Request, and generally prepare for the start of the Definitive Interconnection System Impact Study.²⁰¹ The Customer Engagement Window can be shortened by mutual agreement of all Interconnection Customers in that Cluster. This means that if all Interconnection Customers are ready to proceed with the study and have executed study agreements, PSCo will initiate the study phase earlier and so decrease the overall processing time for that Cluster.

The Customer Engagement Window is an important time for Interconnection Customers to determine whether they are ready and truly want to enter the Definitive Interconnection Study Process. At the beginning of the Customer Engagement Window

Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Interconnection Facilities may be shared by more than one Generating Facility in a Cluster.”).

¹⁹⁹ PSCo Implementation Order III at P 26.

²⁰⁰ *Id.* at PP 26, 27 (“[T]he Commission will require XES to clarify that Interconnection Requests not associated with the resource solicitation will be insulated from the effects of XES’ processing of the solicitation bids.”).

²⁰¹ PSCo and the Resource Planning Entity will determine a mutually agreeable end date for the Resource Solicitation Customer Engagement Window.

(within 10 Business Days), PSCo will publish to OASIS a list of all Interconnection Requests for that Cluster. This will allow customers to know what other projects are seeking to interconnect in that Cluster and thus to estimate the potential scope of upgrade costs given the magnitude and other unique characteristics of that Cluster.

Accordingly, the Customer Engagement Window offers Interconnection Customers additional Cluster-specific information in order to inform their choice about whether or not to move forward. There is little risk to the Interconnection Customer for withdrawal during the Customer Engagement Window. During this period, the Interconnection Customer has submitted an Interconnection Request, but has not signed a Study Agreement. Any study deposit or security provided with the Interconnection Request is fully refundable and comes with no penalty.²⁰² After the end of the Customer Engagement Window, PSCo will advance into the study phase all Interconnection Customers with a complete Interconnection Request and a signed Definitive System Impact Study Agreement.

5. Definitive Interconnection System Impact Study

a. Study Phases

Because the Resource Solicitation Cluster and the DISIS Cluster are processed in the same manner, both are subject to the same Definitive Interconnection System Impact Study (“DISIS”).²⁰³ The DISIS is divided into three discrete phases: (1) an initial power-flow and voltage study, (2) a stability and short circuit study, and (3) a restudy (if necessary).²⁰⁴

The modeling parameters described in the scope of the DISIS are similar to the Order No. 2003 *pro forma* scope of the System Impact Study, with these additional clarifications: (1) equally queued or higher queued generation (*i.e.*, generation in the same or higher queued Clusters), or requests associated with Firm Transmission Service, is generally modeled at 100 percent output; (2) if the NRIS²⁰⁵ requests exceed PSCo

²⁰² All study deposits and Readiness Milestones may be refunded, but the application fee is not refunded.

²⁰³ This terminology may be confusing because both the DISIS Cluster and the Resource Solicitation Cluster use the DISIS.

²⁰⁴ See Revised LGIP, Appendix A-2; Ex. XES-203 (Definitive Interconnection Study Process and Approximate Timeline for the First DISIS Cluster).

²⁰⁵ Revised LGIP, Section 1 (“**Network Resource Interconnection Service** shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider’s Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.”). NRIS can be

Network Load, the additional generation shall be modeled as sunk to load other than PSCo's Network Load; (3) higher queued ERIS requests without associated Firm Transmission Service may be dispatched at zero in some study models, and (4) although existing generation may be re-dispatched to accommodate new requests, existing generation is generally not modeled at less than its minimum unless the generation owner determines it should be modeled as if retired.²⁰⁶ These clarifications are reasonable as they are consistent with Order No. 2003, provide additional transparency to Interconnection Customers and provide an opportunity to model Interconnection Requests that exceed the amount of available load in the PSCo BAA.

(i) Phase 1

The first phase of the study process (Phase 1) is a high level power-flow and voltage analysis that determines the Interconnection Facilities and Network Upgrades required for interconnection. This study is similar to a Feasibility Study under the *pro forma* LGIP and is expected to identify the majority of required Network Upgrades. The results from Phase 1 provide the Interconnection Customer with an initial look at its costs to interconnect.

(ii) Phase 2

The second phase of the Definitive Interconnection Study (Phase 2) completes the traditional System Impact Study by adding stability and short circuit analysis to the power-flow analysis from the first phase. To the extent Interconnection Requests were withdrawn in Phase 1, the power-flow and voltage analysis may be updated. If the Cluster is stable (*e.g.*, no changes to the modeling assumptions), and if no Interconnection Requests withdraw after the Phase 2 study report is published, then the Cluster Study will omit the Phase 3 study, and the Cluster will move directly to Phase 4, the Interconnection Facilities Study.

(iii) Phase 3

By contrast, if Interconnection Customers withdraw after Phase 2, or if other modifications create a need to restudy the Cluster, the modified Cluster undergoes a System Impact Re-study (*i.e.*, the power-flow, voltage, stability, and short circuit analysis

contrasted with Energy Resource Interconnection Service ("ERIS"), which Revised LGIP, Section 1 defines as "an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission Provider's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service."

²⁰⁶ Revised LGIP, Section 7.3.

is repeated for the modified Cluster). This Phase 3 re-study process is repeated until the Cluster is stable. Once the Cluster is deemed stable, the Interconnection Requests move to individual Interconnection Facilities Studies (Phase 4) that are based off of the results of the Phase 2 or Phase 3 study, as appropriate.

The Interconnection Facilities Study (Phase 4) is followed by LGIA negotiation and execution. An important aspect of the proposed Revised LGIP is that projects are quite certain after Phase 2, which is why Readiness Milestones increase after this phase. This design assumes there may be restudies, but the design aims to limit the number of restudies.

(iv) DISIS Timing

It is expected that PSCo can complete Phase 1 relatively quickly and will use reasonable efforts to complete the study within 90 days. Because the Phase 2 analysis is more complicated and time consuming, PSCo will use reasonable efforts to complete Phase 2 in 150 calendar days (*i.e.*, 150 days after the start of the Phase 2 study). With regard to Phase 3, PSCo will similarly use reasonable efforts to complete each Phase 3 re-study in 150 calendar days. For all three phases, if the study is complete in less than the target date, PSCo will publish the report early and thereby accelerate the overall process timeline. Following the issuance of the study report for each respective phase, PSCo will hold a report meeting within 10 business days of publishing the report and Interconnection Customers must commit to stay in the study process within 20 calendar days of the report meeting by providing the next Readiness Milestone.

b. Readiness Milestones

(i) Overview

Given that a first-ready process prioritizes projects that are ready to interconnect, it is necessary to require interconnection projects to demonstrate that they are making sufficient progress toward interconnection and commercial operation. The Commission recognized this in its 2008 Technical Conference Order. The Commission explained that “it may be appropriate to increase the requirements for . . . keeping a queue position,” because doing so “would also increase the likelihood that only projects that are likely to be commercially viable . . . are in the queue.”²⁰⁷ PSCo has developed its proposed

²⁰⁷ See *e.g.*, Stakeholder Comments of Western Power Trading Forum (“WPTF”) at 3 (July 12, 2018) (“Regarding the ultimate DISIS design, WPTF believes that alternative milestones should not be allowed in lieu of a financial security. PSCo should require *all* customers, irrespective of a project’s inclusion in a resource plan, PPA status (or Designated Network Resource status) to have the same financial requirements and at-risk capital to be in the DISIS. This is essential to demonstrate to FERC that PSCo is allowing non-discriminatory access to interconnect to its transmission system.”), <http://www.oasis.oati.com>

Readiness Milestones with the goal of allowing all viable projects to move through the queue, while also providing developers with the flexibility to demonstrate their readiness in a variety of ways. After consulting with our stakeholders regarding various ways that readiness may be demonstrated, PSCo proposes to offer both three non-financial readiness demonstration options as well as the alternative option of providing additional security *in lieu* of providing a demonstration of readiness.

The Second Revised LGIP's Definitive Interconnection Study Process requires demonstrations of readiness in the form of Readiness Milestones and Site Control. Readiness Milestone is a new defined term and is distinguished from other milestones, such as those identified in the LGIA appendices. The specific requirements increase as the Interconnection Customer advances through the process. The purpose of the Readiness Milestones is to require an Interconnection Customer to demonstrate that a specific project is ready to move forward with interconnection in order to make it less likely that the customer will withdraw from the queue and thereby harm other Interconnection Customers. These options are described in Section 7.7 of the Second Revised LGIP and in detail below.

By allowing options to satisfy the Readiness Milestone requirements, PSCo's proposal affords the Interconnection Customer the flexibility to employ a variety of business models in the PSCo region. In PSCo's experience, generators with contracts or that have been approved in a Resource Planning Process are less likely to withdraw from the Queue.

(ii) Contract For Sale Option

A contract for sale is an option to demonstrate readiness. Generally, projects that are ultimately developed in the PSCo region are projects with contracts for the sale of the Generating Facility itself or for the energy produced by the Generating Facility. PSCo is not aware of any instance where an Interconnection Customer has failed to reach commercial operation after executing a contract for sale.

PSCo's proposal thus gives Interconnection Customers the option to demonstrate increasing readiness through the study process by means of an executed term sheet for the first two milestones (M1 and M2) and by means of an executed contract for the next two milestones (M3 and M4). This contract for sale proposal provides developers with greater flexibility by allowing them to enter the queue during the contract negotiation phase because an executed term sheet is able to satisfy the Readiness Milestones up through the completion of the first full system impact level Cluster Study results (*i.e.*,

until the completion of Phase 2).

Readiness Milestone	Requirement
M1	Executed Term Sheet
M2	Executed Term Sheet
M3	Executed Contract
M4	Executed Contract

The term sheet or contract may be for sale of: (i) the constructed Generating Facility; (ii) the Generating Facility's energy; or (iii) the Generating Facility's ancillary services and capacity if the Generating Facility is an electric storage resource; where the term of sale is not less than five years. These sub-options under the "contract for sale option" themselves provide developers with different business models with even more flexibility while also providing PSCo and other Interconnection Customers a reasonable demonstration of a project's readiness. PSCo does not propose to dictate the exact terms that developers must include in their term sheets and contracts. However, an Executed Contract used to satisfy M3 and M4 must be binding on the parties in order to serve as a sufficient indicator of readiness.

These options were determined in concert with developers and a majority of stakeholders support the use of a contract to determine readiness and specific options described above. For all of these reasons, the use of a contract for sale proposed in this instant filing is just and reasonable. Furthermore, the Commission has determined in PNM that using an executed contract as demonstration of readiness option is consistent or superior to the *pro forma* LGIP.²⁰⁸

(iii) Inclusion in a Resource Plan Option

Generating Facilities that are included in a Resource Plan also have a high probability of being constructed and so being included in a Resource Plan is a reasonable demonstration of readiness. Most Generating Facilities in the PSCo region are contracted by LSEs through a Resource Solicitation Process.²⁰⁹ PSCo's proposal thus gives Interconnection Customers the option to demonstrate increasing readiness through the study process by means of being included in a Resource Plan for the first two milestones

²⁰⁸ PNM OATT, LGIP § 7.2.f.ii.

²⁰⁹ Ex. XES-100, Benson Testimony at 12.

(M1 and M2), and by means of being included in an LSE's Resource Plan that has been approved by the applicable regulatory body for the next two milestones (M3 and M4).²¹⁰ This Resource Plan proposal provides developers with greater flexibility by allowing them to enter the queue during the early stages of a Resource Solicitation Process and advance up through the completion of the first full system impact level Cluster Study results (*i.e.*, until the completion of Phase 2) before the applicable Resource Plan receives regulatory approval. The Commission has already determined in PNM that using inclusion in a resource plan as demonstration of readiness option is consistent or superior to the *pro forma* LGIP.²¹¹

Readiness Milestone	Requirement
M1	Included in a Resource Plan
M2	Included in a Resource Plan
M3	Included in an Approved Resource Plan
M4	Included in an Approved Resource Plan

(iv) Provisional Interconnection Service Option

PSCo also proposes, under certain conditions, to consider Generating Facilities with Provisional Interconnection Service to be ready projects. Provisional Interconnection Service allows projects to interconnect and start generating before the final interconnection study is complete. Again, PSCo proposes increasing demonstration of readiness in which the first two milestones (M1 and M2) require an unsuspended Provisional Interconnection Service Agreement with a commitment to move forward with constructing the Generating facility to be filed with the Commission and the next two milestones incrementally require evidence that the facilities have commenced design and engineering (for M3) and have commenced construction (for M4). The Provisional Interconnection Agreement will be filed with the Commission and the Commission may at that time determine if the terms, such as the commitment to construct are reasonable.

Readiness Milestone	Requirement

²¹⁰ Revised LGIP, Section 1 (“**Resource Plan** shall mean any process authorized or required by Applicable Laws and Regulations for, *inter alia*, the selection of Generating Facilities.”).

²¹¹ PNM OATT, LGIP §7.2.f.iii.

Readiness Milestone	Requirement
M1	Filed Unsuspended Provisional Service Agreement with a Commitment to Construct the Facility
M2	Filed Unsuspended Provisional Service Agreement with a Commitment to Construct the Facility
M3	Unsuspended Provisional Service Agreement with Evidence Design and Engineering Commenced
M4	Unsuspended Provisional Service Agreement with Evidence Construction Commenced

(v) Provision of Security *in lieu* of a Demonstration of Readiness and Readiness Milestone 5 (M5)

Security is required throughout the interconnection process. The security provided is fully refundable to the customer when it reaches commercial operation or withdrawal. Under Section 3.4.1.h, all customers are required to post security equal to one times the study deposit amount when they enter the queue. The Readiness Milestones required during the study phases of the process; i.e. M1, M2, M3, and M4; may alternatively be satisfied by providing additional security *in lieu* of providing a demonstration of readiness.²¹²

The security provided *in lieu* of a demonstration of readiness is needed to encourage an orderly approach to interconnection service. Because no demonstration of readiness is provided, the additional security helps to prioritize ready projects under the first-ready, first-served interconnection process. The concept of using security to prioritize ready projects was accepted as consistent with or superior to the *pro forma* LGIP in PNM, and the amounts proposed are reasonable in comparison to PNM.

In the PNM Order, the Commission approved the use of additional security to show readiness.²¹³ PNM requires \$2000/MW²¹⁴ to enter the queue (at an equivalent stage as PSCo's M1) as an alternative option if another demonstration of readiness is not

²¹² This security is in addition to the amount required for all interconnection customers under Section 3.4.1.h.

²¹³ PNM Order at PP 83-86.

²¹⁴ PNM OATT, LGIP § 7.2.f.i.

provided. PSCo is proposing a similar option: an additional security equal to one times the study deposit amount for projects that otherwise do not provide a demonstration of readiness, where the amount is in addition to that required under Section 3.4.1.h. PSCo's proposed amount is generally less than the \$2000/MW accepted in PNM. Even with the security required under Section 3.4.1.h, the total security required to enter the queue for customers that are unable to provide a demonstration of readiness is consistent with the amounts approved in PNM. The total security required under PSCo's proposal is the same as PNM for 250 MW generators; the security is slightly more for smaller generators (i.e. less than 250 MW); and the security is less than approved in PNM for generators larger than 250 MW. Examples comparing PSCo's proposed security amount for generators that do not provide a demonstration of readiness to PNM's accepted amount for similarly situated generators of various generator sizes is provided in the table below.

Generator Size	PNM: Security Requirement for "M1" (\$2000/MW)	PSCo: Total Security Required for M1 (multiplier of study deposit)	PSCo: Total Security Required for M1
45 MW	\$90,000	2 x \$75,000	\$150,000
100 MW	\$200,000	2 x \$150,000	\$300,000
250 MW	\$500,000	2 x \$250,000	\$500,000
500 MW	\$1,000,000	2 x \$250,000	\$500,000

PNM does not have the same phased study approach as is proposed by PSCo in this instant filing, but PNM significantly increases the security requirement in the next phase of their study, which is the interconnection facilities study phase (e.g. the same stage as PSCo's proposed Phase 4). To enter the interconnection facilities study phase, PNM requires a total security equal 100% of the customer's allocated share of Network Upgrades.²¹⁵ This amount is easily in the tens of millions of dollars – which is an order of magnitude greater than what is being proposed by PSCo in this Second Revised LGIP. As an example, PNM's DISIS-9 cluster study report shows an average of approximately \$47,000,000 in Network Upgrade costs allocated to each project, where the specific allocation ranges from \$15,000,000 to \$87,630,000.²¹⁶ In PNM, a 500 MW project may

²¹⁵ PNM OATT, LGIP § 7.7.a.

²¹⁶ See PNM Table 4 on Page 67 of the PDF for the study reports posted on the PNM OASIS at: https://www.oasis.oati.com/woa/docs/PNM/PNMdocs/DISIS-9_Cluster_Study_Rpt.posted_8-6-19.pdf and Ex. XES-200, Noailles Testimony at 50.

have security requirements starting at \$1 million dollars to enter the queue which could increase to many millions of dollars to enter the Interconnection Facilities Study.

For entities that do not provide a demonstration of readiness, PSCo proposes total security requirements, inclusive of security required under Section 3.4.1.h, equal 2, 3, 5, and 7 times the study deposit for Readiness Milestones M1, M2, M3, and M4 respectively. This means that the most security PSCo will require (i.e. for a project that does not provide a readiness demonstration and is greater than 200 MW) for M4 is \$1.75 million dollars, which can be compared to more than \$87 million dollars that PNM could require for one of the projects in PNM's DISIS-9 cluster. The Commission has approved requiring this significant amount of security for a non-independent transmission provider as consistent with or superior to the *pro forma* LGIP in PNM, and should determine PSCo's proposal is also consistent with or superior to the *pro forma* LGIP.

Milestone	Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness <u>IS</u> Provided This Security is provided under Section 3.4.1.h of the Revised LGIP	Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness <u>IS</u> <u>NOT</u> Provided	Example: 500 MW facility; <u>DOES NOT</u> provide a Demonstration of Readiness
M1	1x	2x	\$500,000
M2	1x	3x	\$750,000
M3	1x	5x	\$1,250,000
M4	1x	7x	\$1,750,000 ⁺
M5	9x*	9x*	\$2,250,000* ⁺
* Study deposit is used as an estimate of actual study costs until actuals are known ⁺ PNM security requirement could be in excess of \$80,000,000 in this stage			

At the LGIA phase, PSCo is requiring the same amount of security (i.e. 9 times the study costs) for all customer customers. Under the Revised LGIP, execution of an

LGIA is considered a demonstration of readiness and so customers that previously were unable to provide a demonstration of readiness are treated the same as those that previously provided a demonstration of readiness. PSCo places all customers with executed LGIAs on equal footing and assumes that all of these customers have ready projects that have similar risks of withdrawing from the queue.

PSCo proposes the total security equal to nine (9) times the actual study costs when the LGIA is executed (i.e. at M5). If the actual study costs are not known at the time, the study deposit is used as an estimate of expected study costs. This total and maximum amount of security that may be required under PSCo's Revised LGIP remains well under the amount of security that would typically be required under PNM's approved tariff at this stage in the process.²¹⁷ Because the Commission has already approved similar security requirements as part of a transition to a first-ready, first-served approach as consistent with or superior to the *pro forma* LGIP in PNM, the Commission should also approve PSCo's proposal for requiring security.

Unlike PSCo's prior proposal in the First Revised LGIP, PSCo's current proposal in the Second Revised LGIP no longer associates financial security with Network Upgrades or the construction of Network Upgrades. Instead, any security is a multiple of the study deposit. Holding the security until the point in time when a project reaches commercial operation is critical in order to achieve the goal of encouraging only viable projects (i.e. projects that are likely to reach commercial operation) to remain in the queue, as discussed above. It is possible that the Interconnection Customer is liable for a withdrawal penalty if it does not reach commercial operation, and so retaining the security until the commercial operation date is consistent with the withdrawal penalty proposal, which itself is consistent with or superior to the *pro forma* LGIP.

(a) Refunding Security

Security provided under Section 3.4.1.h (to enter the queue), under Section 7.7 (to satisfy Readiness Milestones), or under 5.1 (as part of the transitional process) is refunded upon achieving commercial operation. If the customer withdraws prior to commercial operation, the security is returned after settling final invoices, which would include any applicable Withdrawal Penalty described below. To the extent the final invoices are not paid, the security may be used to offset any unpaid amounts and the balance is returned to the customer.

²¹⁷ PSCo will still require security for the construction of Network Upgrades as described in the *pro forma* LGIP and Order No. 2003.

(b) Use of Cash for Security

PSCo proposes to allow Interconnection Customers to use either cash or a letter of credit as security. If the customer provides cash as security, PSCo proposes to hold that cash in an interest bearing account, and when the security is refunded, to refund the cash including the accumulated interest associated with that account. The specific language describing this is below:

If cash is provided as security, it shall be held in an interest bearing account. The security is refunded to the Interconnection Customer upon withdrawal, LGIA termination, or Commercial Operation after any final invoice is settled. If cash is provided as security, it shall be refunded plus interest, where the interest is calculated using the interest rate of the account in which it was held.

PSCo is concerned, however, that it will not be able to deposit the cash in an interest bearing account that will earn interest consistent with the methodology set forth in the Commission's regulations.²¹⁸ Consequently, in the event PSCo is required to return the cash security plus interest in an amount consistent with the Commission's regulations, PSCo would likely incur additional expense to cover the difference between the amount earned in interest from the bank and the interest due to the interconnection customer under the Commission's regulations.

To that end, PSCo requests that the Commission provide it an exemption with respect to the calculation of interest so that PSCo be allowed to return cash security plus any interest actually earned through the deposit of that cash security. PSCo believes that this will hold both the Transmission Provider and interconnection customer harmless since neither may make use of the cash and the cash would, presumably, be earning simple interest in a deposit account.

PSCo proposes the use of cash as security to be a severable provision under this filing, and if the Commission determines that the use of the bank interest rate is not consistent with or superior to the *pro forma* LGIP, then the Commission may reject that aspect of the filing.²¹⁹ Such a rejection would leave a letter of credit as the only permissible form of security. While PSCo would accept such modification, allowing cash as an option provides more flexibility to Interconnection Customers. Because this added flexibility provides benefits to Interconnection Customers, PSCo urges the

²¹⁸ 18 C.F.R. § 35.19a(a)(2)(iii).

²¹⁹ PSCo deems this aspect of the filing to be severable, consistent with *NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 114-15 (D.C. Cir. 2017). See also *Nevada Power Co.*, 167 FERC ¶ 61,086 at P 14 & n.17 (2019).

Commission allow the use of actual accumulated interest when determining the refund of security amounts.

6. Withdrawal Penalty - Amount

PSCo is proposing a withdrawal penalty to help encourage a disciplined approach to the interconnection process. As discussed earlier, the use of a penalty to facilitate orderly processing of interconnection requests and as part of a first-read, first-served interconnection process is consistent with or superior to the pro forma LGIP. Examples of the application of the required security and the withdrawal penalty are provided in Ex. XES-204.

If a customer reaches commercial operation, there is no withdrawal penalty. If the withdrawal does not harm others or if the upgrade costs increase significantly between study reports, then there is no withdrawal penalty. On the other hand, the customer is subject to a withdrawal penalty if it withdraws from the interconnection process and that withdrawal has a negative impact on other customers and the Interconnection Customer's upgrade costs did not increase significantly between studies or over the study process. The withdrawal penalty amount is dependent on (1) whether a demonstration of readiness was provided and (2) the phase of the process the customer is in at the time of withdrawal. The amount of the withdrawal penalty is based on a multiple of study costs and all withdrawal penalty revenue is used to fund the costs of other studies.

In the PNM Order, the Commission approved PNM's proposal to charge twice the study cost, where one times the study cost is considered a penalty, to an Interconnection Customer that withdraws from the process.²²⁰ PSCo proposes to incorporate a similar penalty concept in this Second Revised LGIP. PSCo would impose this penalty *only* if (1) the withdrawal negatively affects the timing or cost of equal or lower queued projects; (2) the cost responsibility for transmission upgrades identified for the withdrawing Interconnection Customer increased by less than twenty-five (25%) percent between the prior and the current study reports; and (3) the cost responsibility for transmission upgrades identified for the withdrawing Interconnection Customer increased by less than one hundred percent between the Phase 4 report and the Phase 2 report. If any one of these criteria are not met, the Interconnection Customer is not assigned a withdrawal penalty. If other customers are not harmed by the withdrawal, then no penalties should be applied. Alternatively, if other customers are harmed but unexpected and significant increases in interconnection costs impact the viability of the Interconnection Customer's project, the customer can withdraw without incurring a penalty.

²²⁰ PNM Order at PP 20, 81. Note that if a customer withdraws from the study process, that customer will be responsible for costs in excess of the actual study costs.

If an Interconnection Customer is subject to a withdrawal penalty and a demonstration of readiness *is not* provided, the withdrawal penalty will increase depending on the phase in which they withdraw as discussed below. For these customers that *do not* provide a demonstration of readiness their withdrawal penalty is the greater of the study deposit or (a) two times the study cost if the customer withdraws in Phase 1, capped at one million dollars, (b) three times the study cost if the customer withdraws in Phase 2, capped at one and one half million dollars, (c) five times the study cost if the customer withdraws in Phase 3, capped at two million dollars, (d) seven times the study cost if the customer withdraws in Phase 4 capped at two and one half million dollars, or (e) nine times the study costs if the customer withdraws after executing the LGIA.

If an Interconnection Customer is subject to a withdrawal penalty and a demonstration of readiness *is* provided, the withdrawal penalty is the greater of the study deposit or one times the study cost. Just like what was approved in PNM, the customer pays its actual study costs and the additional amount (i.e., one times the study cost) is the penalty.²²¹ If the withdrawal occurs after the LGIA is executed, then the withdrawal penalty is nine (9) times the study costs. The withdrawal penalty for customers that provide a demonstration of readiness is not capped.

For clarity, for Interconnection Customers subject to a penalty, the total withdrawal penalty is the higher of the study deposit amount or a multiplier of the actual study costs. The table below summarizes penalty requirements applicable to customers that meet the Readiness Milestone requirements and those that provide financial security *in lieu of* meeting a Readiness milestone:

²²¹ Note that although the penalty multiplier does not change for customers that provide a demonstration of readiness until the customer reaches the LGIA phase, the actual cost of the study will increase over the course of the study process. This means that the withdrawal penalty amount will increase as the process continues.

Phase of Withdrawal	Readiness Demonstration Provided?	Total Withdrawal Penalty (if greater than study deposit)	Study Cost Obligation Cap
1	Yes	1 times study costs	No Cap
2	Yes	1 times study costs	No Cap
3	Yes	1 times study costs	No Cap
4	Yes	1 times study costs	No Cap
LGIA	Yes	9 times study costs	No Cap
1	No	2 times study costs	\$1 million
2	No	3 times study costs	\$1.5 million
3	No	5 times study costs	\$2 million
4	No	7 times study costs	\$2.5 million
LGIA	No	9 times study cost	No Cap

For entities that provide a demonstration of readiness, the withdrawal penalty is the same amount as was determined to be consistent with or superior to the *pro forma* LGIP in the PNM Order.²²² These customers have shown themselves to have ready projects and so they are less likely to withdraw from the queue and cause harm to the interconnection process. Customers that provide a demonstration of readiness have expended significant effort and costs to develop a ready project. Projects that have provided a readiness demonstration are more likely to be harmed by delays caused by speculative projects withdrawing from the process than projects that have not provided a readiness demonstration. For instance, contractual terms in generation purchase agreements often have withdrawal penalties in the tens of millions of dollars. Developers that have entered into such agreements have significant money at-risk under the contract terms.²²³ Customers that provide a demonstration of readiness are not similarly situated

²²² PNM Order at PP 20, 81.

²²³ For example, the PSCo model solar PPA requires a developer of a solar project to establish an initial Security Fund of \$125/kW multiplied by the number of kW in the Facility Nameplate Capacity. For a 200 MW solar project, that equates to an initial Security Fund of \$25 million. In the event that the developer is unable to perform under the PPA and deliver the project, the PPA enables the PSCo to collect liquidated damages of \$100/kW multiplied by the number of kW in the Facility Nameplate Capacity. For that 200

to customers that cannot provide such a demonstration.

Projects that cannot provide a demonstration of readiness are more likely to be speculative projects and so are more likely to cause harm to the interconnection process. The developers of these projects are hoping that they will at some time be ready enough to secure a PPA, to be included in a resource plan or to have a provisional interconnection agreement, but are only speculating that they will become ready projects in the future. These customers do not have, for example, significant withdrawal penalties associated with withdrawing from a power purchase agreement. Nor have they met the requirements to demonstrate project readiness for selection through a resource planning process or committed to construct facilities under a provisional interconnection agreement. Because these projects are not similarly-situated to projects that provide a readiness demonstration, it is reasonable to differentiate between these two categories of projects when determining the withdrawal penalty.

There are different categories of harm caused by withdrawals, and the amount of likely harm increases the later in time the withdrawal occurs. The Commission has noted later stage withdrawals have larger negative impacts on queue management and the Commission has encouraged generator interconnection reforms that discourage late stage withdrawals.²²⁴

The first category of harm is the cost of to restudy equal or lower queued projects. Suppose that there are fifteen customers in a cluster, and one withdraws. The fourteen remaining projects would need to be restudied. The withdrawing project is only allocated a portion of the study costs. For ease of this example, suppose the withdrawing customer pays 1/15 of the cluster study costs (the costs are allocated as described in Section 4.2.3 of the Revised LGIP). The restudy of the remaining fourteen customers could be approximately 14 times that amount (each is charged 1/14th of total study costs). If lower queued clusters have started then each of those clusters may need to be restudied. If there are two lower queued clusters being studied, each comprised of 15 requests, then the withdrawal of one customer would cause 44 (14 customers from the same cluster + 15 customers from the next cluster + 15 customers from the third cluster) requests to be restudied; which could be approximated to be 44 times the initial customer's study costs. The later the stage of withdrawal, the more likely that subsequent clusters have started and that more customers and so more restudies are required.

In addition, the cost and complexity of studies increase over the course of the

MW solar project, that equates to liquidated damages of \$20 million. See "Model PPA Solar – PSCo Model PPA Renewable 2017," available at <https://www.xcelenergy.com/staticfiles/xeresponsive/Company/Rates%20&%20Regulations/PSCo%20ModelPPA%20Renewable%202017.docx>

²²⁴ See, e.g., PNM Order at P 80.

study process. Withdrawal in the first phase of the study process may only require re-running the power flow and voltage analyses, while withdrawal in phase 4 would require re-running the power flow, voltage, and short circuit analyses in addition to the more detailed engineering performed during the facilities study. Withdrawal after the LGIA is executed may occur approximately three to five years past the completion of the initial studies because an LGIA may be suspended for three years, and the suspension may not start for years after the interconnections studies have been fully completed is executed. If PSCo runs two clusters per year, and each cluster has 10 requests, then a withdrawal may cause over sixty (60) customers to be restudied (2 clusters per year x 10 customers per cluster x 3 years). Charging a maximum withdrawal penalty of nine (9) times the study costs is very reasonable when the potential harm may be significantly more than this amount.

Project withdrawals also cause serious harm to other projects in the form of study and interconnection delays. PSCo requested stakeholder feedback on costs incurred during the interconnection process and potential harm caused by a withdrawal delaying the interconnection study process due to the need for restudies. One developer stated, “these costs can easily be in the upper hundreds of thousands of dollars to a few million” dollars per year per interconnection customer.²²⁵ Other developers estimated similar amounts and identified the added harm due to lost or decreased tax incentives.²²⁶ Lost tax incentives could easily result in a harm of tens or hundreds of millions of dollars. If multiple projects are delayed in the same and subsequent clusters due to a withdrawal, than these delay costs alone demonstrate harm significantly in excess of the withdrawal penalty amount.

Additionally, project withdrawals can ultimately drive other interconnection projects to become uneconomic. Given the accumulated harm and the fact that the

²²⁵ Ex. XES-200, Noailles Testimony at 57-58; Ex. XES-206 at 8; Post Meeting Stakeholder Comments of Derek Sunderman of Savion dated 6/20/2019 (https://www.oasis.oati.com/woa/docs/PSCO/PSCODocs/Queue_reform_Stakeholder_Meeting_-_Savion_comments.pdf).

²²⁶ Ex. XES-200, Noailles Testimony at 58; Ex. XES-206 at 9; For instance, E.ON stated, “non-interconnection costs incurred can easily be on the order of hundreds of thousands of dollars per year. In addition to these costs there would be internal overhead costs borne by the developer each year.” (see https://www.oasis.oati.com/woa/docs/PSCO/PSCODocs/Queue_reform_Stakeholder_Meeting_-_E.ON_Comments.pdf). See also Ex. XES-200, Noailles Testimony at 58; Ex. XES-206 at 2-7; Interwest Energy Alliance provided a detailed breakdown of costs, an highlighted the additional cost of lost PTC or ITC values. (see https://www.oasis.oati.com/woa/docs/PSCO/PSCODocs/Queue_Reform_response_Interwest_06.21.19.pdf and https://www.oasis.oati.com/woa/docs/PSCO/PSCODocs/Queue_reform_response_Interwest_06.21.19_attachment_-_2018_Deloitte_Renewable_Energy_Seminar.pdf

generator may have specific timing commitments with counterparties, “delayed interconnection could jeopardize a project’s viability and could jeopardize other commitments with counterparties.”²²⁷ This often results in developers terminating the development of these later-queued projects. As such, the delays caused by speculative projects that withdraw could result in the loss of the total opportunity of the project to the developer. The resulting harm includes all of the lost profit that the developers of these other projects forego, as well as the additional costs that those projects’ offtakers must bear in purchasing energy and capacity from an alternative, less economic project.

If low cost resources become non-viable due to other project withdrawals, end use customers are harmed because they cannot take advantage of the new resource. Thus, projects that withdraw from the interconnection process may result in higher rates to customers as those customers are not able to take advantage of the lower cost resources. Additionally, this harm can be compounded in a cascading fashion, when one project’s withdrawal causes other projects to become uneconomic and drop out of the queue, and those later-queued projects subsequently harm yet other projects.

In light of the various types of harm that queue withdrawals cause, PSCo’s proposal to charge only nine times the study costs as the maximum withdrawal penalty does not come close to approximating the total potential harm that could be caused by the withdrawal. The total amount of harm that results from queue withdrawals is impossible to calculate, but it is clear that it far outstrips the amount of money which will be covered by the proposed withdrawal penalty. PSCo’s proposed withdrawal penalty is not unreasonable given its objective in moving to a first-ready, first-served process and in light of the harms that can be caused to other Interconnection Customers and rate-payers associated with late-stage withdrawals. In order for PSCo to be able to have a functioning interconnection queue, it is essential that it be permitted to adopt this reasonable and moderate penalty amount. If no financial risk is created, then projects will continue to have no disincentive to clog the queue with speculative projects, and to linger in the queue long after it becomes clear that a project is non-viable. Such a situation harms all of PSCo’s Interconnection Customers and prevents the functioning of a competitive market for generation development. The adoption of a withdrawal penalty is wholly consistent with the Commission’s precedent in approving first-ready, first-served interconnection process reforms proposed by non-independent transmission providers. The measure is therefore consistent with or superior to the Commission’s *pro forma* LGIP.

²²⁷ Ex. XES-200, Noailles Testimony at 59; Ex. XES-206 at 1; Comments of NextEra Energy Resources (https://www.oasis.oati.com/woa/docs/PSCO/PSCODocs/Queue_reform_Stakeholder_Meeting_-_NextEra_Comments.pdf)

7. Withdrawal Penalty – Distribution

PSCo proposes to use the withdrawal penalty revenues to fund study costs. This distribution methodology is consistent with Commission guidance, consistent with PNM's approved process, and consistent with or superior to the *pro forma* LGIP.²²⁸ PSCo will not keep any portion of the withdrawal penalty and will not use any of the withdrawal penalty to fund Network Upgrades.

The withdrawal penalty revenue will be distributed to interconnection customers in a specific cluster in a similar way as study costs are allocated. This distribution will appear as a bill credit on their study invoice, where it will not exceed the study amount for which the customer is responsible and will not be distributed to the withdrawing customer. To the extent there are additional withdrawal penalty revenues after funding not-yet-invoiced studies (e.g. restudies) for other customers in the same cluster, the penalty revenue will be distributed to not-yet-invoiced studies for subsequent clusters.

Specifically PSCo proposes:

3.7.1.2 Distribution of the Withdrawal Penalty

Any Withdrawal Penalty revenues shall be used to fund generation interconnection studies. Withdrawal Penalty revenues shall first be applied, in the form of a bill credit, to not-yet-invoiced study costs for other Interconnection Customers in the same cluster, and to the extent that such studies are fully credited, shall be applied to study costs of future clusters in Queue order. Withdrawn Interconnection Customers shall not receive a bill credit associated with Withdrawal Penalties. Distribution of Withdrawal Penalty revenues to a specific study shall not exceed the total actual study costs. Allocation of Withdrawal Penalty revenues within a cluster to a specific customer shall be comparable to the allocation of study costs described in Section 4.2.3. Specifically, the Withdrawal Penalty revenue distribution to each customer in a specific cluster, shall be (1) fifty percent (50%) on a per capita basis based on number of Interconnection Requests in the applicable Cluster; and (2) fifty percent (50%) to Interconnection Customers on a pro-rata basis based on requested megawatts included in the applicable Cluster. Distribution of Withdrawal Penalty revenue associated with Readiness Milestone 5 shall not be

²²⁸ PNM Order at P 77.

distributed to the remaining customers in that cluster until all customers in that cluster have reached Commercial Operation and thereafter shall be distributed as described above. Transmission Provider shall not change the distribution of Withdrawal Penalty revenue without authorization by the Commission. Transmission Provider shall post the Withdrawal Penalty balance on its OASIS site.²²⁹

PSCo discussed alternative approaches for distributing the withdrawal penalty amounts with stakeholders, where PSCo was open to different proposals as long as (1) the withdrawal penalty revenue was not simply returned to the withdrawing customer and (2) the proposal was consistent with Commission policy (meaning that the amounts cannot be applied to Network Upgrades and also cannot be retained by PSCo for its own use).

Some stakeholders supported using the penalty revenue to fund Network Upgrades or to reduce transmission service rates. PSCo believes these proposals would be contrary to Commission policy. PSCo proposed to distribute the penalty revenue to the other “non-offending” customers in a specific cluster, which would be consistent with the distribution of operational penalties under the Tariff described above. Generally, developers did not support this proposal because they did not want the withdrawal penalty monies given to their competitors.²³⁰

In response to PSCo’s proposal, stakeholders generally support using the withdrawal penalty revenues to fund studies, including future studies. Such a distribution methodology benefits the entities that do not withdraw, i.e., it benefits the ready projects. PSCo believes that this is the most appropriate use of the withdrawal penalty revenues as serves the dual objectives of discouraging speculative projects from lingering in the interconnection queue and, in the rare even that such projects do linger in the queue and ultimately withdrawal without reaching commercial operation, will help to mitigate a portion of the harm that such withdrawals cause. Further, this approach addresses the Commissions directive that penalties not be used to fund Network Upgrades.

The Second Revised LGIP clarifies that the withdrawal penalty distribution methodology will not be changed without authorization by the Commission. The Second Revised LGIP also specifies that the balance of the withdrawal penalty account will be

²²⁹ Revised LGIP, Section 3.7.1.2.

²³⁰ PSCo and its stakeholders discussed various options for the use of the withdrawal penalties. These included even the options of remitting all withdrawal penalties to the U.S. Treasury or to a charity. Ultimately, and as described below, PSCo determined that the most reasonable approach would be to apply the withdrawal penalties to help offset future interconnection study costs.

posted on OASIS. As discussed below, PSCo also commits to discuss the withdrawal penalty and its distribution in an informational filing made two years after the effective date.

a. Site Control

In addition to requiring that an Interconnection Customer must make demonstrations of readiness by satisfying the increasingly rigorous Readiness Milestones options described above, Site Control also shows readiness. Accordingly, as discussed below, PSCo proposes to modify the definition of Site Control from the *pro forma* LGIP definition and, consistent with requirements imposed on the Readiness Milestones, will similarly require demonstrations of Site Control that gradually increase at each milestone.

(i) Definition

PSCo proposes to clarify the definition of Site Control to provide more transparency to Interconnection Customers and to ensure that Site Control is a meaningful indication of readiness. The modified definition includes two concepts: first the concept that the site needs to be of sufficient size to construct the Generating Facility, and second, the concept of exclusivity. Specifically the modifications to the *pro forma* definition of Site Control are highlighted in underline (for additions) and strikethrough (for deletions):

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection facilities. Site Control may be demonstrated by documentation establishing: ~~reasonably demonstrating~~ :(1) ownership of, a leasehold interest in, or a right to develop a site for the purpose of sufficient size to construct and operate~~constructing~~ the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities~~for such purpose~~; or (3) any other documentation that clearly demonstrates the right of the an exclusivity or other business relationship between Interconnection Customer to exclusively and the entity having the right to, lease or grant Interconnection Customer the right to possess or occupy a site of sufficient

size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition for such purpose.

The clarification that the site is of sufficient size to construct the Generating Facility is consistent with the *pro forma* definition of Site Control and is also consistent with language and concepts approved in the PNM.²³¹ For additional clarity, PSCo will post the acres/MW for different generation types in a business practice manual posted on OASIS.²³² PSCo will accept reasonable alternative specifications for site size than those provided on OASIS. The Commission has accepted a similar modification when PNM added the concept “of sufficient size” to the *pro forma* definition.²³³

Second, the proposed definition clarifies that the Interconnection Customer must have the exclusive right to occupy the site. This clarification protects against multiple projects assuming the same site for developing their facilities, and therefore double counting Site Control. If Site Control is double counted, it would be impossible for both projects to move forward to completion, since only one could actually develop the site. In other words, two projects cannot occupy the same space and therefore at least one project is not actually ready to proceed. Exclusivity is required for the Generating Facility land, but is not required for the Interconnection Customer’s Interconnection facilities. Additionally, for co-located projects, a contract or other agreement demonstrating shared land use is sufficient to meet the exclusivity requirements. The proposed clarifications to the definition ensure that multiple parties are not counting on the same parcel of land and are therefore consistent with or superior to the definition in the Order No. 2003 *pro forma* LGIP.

PSCo proposes the definition of Site Control to be a severable provision under this filing, and if the Commission determines that the use of the proposed definition is not consistent with or superior to the *pro forma* LGIP, then the Commission may reject that

²³¹ PNM Order at P 81.

²³² Proposed Site Control documentation and size requirements are posted on OASIS here: https://www.oasis.oati.com/woa/docs/PSCO/PSCODOCS/Site_Control_Requirements_for_PSCo's_LGIP.pdf

²³³ See Pub. Serv. Co. of N.M., OATT, Attach. N LGIP, Section 1 (effective Aug. 29, 2014) (“**Site Control** shall mean documentation reasonably demonstrating: (1) ownership of, a leasehold interest in, or a right to develop a site **of sufficient size** for the purpose of constructing the Generating Facility; (2) an option to purchase or acquire a leasehold site **of sufficient size** for such purpose; or (3) an exclusivity or other business relationship between Interconnection Customer and the entity having the right to sell, lease or grant Interconnection Customer the right to possess or occupy a site **of sufficient size** for such purpose.”).

aspect of the filing.²³⁴

(ii) Use of Site Control to Show Readiness

Ready projects should have a firm knowledge of where they are locating and should be acquiring Site Control ahead of or in parallel with the Definitive Interconnection Study Process. As accepted in the PNM Order, PSCo is removing the option to provide an additional \$10,000 *in lieu* of Site Control.²³⁵ The Commission accepted this modification as a just and reasonable measure “necessary ... to facilitate the interconnection of viable generation.”²³⁶ PSCo has combined this change with the modified definition that allows alternative demonstrations of site size and also a modified requirement that does not require full Site Control upon entry into the Definitive Interconnection Study Process.

PSCo proposes to only require Site Control for only 50% of the land required for the project to enter the Definitive Interconnection Study Process. The required amount of land under control increases through the phases of the study process, consistent with the overall LGIP design requiring continued advancement of the project as it proceeds through the study process. It is reasonable for PSCo to expect a ready project will have at least 50 percent of its Generating Facility’s site requirements under control before entering the Definitive Interconnection Study Process and will continue to acquire additional land rights during the study process to have at least 90 percent of the Generating Facility’s requirement under control when it executes an LGIA. PSCo is also requiring only 50 percent of the generator tie-line (the ICIF) to be under control at the time the LGIA is executed.

Readiness Milestone	Site Control (Generating Facility)	Interconnection Customer’s Interconnection Facilities
M1	50%	0%
M2	50%	0%
M3	60%	0%

²³⁴ PSCo deems this aspect of the filing to be severable, consistent with *NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 114-15 (D.C. Cir. 2017). *See also Nevada Power Co.*, 167 FERC ¶ 61,086 at P 14 & n.17 (2019).

²³⁵ *See* PNM Order at P 81 (accepting PNM’s removal from LGIP of option to provide additional \$10,000 in lieu of a demonstration of site control).

²³⁶ *Id.*

Readiness Milestone	Site Control (Generating Facility)	Interconnection Customer's Interconnection Facilities
M4	75%	0%
M5	90%	50%

D. Modifications to the Large Generator Interconnection Agreement

1. Clarification of Termination Procedures

PSCo proposes to modify the termination procedures in the LGIA, as shown in redline below to clarify the intent of Order No. 2003 for Interconnection Customers. These modifications clarify that to the extent the Generating Facility or a portion of the Generation Facility does not reach Commercial Operation, the Transmission Provider may terminate the LGIA or the portion of the LGIA associated with the part of the Generation Facility that does not reach Commercial Operation. The additional language also makes it clear that the LGIP and the LGIA are read together, and that a total cumulative extension of up to three years is not a material modification. If the customer's commercial operation date is further extended because it is dependent on a Contingent Facility that was delayed due to suspension or other reasons, the LGIA would also not be terminated. This additional language results in the potential that the total extension is greater than three years if the Commercial Operation date was 1) extended for three years during the LGIP or LGIA, 2) upgrade construction was placed in suspension for three years and 3) additional time is required to construct the additional facilities after the customer exits suspension.²³⁷ Similar modifications have been approved in other regions and PSCo believes these modifications simply clarify the intent of Order No. 2003.²³⁸ These important clarifications will ensure that generators that do not reach Commercial Operation do not hold or otherwise hoard scarce interconnection capacity. PSCo believes that these modifications help clarify the intent of Order No. 2003 in the tariff²³⁹ and so

²³⁷ See Ex. XES-200, Noailles Testimony at 64-65.

²³⁸ *Midwest Indep. Transmission Sys. Operator, Inc.*, 163 FERC ¶ 61,210 at P 36 (2018); *Midwest Indep. Transmission Sys. Operator, Inc.*, 139 FERC ¶ 61,253 at PP 115, 120-23 (2012); *Midwest Indep. Transmission Sys. Operator, Inc.*, 137 FERC ¶ 61,188 at P 29 (2011), *order on compliance filing*, 139 FERC ¶ 61,197 at P 8 (2012).

²³⁹ The Commission clarified that the LGIP and LGIA are intended to be read together in the MISO Order on Paper Hearing, 163 FERC ¶ 61,210 at P 33. "We also agree with MISO that the GIP and *pro forma* GIA are intended to work together, and although the *pro forma* GIA "memorializes the arrangements reached in the GIP,"²³⁹ the GIP does continue to apply even after execution of a GIA; therefore, specifically referring to the correct section of the GIP in the *pro forma* GIA is preferable to separating the two documents entirely in these circumstances."

provide greater transparency for interconnection customers. Thus, the modifications should be accepted as consistent with or superior to the *pro forma* LGIA.

2.3 Termination Procedures.

2.3.1 Written Notice.

~~This LGIA may be terminated by Interconnection Customer after giving Transmission Provider ninety (90) Calendar Days advance written notice, or by Transmission Provider notifying FERC after the Generating Facility permanently ceases Commercial Operation. This LGIA may be terminated by Interconnection Customer after giving Transmission Provider ninety (90) Calendar Days advance written notice, or by Transmission Provider notifying FERC after the Generating Facility permanently ceases Commercial Operation. This LGIA shall be terminated by Transmission Provider if the Generating Facility or a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.5 of the Revised LGIP, including any extension provided thereunder, or, having previously achieved Commercial Operation, has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the Generating Facility, after giving Interconnection Customer ninety (90) Calendar Days advance written notice. When only a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.5 of the Revised LGIP, including any extension provided thereunder, Transmission Provider shall terminate only that portion of the LGIA. Notwithstanding the foregoing, in the limited circumstance that the Interconnection Request is served by a Contingent Facility with an in-service date that is later than the Commercial Operation Date permitted under Section 4.4.5 of the Revised LGIP, Transmission Provider shall terminate this LGIA only for failure to achieve Commercial Operation by ninety (90) Calendar Days after that later in-service date of the Contingent Facility. The Generating Facility will not be deemed to have ceased Commercial~~

Operation for purposes of this Article 2.3.1 if Interconnection Customer can document that it has taken other significant steps to maintain or restore operational readiness of the Generating Facility for the purpose of returning the Generating Facility to Commercial Operation as soon as possible.

2. Effect of Missed Milestones and Effect of Suspension

PSCo proposes to add two new sub-articles related to suspending construction of upgrades under the LGIA. First, the Revised LGIP adds Article 5.16.1, “Effect of Missed Interconnection Customer LGIA Milestones,” to the LGIA. This simply clarifies that a customer may not miss a milestone to circumvent initiating suspension provisions under the LGIA. The addition is consistent with language used in other regions²⁴⁰ and provides transparency by clarifying the intent of Order No. 2003. The added language ensures that a loophole is not created—i.e., an Interconnection Customer should not be permitted to simply not pay for an upgrade as required by an LGIA Milestone instead of entering suspension. The proposed language provides significant flexibility and considers all relevant circumstances prior to terminating the LGIA.

Specifically, PSCo proposes a new Article 5.16.1, “Effect of Missed Interconnection Customer LGIA Milestones”:

If Interconnection Customer fails to provide notice of suspension pursuant to Article 5.16, and Interconnection Customer fails to fulfill or complete any Interconnection Customer LGIA Milestone provided in Appendix B (“LGIA Milestone”), this constitutes a Breach under this LGIA. Depending upon the consequences of the Breach and effectiveness of the cure pursuant to Article 17, Transmission Provider’s LGIA Milestones may be revised, following consultation with Interconnection Customer, consistent with Reasonable Efforts, and in consideration of all relevant circumstances. Parties shall employ Reasonable Efforts to maintain their remaining respective LGIA Milestones.²⁴¹

Second, the Revised LGIP adds Article 5.16.2, “Effect of Suspension; Parties Obligations,” to the LGIA. PSCo’s proposed revision is much less stringent than approved for MISO. In MISO’s tariff, the same article does not allow construction

²⁴⁰ See e.g., MISO FERC Electric Tariff, Attach. X: App. 6 (Generator Interconnection Agreement), Article 5.16.2.

²⁴¹ Revised LGIP, Section 5.16.1.

duration, timelines and schedules in Appendix B to be suspended.²⁴² PSCo's proposal does not go so far, and remains consistent with or superior to the *pro forma* LGIA by instead simply clarifying that (1) upgrade construction is suspended during suspension, (2) Appendixes may be revised to account for construction sequencing and milestones modified due to suspension and (3) maintenance of Site Control is required during suspension. Such additions provide clarity and transparency and are consistent with or superior to the *pro forma* LGIA. PSCo's proposed new Article 5.16.2 language is provided below:

In the event that Interconnection Customer suspends work pursuant to this Article 5.16, the applicable construction duration, timelines and schedules set forth in Appendix B shall be suspended during the period of suspension. Should Interconnection Customer thereafter request that work be recommenced, Appendix A and Appendix B may be revised to account for construction sequencing and modified milestones. If the Commercial Operation Date is extended beyond three (3) cumulative years described in Section 4.4.5 of the Revised LGIP and Article 2.3.1 of this LGIA, such an extension may be considered a Material Modification and result in the termination of the LGIA under Article 2.3.1. Interconnection Customer is required to maintain Site Control while this LGIA is in effect, including during suspension.²⁴³

PSCo proposes the addition of these two new sub-articles related to suspending construction of upgrades under the LGIA. to be severable provisions under this filing, and if the Commission determines that the addition of these two new sub-articles is not consistent with or superior to the *pro forma* LGIP, then the Commission may reject that aspect of the filing.²⁴⁴

E. Transitional Process

1. Overview

As discussed above, PSCo is unable to process the majority of of its Interconnection Requests because the amount of NRIS requests exceeds its Network

²⁴² See *i.e.*, MISO FERC Electric Tariff, Attach. X: App. 6 (Generator Interconnection Agreement), Article 5.16.3.

²⁴³ Revised LGIP, Section 5.16.2.

²⁴⁴ PSCo deems this aspect of the filing to be severable, consistent with *NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 114-15 (D.C. Cir. 2017). See also *Nevada Power Co.*, 167 FERC ¶ 61,086 at P 14 & n.17 (2019).

Load.²⁴⁵ Further, PSCo is unable to estimate when such Interconnection Customers will know with any accuracy the facilities or the costs that will ultimately be required for interconnection because developing such an estimate would require either that a number of Interconnection Requests withdraw from the current serial study process or a number of higher queued Interconnection Customers terminate their Interconnection Agreement(s). This does not achieve the goal of Order No. 2003, which was to reduce undue discrimination and expedite the development of new generation while protecting reliability and ensuring that rates are just and reasonable.

Allowing current Interconnection Customers to remain in the queue without alteration would completely undermine the proposed queue reform proposal because PSCo's current inability to study any new NRIS Interconnection Request would continue into the new Cluster Study process. PSCo believes that if only ready projects (and not speculative projects) are allowed to make the transition, then PSCo would be able to study and interconnect those Interconnection Customers and would be able to effectively implement its proposed Revised LGIP. The study models for the DISIS Clusters will assume that the transitional projects reach commercial operation and are in-service. It is important that such an assumption be accurate. If this assumption were incorrect, then the DISIS Clusters would be delayed and future ready projects would not be able to interconnect in a timely manner. For these reasons it is not only just and reasonable, it is imperative to allow only ready projects to transition.

As discussed above, the transition represents a change from a first-come, first-served approach to a first-ready, first-served approach. The goal of PSCo's transitional proposal is to pull all of the ready projects from the current queue and to transition them into the first-ready, first-served process. PSCo must have a clean slate in order to carry out an effective transition, and PSCo needs to remove the speculative or unready projects from the queue in order to effectively study the ready projects. Even if an Interconnection Customer first entered the PSCo queue with a business model that assumed that it would not need to decide whether to interconnect for years into the future, because of the current and pressing issues with the PSCo interconnection process summarized above, it is unjust and unreasonable to allow these Interconnection Customers to harm ready projects by creating a barrier to interconnection. For this reason and for this one-time transition only, PSCo proposes to ensure that transitioned projects are truly ready to proceed.

PSCo proposes an expedited process for ready projects that have been delayed in PSCo's current queue. PSCo has established three options for projects in the current PSCo queue: (1) the transitional serial process; (2) the transitional cluster process; and

²⁴⁵ As noted above, PSCo is unable to process more than 21,117 MW (or 95 percent) of the current NRIS requests. Ex. XES-100, Benson Testimony at 23.

(3) withdrawal from the queue and reentry into the queue in a future DISIS Cluster. In order to enter either the transitional serial or the transitional cluster processes, a project must demonstrate readiness. Specifically, an Interconnection Customer must: (1) provide a deposit for TPIF and Network Upgrades; (2) demonstrate exclusive Site Control; (3) sign a transitional interconnection study agreement; and (4) provide one additional demonstration of readiness. An additional readiness demonstration may be any one of the following: (a) an executed contract for sale; (b) evidence that the Generation Facility is included in an LSE's approved Resource Plan; or (c) a filed Provisional Large Generator Interconnection Agreement.²⁴⁶ These requirements must be provided to PSCo by Interconnection Customers wishing to transition during a thirty (30) day window from the effective date of this Tariff (December 5, 2019 – January 6, 2020).

If a currently-queued Interconnection Customer elects not to transition using either the transitional serial or transitional cluster process, then that Interconnection Customer will be withdrawn from the Queue and will have the option to reenter the Queue through a future DISIS Cluster. The first DISIS Request Window will run shortly after with the window to request transition. The first DISIS Request Window will be from February 1, 2020 through March 18, 2020.²⁴⁷ This DISIS Request Window is followed by a 75-day Customer Engagement Window, which means that the Phase 1 Study will start on or before June 1, 2020. This timeline means that the first DISIS Cluster Study will commence less than six months after the start of the transitional cluster study. The transitional cluster will be considered higher queued compared to the first DISIS Cluster. The transitional cluster will utilize an expedited study process for the currently queued ready projects and is expected to be complete by fall of 2020.

Because the transitional projects are ready and desire to interconnect, PSCo is not expecting that any transitional projects will withdraw and is not expecting that the transitional projects will need to be restudied. The entire proposed redesign assumes that these transitional projects are ready to go forward. The transitional cluster will assume that all transitional serial projects are in-service. The first DISIS (and subsequent DISIS) will assume projects from the transitional serial process and the transitional cluster are in-service. If transitional projects later decide not to move forward, then the new

²⁴⁶ PSCo and stakeholders are concerned that the Provisional Interconnection Service Agreement requirement could represent a loophole in the demonstration of readiness requirements. For instance, an Interconnection Customer could request filing a Provisional LGIA as a means toward gaining extended time to determine if they are ready to proceed or whether simply to terminate the Provisional LGIA prior to committing significant capital or initiating construction. Therefore, in order to demonstrate readiness as part of the transition, the Provisional Interconnection Agreement must not be suspended and must include a commitment for constructing the generating facility.

²⁴⁷ See Ex. XES-203 at 3 (Definitive Interconnection Study Process and Approximate Timeline for the First DISIS Cluster).

interconnection process will break.

2. Transitional Serial Process

An Interconnection Customer may opt to enter the transitional serial process provided that the Interconnection Customer has: (a) a final System Impact Study Report that identifies the Interconnection Request is feasible and identifies facilities required to interconnect; and (b) an Interconnection Facilities Study Agreement that was executed prior to September 27, 2019.²⁴⁸ The transitional serial process essentially allows ready projects in the Interconnection Facilities Study process to continue with that study, enter into a LGIA, and interconnect. The only material difference between the current and proposed process for these transitional serial projects is that they are truly ready to interconnect.

Projects in the current Interconnection Facilities Study know the facilities and the associated costs of the facilities required to interconnect. The deposit on TPIF and Network Upgrades therefore equals 100 percent of the costs identified in the System Impact Study report. If the customer reaches commercial operation, this deposit is simply used towards construction costs of the same facilities. If the customer withdraws or does not otherwise reach commercial operation, the deposit shall be refunded after the final invoice for study costs and withdrawal penalty is settled. Note that transmission serial projects are liable for a withdrawal penalty equal to nine (9) times the study cost for that Generating Facility. This withdrawal penalty is reasonable because all future interconnection requests will be harmed if the transitional projects do not reach commercial operation.

Furthermore, the Site Control requirements for transitional serial projects must include evidence of exclusive Site Control for the entire Generating Facility and the Interconnection Customer's Interconnection Facilities.²⁴⁹ This requirement is reasonable because these ready projects are sufficiently advanced in the study process that they should have full Site Control for their Generating Facility and should have Site Control over the ICIF to deliver the Generating Facility to the Point of Change of Ownership.

In addition to the 100 percent deposit on facilities and the full Site Control, the demonstration of readiness options provided for transitional serial projects are:

- i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years, or

²⁴⁸ Revised LGIP, Section 5.1.1.1.

²⁴⁹ *Id.*, Section 5.1.1.1.b

- ii. Reasonable evidence that the Generating Facility is included in an approved Resource Plan or Resource Solicitation Process, or
- iii. An executed and unsuspended Provisional Large Generator Interconnection Agreement filed with FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.²⁵⁰

These requirements to transition are just and reasonable because they provide evidence that the transitional projects are truly ready to proceed. If transitional projects are not ready, then PSCo would not be able to process Interconnection Requests thereby harming other ready projects. In addition, if speculative projects are allowed to transition, then the remaining Revised LGIP studies will have included uncertain projects in the base models, which will again lead to cascading delays and inaccurate results.

3. Transitional Cluster Process

Any project with an assigned queue position prior to September 27, 2019, including those eligible for the serial process, may enter the transitional cluster process.²⁵¹ All Interconnection Requests that opt for this path will be studied in a single transitional cluster. The costs of the study and the identified facilities will be allocated like the costs are allocated for the DISIS Clusters. The transitional cluster will be subject to an expedited combined system impact and interconnection facilities study. Again, PSCo does not envision any re-studies of the transitional cluster as all projects entering the cluster will be ready projects intending to interconnect in the near future, and thus will not withdraw from the queue. Opting into the transitional cluster is in itself a commitment to move forward with interconnection. Projects that are not fully ready to proceed on January 6, 2020, will have the option of reentering the Queue through the regular DISIS process. The first regular DISIS Request Window will open on February 1, 2020.

To ensure that such Interconnection Customers are truly ready to move forward, projects in the transitional cluster must make a deposit on TPIF and Network Upgrades that are required for interconnection. However, since PSCo does not know how many projects will enter the transitional cluster and has not completed the transitional cluster

²⁵⁰ *Id.*, Section 5.1.1.1.c.

²⁵¹ *Id.*, Section 5.1.1.2. Some current customers have requested to extend their Commercial Operation date upon entry into the transitional cluster and that such a request is deemed to not be a material modification. PSCo will allow a one-time modification of the requested Commercial Operation Date upon entry into the transitional cluster process. PSCo requests a waiver, to the extent one is required to allow a one-time change in any project's Commercial Operation Date upon entry into the transitional cluster.

study that would identify the TPIF and Network Upgrades and the cost responsibility for such facilities, PSCo must estimate the potential costs. PSCo has established \$5 million as a reasonable deposit for the TPIF and Network Upgrades cost that might be allocated to an Interconnection Customer, although \$5 million is likely on the low end of the potential cost.²⁵²

There are numerous reference points that support the reasonableness of a \$5 million deposit. First, from 2003 through 2017 PSCo's estimated TPIF costs have averaged \$2.3 million per Interconnection Request, with a range from \$0 to \$14 million.²⁵³ That range is not dependent on the size of the Generating Facility but is rather dependent on the currently available direct interconnection capacity at a given Point of Interconnection. If a significant number of Interconnection Customers desire to interconnect, it is likely that new substations will be required, which will drive likely TPIF costs closer to the approximately \$14 million range.

Second, Network Upgrade costs historically identified on the PSCo system average about \$2.9 million per Interconnection Request for ERIS projects, plus an additional approximately \$28.9 million for NRIS.²⁵⁴ This means that the historically identified average total ERIS upgrade cost (TPIF plus Network Upgrades) is \$5.2 million and the historically identified average total NRIS upgrade cost is \$31.2 million. If there are significant amount of requests in the transitional cluster, PSCo expects a number of network facilities to be required for interconnecting the cluster.

Third, in PSCo's Resource Planning Process, PSCo estimated \$175 million to \$200 million in transmission investment would be required to interconnect between 450 MW and 1,110 MW of additional generation. This estimate translates to a range of approximately \$0.16 million per MW to \$0.44 million per MW. Accordingly, a 100 MW Interconnection Request might reasonably expect \$16 million to \$44 million in

²⁵² Ex. XES-200, Noailles Testimony at 73-75.

²⁵³ *Id.* at 73; Ex. XES-100, Benson Testimony at 36. From 2003 to 2017, TPIF costs identified in Interconnection Studies posted on PSCo's OASIS range from \$0 to \$14 million, with an average cost over that time period of \$2.3 million. The cost of TPIF does not depend on the size of the generator. Rather, the TPIF cost is associated with the specific availability of transmission facilities and the need to expand existing or build new substations at the specific Point of Interconnection. Interconnection Customers are also responsible for Distribution Upgrades, but PSCo has never identified Distribution Upgrades needed for interconnection to date.

²⁵⁴ Ex. XES-200, Noailles Testimony at 74. Network Upgrades identified in PSCo's Interconnection Studies from 2003 to 2017 for NRIS requests range from \$0 to over \$200 million, with an average cost over that time period of \$28.9 million.

interconnection costs if the transitional cluster were between 450 MW and 1,110 MW.²⁵⁵ PSCo notes that 1,007 MW of the third party resources selected in PSCo's 2016 approved resource plan responded that they intend to enter the transitional cluster. Therefore PSCo expects that the transitional cluster will identify at least \$175 million dollars in upgrades in the transitional cluster study. Therefore, PSCo believes that \$5 million represents a reasonable deposit on TPIF and Network Upgrades that may be allocated to any specific generator in the transitional cluster study process.²⁵⁶

Fourth, a neighboring utility recently identified upgrade costs averaging \$47 million dollars, with a range between \$15 million to over \$87 million dollars.²⁵⁷ If a significant number of requests enter the transitional cluster process, the total upgrade costs could easily reach the higher hundreds of millions, if not billions of dollars. Even though the proposed \$5 million dollar deposit is a low estimate of upgrade costs, PSCo believes this is significant enough to encourage only ready projects to transition.

The \$5 million is a deposit on the upgrades the Interconnection Customer will fund. When the study is complete, the \$5 million will be reconciled to an amount equal to allocated upgrade costs identified in the Transitional Cluster Study upon execution of the LGIA and will be applied towards construction costs (e.g. security requirements associated with LGIA milestones). Because we expect that the projects and identified transmission upgrades will have a commercial operation date or in-service date in the near future, we also expect that the LGIA Milestones will identify full funding (100 percent) of the identified facilities shortly after execution of the LGIA. To be clear, if the Interconnection Customer does not withdraw, the deposit shall be reconciled with and applied towards future construction costs described in the LGIA. Any amounts in excess of the actual construction costs shall be returned to the customer as described in the LGIA. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, the deposit on the interconnection facilities will be fully refunded to the Interconnection Customer after the customer has paid the study costs and the withdrawal penalty equal to nine (9) times the Interconnection customer's total study cost.

In addition to the \$5 million deposit, 100 percent exclusive Site Control for the Generating Facility is required to enter the transitional cluster. As opposed to the

²⁵⁵ PSCo estimated these costs and did not perform a full interconnection study that would identify actual costs for interconnection.

²⁵⁶ PSCo understands there to be general stakeholder agreement that a non-refundable \$5 million deposit for potential upgrades is an appropriate deposit that will help to ensure readiness and discipline for potential Interconnection Customers who wish to enter the transitional cluster.

²⁵⁷ Ex. XES-201.

transitional serial process, PSCo is not requiring Site Control for the ICIF because it is possible the results of the transitional cluster study may influence the optimal location of the ICIF. For example, if more than one project is interconnecting to a similar Point of Interconnection, those projects may optimize their interconnection by using a single ICIF to reach the PSCo system.

Besides the \$5 million deposit and the Site Control discussed above, the additional demonstration of readiness required for the transitional cluster is similar to that which is required for the transitional serial process. This additional demonstration of readiness can be any one of the following:

- i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years; or
- ii. Reasonable evidence that the Generating Facility is included in an approved Resource Plan; or
- iii. An executed Provisional Large Generator Interconnection Agreement filed with FERC that is not in suspension with 1) a commitment to construct the facility, 2) a Commercial Operation Date no later than 2023 and 3) a security deposit in addition to the five million dollars identified in 5.1.1.2.a where the total security deposit represents a reasonable estimation of the potential costs that could be ultimately allocated to the project in the transitional cluster study.²⁵⁸

At this time, PSCo does not know how many projects are ready and will opt to enter the transitional cluster. Over 8,800 MW of projects have expressed intent to enter the transitional cluster although it is clear that not all of these projects will ultimately determine they are ready by the required date.²⁵⁹ This size of cluster would identify many hundreds of millions of dollars of required upgrades. Even if only the projects associated with PSCo's Resource Plan were to enter the transitional cluster, those projects should expect to be allocated approximately \$0.16 million per MW of request.

These requirements to transition are just and reasonable because the transitional projects must be truly ready to proceed. If transitional projects are not ready to proceed, PSCo will not be able to process Interconnection Requests thereby harming other ready projects. In addition, if speculative projects are allowed to transition, the remaining Revised LGIP studies will have included uncertain projects in the base models, which

²⁵⁸ Revised LGIP, Section 5.1.1.2.d.

²⁵⁹ Ex. XES-200, Noailles Testimony at 75.

will lead to delays and inaccurate results.

F. PSCo's Proposal Is Consistent with Commission Policy

Non-independent Transmission Providers such as PSCo are required to show that any deviation from the Commission's *pro forma* LGIP and LGIA is "consistent with or superior to" the *pro forma* provisions adopted in Order No. 2003 and subsequent orders.²⁶⁰ The Commission should find that PSCo meets this standard and approve PSCo's proposed amendments.

As explained above, circumstances in the PSCo region have rendered the *pro forma* interconnection procedures unworkable and the majority of current Interconnection Requests and *all* new NRIS Interconnection Requests cannot be processed until a substantial number of higher queued requests withdraw, which will likely take years. In response, PSCo has worked with its stakeholders to develop a robust reform plan, designed to provide Interconnection Service in the most efficient manner possible. PSCo has endeavored to balance the dueling considerations of certainty and flexibility, and has reached a balance that is tailored to the unique circumstances of the PSCo region. In this circumstance, PSCo's Revised LGIP and LGIA should be approved as consistent with or superior to the Commission's *pro forma* tariff provisions.

Finding PSCo's amendments to be consistent with or superior to the *pro forma* LGIP and LGIA is supported by the Commission's guidance regarding queue reform efforts, and would also be consistent with the Commission's history of approving reform filings made by other non-independent transmission providers. While FERC's *pro forma* procedure have worked well for some transmission systems, this has not been the case everywhere. The Commission has long expressed "concern[] about delays in processing interconnection queues" and that "[a]ll Transmission Providers should be evaluating whether changes are needed to their queue management practices to ensure the expediency called for by Order No. 2003."²⁶¹ While the Commission has previously directed RTOs and ISOs to evaluate their queues and considers necessary reforms, it has also recognized that reforms may also be necessary for non-independent Transmission Providers. Furthermore, in 2008 the Commission specifically endorsed several types of reforms that are reflected in PSCo's filing. Notably, these measures included two key aspects of PSCo's reform proposal: increasing the requirements for obtaining and

²⁶⁰ Order No. 2003 at P 26 ("[N]on-independent Transmission Providers are required to adopt the Final Rule LGIP and Final Rule LGIA into their OATTs, with deviations from the Final Rule justified using either the 'regional differences' or 'consistent with or superior to' standard."); *id.* at P 826 (explaining that the "regional differences" standards is limited to deviations based on reliability requirements); *accord* Order No. 2003-A at P 756; *see also* PSCo Suspension Order at P 34 (explaining that PSCo's interconnection reform amendments should be "consistent with or superior to the *pro forma* LGIP/LGIA").

²⁶¹ 2008 Technical Conference Order at P 4.

keeping a queue position, and instituting a first-ready, first-served approach, under which Interconnection Customers who demonstrate the ability to move forward with project development are processed first.²⁶²

In the years following this guidance from the Commission, at least four non-independent Transmission Providers have reformed their interconnection queues to address queue backlogs and other challenges.²⁶³ The Commission approved these reforms and those Transmission Providers and their Interconnection Customers benefited from the reforms.

As described above, PSCo is facing not only a queue backlog and delays, but a situation where the majority of the requests in PSCo's queue cannot be processed at this time. Without reform, the majority of existing requests, and all new requests, must simply wait, likely for years, until higher queued projects withdraw. In the meantime, PSCo cannot study those requests, and the project's owners will be unable to move forward with project development in any meaningful way. This situation does not benefit anyone in the PSCo region and clearly necessitates reform.

To arrive at its reform proposal, PSCo has surveyed the prior reform efforts of other Transmission Providers and has engaged in an extensive stakeholder process. PSCo has also refined its current proposal in response to the Commission's its Guidance Order. PSCo's reform proposal reflects a balanced approach that provides Interconnection Customers with both the certainty and flexibility they need to develop projects. In light of this, the reform proposal should be assessed holistically, recognizing that different portions of the proposal all work together to achieve the overarching objective.

PSCo is confident that this reform proposal will help to address the problems facing the PSCo system. Given issues currently facing the PSCo system, and the lack of a remedy under the existing procedures, the Commission should find that PSCo's proposed amendments are consistent with or superior to the *pro forma* LGIP and LGIA.

Under the circumstances that currently exist on PSCo's system, the continued use of the Commission's *pro forma* LGIPs is unworkable. PSCo's reform proposal is based on a thoughtful review and improvement upon reform measures that have helped alleviate similar queue problems among other non-independent transmission providers. Given the

²⁶² *Id.* at PP 15-18. The Commission also encouraged Transmission Providers to consider eliminating the Interconnection Feasibility Study as a separate step, in order to reduce processing time without harming Interconnection Customers. *See id.* PSCo's reform proposal also does this.

²⁶³ These Transmission Providers were PNM, APS, El Paso Electric, and NV Energy. *See supra* notes 142-152 and accompanying text

fact that the *pro forma* LGIPs have ceased to function for the majority of PSCo's interconnection requests, this reform proposal is necessarily superior to the *pro forma* procedures.

Furthermore, in response to the Commission's guidance provided in response to PSCo's initial proposal, PSCo has revised its proposal to ensure that it complies with all relevant Commission policies and precedent. This LGIP reform proposal has involved significant time and expense for PSCo, and is intended to benefit PSCo's interconnection customers and to ensure that interconnection service is available for all developers in the PSCo region. If PSCo is not permitted to implement reforms, PSCo will continue to follow the *pro forma* LGIPs, which will mean that most interconnection requests (and *all* new requests) cannot be studied or processed until the massive backlog dissipates, likely years from now.

G. Commitment to Re-Evaluate

In this Section 205 filing, PSCo is proposing comprehensive reform of its large generator interconnection process in order to move closer to a first-ready, first-served approach. PSCo's approach seeks to balance the certainty associated with the concept of readiness with flexibility. At the same time, PSCo acknowledges that future adjustments may be needed to the proposed design. Therefore, PSCo commits to review the effectiveness and efficiency of the process and file an informational report with the Commission after two years. This informational report will include, among other things, a discussion on (1) the withdrawal penalty received, (2) the allocation of the withdrawal penalty, (3) the number of withdrawals, and (4) the timeline for processing requests.

VI. Information Related to the Effect of the Rate Change

The purpose of making the proposed changes is to facilitate improved management of the PSCo interconnection queue and to reduce the harm to ready projects that is caused by delays in the interconnection process. PSCo will continue to charge Interconnection Customers actual costs for interconnection studies. Furthermore, PSCo is not proposing to change its Network Upgrade funding policy and so is not changing the ultimate allocated of costs of interconnection related facilities.

Without the proposed changes, PSCo is unable to provide requested Interconnection Service in a timely manner and ready projects which may harm projects attempting to connect to the PSCo Transmission System.

VII. Additional Information Submitted in Support of Filing

A. Information Required by Section 35.13 of the Commission's Regulations, 18 C.F.R. § 35.13

1. Contents of Filing – Section 35.13(b)(1)

In addition to this transmittal letter, this filing includes the following:

- The revised Attachment N (LGIP), in clean eTariff format;
- The revised Attachment N (LGIP), in marked format;
- Exhibit XES-100: Direct Testimony of Mr. Ian R. Benson;
- Exhibit XES-101: PSCo Interconnection Queue;
- Exhibit XES-200: Direct Testimony of Dr. Liam D. Noailles;
- Exhibit XES-201: PNM Queue Reform Outcomes;
- Exhibit XES-202: Public Service Company of Colorado: Generation Interconnection Process Reform Timeline: Appendix A-1 – Spring Window and Fall Window, which provides an overview and timeline of initiation of a DISIS Cluster;
- Exhibit XES-203: Definitive Interconnection Study Process and Approximate Timeline for the First DISIS Cluster; and
- Exhibit XES-204: Examples of Financial Security Readiness Milestone Calculations and Calculations of At-Risk Amounts.
- Exhibit XES-205: Example of Network Upgrade Cost Allocation
- Exhibit XES-206: Stakeholder Comments Related to Harm Caused by Delayed Interconnection Process
- Exhibit XES-300: A marked tariff comparing the Second Revised LGIP with the First Revised LGIP

2. Requested Effective Date – Section 35.13(b)(2) Waiver Request

PSCo respectfully requests an effective date of December 5, 2019, eighty-seven (87) days after filing, without suspension, so PSCo can implement its proposed generator interconnection process and efficiently interconnect ready projects to the PSCo Transmission System. PSCo respectfully requests that the Commission grant a waiver of the requirements of 18 C.F.R. § 35.13, and any other rule or regulatory provision that may be deemed necessary, in order to accept the proposed revisions to the PSCo Tariff and to grant the requested effective date.

3. The Names and Addresses of Persons to Whom a Copy of the Rate Change Has Been Posted – Section 35.13(b)(3)

An electronic notice of this filing will be served on the Colorado Public Utilities Commission and all affected PSCo transmission service customers and ancillary service customers taking service under the Xcel Energy Tariff, including all Tariff customers with an LGIP Interconnection Request pending but who have not executed an LGIA.²⁶⁴ A courtesy copy will be served on the Commission's Director of the Division of Electric Power Regulation (West). Pursuant to 18 C.F.R. § 35.2(d), a copy of this filing will be posted for public inspection at the offices of Xcel Energy – Transmission Services at 414 Nicollet Mall – 6th Floor, Minneapolis, Minnesota 55401; and at the offices of PSCo – Transmission at 18201 West 10th Avenue, Golden, Colorado 80401. A copy of the filing also will be posted at the OASIS/Open Access Transmission Tariff link at the Transmission page of the Xcel Energy Inc. website (<http://www.transmission.xcelenergy.com>).

4. Brief Description of Rate Change – Section 35.13(b)(4)

See Sections II and III above. The proposed revisions do not constitute a rate change.

5. Statement of Reasons for Rate Change – Section 35.13(b)(5)

See Sections II and III above. The proposed revisions do not constitute a rate change.

6. Requisite Agreement for Rate Change – Section 35.13(b)(6)

See Sections II and III above.

7. Statement Showing Expenses or Costs Included in Cost-of-Service Statements – Section 35.13(b)(7)

None of the costs related to this filing have been alleged in any administrative or judicial proceeding to be illegal, duplicative, or unnecessary costs that are demonstrably the product of discriminatory practices.

VIII. COMMUNICATIONS AND CORRESPONDENCE

Correspondence and communications with respect to this filing should be sent to, and XES requests the Secretary include on the official service list, the following:²⁶⁵

²⁶⁴ Since the identity of entities requesting generation interconnection is not public, PSCo will provide notice through a blind copy email that does not identify the generator interconnection recipient email addresses.

²⁶⁵ To the extent necessary, XES respectfully requests waiver of Rule 203(b)(3) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.203(b), to permit all of the persons listed to be placed on the official service list for this proceeding.

Ian R. Benson
Area Vice President, Transmission Strategy
and Planning
Xcel Energy Services Inc.
414 Nicollet Mall (GO 6)
Minneapolis, MN 55401
Telephone: (612) 330-6949
Ian.R.Benson@xcelenergy.com

Liam Noailles
Manager, Federal Regulatory Affairs
Xcel Energy Services Inc.
1800 Larimer St., Suite 1200
Denver, CO 80202
Telephone: (303) 571-2794
Liam.D.Noailles@xcelenergy.com

Timothy T. Mastrogiacomo
Lead Assistant General Counsel
Xcel Energy Services Inc.
701 Pennsylvania Avenue NW Ste. 250
Washington, DC 20006
Telephone: (202) 661-4481
Tim.T.Mastrogiacomo@xcelenergy.com

Betty Mirzayi
Manager, Transmission Planning
Xcel Energy Services Inc.
1800 Larimer St., Suite 1200
Denver, CO 80202
Telephone: (303) 571-7169
Betty.Mirzayi@xcelenergy.com

Zeviel Simpser
Dorsey & Whitney LLP
50 South Sixth Street
Suite 1500
Minneapolis, MN 55402
Telephone: (612) 492-6129
Simpser.Zev@dorsey.com

Frederick G. Jauss IV
Dorsey & Whitney LLP
1401 New York Avenue, N.W.
Suite 900
Washington, DC 20005
Telephone: (202) 442-3552
Jauss.Fred@dorsey.com

IX. CONCLUSION

PSCo sincerely appreciates the Commission's review of this filing. PSCo respectfully requests that the Commission accept the revised eTariff records, to be effective December 5, 2019. Please direct any questions regarding this instant filing to Dr. Liam Noailles at (303) 571-2794.

Respectfully submitted,

/s/ Liam D. Noailles
Dr. Liam D. Noailles
Manager, Federal Regulatory Affairs
Xcel Energy Services Inc.
1800 Larimer St., Suite 1200
Denver, CO 80202
Telephone: (303) 571-2794

The Honorable Kimberly D. Bose
September 9, 2019
Page 95

Email: Liam.D.Noailles@xcelenergy.com

Cc: PSCo Tariff Customers
Director, Division of Tariffs and Market Development (West)

CERTIFICATE OF SERVICE

I, Elizabeth Walkup, hereby certify that I have this day electronically served a notice of the enclosed filing on the state Colorado Public Utilities Commission, on each customer taking transmission service from PSCo or generation interconnection service from PSCo, and all customers in PSCo's interconnection queue under the Xcel Energy Tariff.

Dated at Minneapolis, Minnesota this 9th day of September, 2019.

/s/ Elizabeth Walkup

Elizabeth Walkup

Xcel Energy/Responsible by Nature

Transmission Business Analyst

414 Nicollet Mall, 6th Floor

Minneapolis, MN 55401

(612) 330-6780

elizabeth.a.walkup@xcelenergy.com

ATTACHMENT N

Standard Large Generator Interconnection Procedures – Revised (“Revised LGIP”)

Applicable to Generating Facilities that exceed 20 MWs connecting to the Transmission System

of

Public Service Company of Colorado

Note: For further information regarding a large generation interconnection to the transmission system of any of the Xcel Energy Operating Companies, please consult the currently effective “Interconnection Guidelines For Transmission Interconnected Producer-Owned Generation Greater than 20 MW” available at the Xcel Energy Inc. website

Proposed Effective Date: 12/5/2019

TABLE OF CONTENTS

Page

Section 1.	Definitions	
Section 2.	Scope and Application	
2.1	Application of Revised LGIP.	
2.2	Comparability.	
2.3	Base Case Data.	
2.4	No Applicability to Transmission Service.	
Section 3.	Interconnection Requests.	
3.1	General.	
3.2	Identification of Types of Interconnection Services.	
3.2.1	Energy Resource Interconnection Service.	
3.2.1.1	The Product.	
3.2.1.2	The Study.	
3.2.2	Network Resource Interconnection Service.	
3.2.2.1	The Product.	
3.2.2.2	The Study.	
3.3	Utilization of Surplus Interconnection Service.	
3.3.1	Surplus Interconnection Service Requests.	
3.3.2	Process for Evaluating and Obtaining Interconnection Service Requests	
3.4	Valid Interconnection Request.3.3.	
3.4.1	Initiating an Interconnection Request.	
3.4.2	Acknowledgment of Interconnection Request.	
3.4.3	Deficiencies in Interconnection Request.	
3.4.4	Scoping Meeting.	
3.5	OASIS Posting.	
3.5.1	OASIS Posting	
3.5.1.1	Definitive Study Phase 1 processing time.	
3.5.1.2	Definitive Interconnection System Impact Studies Processing Time.	
3.5.1.3	Interconnection Facilities Studies Processing Time.	
3.5.1.4	Interconnection Service Requests Withdrawn from Interconnection Queue.	
3.5.2	Requirement to Post Interconnection Study Metrics	
3.6	Coordination with Affected Systems.	
3.7	Withdrawal.	
3.7.1	Withdrawal Penalty	
3.7.1.1	Calculation of the Withdrawal Penalty	
3.7.1.2	Distribution of the Withdrawal Penalty	
3.8	Identification of Contingent Facilities.	
Section 4.	Interconnection Request Evaluation Process.	
4.1	Queue Position.	
4.1.1	Assignment of Queue Position	
4.1.2	Higher Queue Position	
4.2	General Study Process	
4.2.1	Initiation of a Definitive Interconnection System Impact Study Cluster.	
4.2.2	Initiation of a Resource Solicitation Cluster.	

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- 4.2.3 Study Cost Allocation.
 - 4.2.4 Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation.
- 4.3 Transferability of Queue Position.
- 4.4 Modifications.
 - 4.4.6 Technological Change Procedure.
 - 4.4.6.1 Technological Change Request
 - 4.4.6.2 Technological Change Request Evaluation
 - 4.4.6.3 Transmission Provider Technological Advancement Study Process
- Section 5. Transition Procedures
 - 5.1 Procedures for Transitioning to the First-Ready, First-Served Revised LGIP
 - 5.1.1.1 Transitional Serial Projects
 - 5.1.1.2 Combined System Impact and Interconnection Facilities Transitional Cluster Study
 - 5.2 New Transmission Provider.
- Section 6. Informational Interconnection Study
 - 6.1 Informational Interconnection Study Agreement.
 - 6.2 Scope of Informational Interconnection Study.
 - 6.3 Informational Interconnection Study Procedures.
- Section 7. Phase 1 through 3 of the Definitive Interconnection Study Process
 - 7.1 Definitive Interconnection System Impact Study Agreement.
 - 7.2 Execution of Definitive Interconnection System Impact Study Agreement.
 - 7.3 Scope of Definitive Interconnection System Impact Study.
 - 7.4 Definitive Interconnection System Impact Study Procedures
 - 7.5 Meeting with Transmission Provider.
 - 7.6 Re-Study.
 - 7.7 Readiness Milestones and Site Control
 - 7.7.1 Readiness Milestone 1 ("M1")
 - 7.7.2 Readiness Milestone 2 ("M2")
 - 7.7.3 Readiness Milestone 3 ("M3")
 - 7.7.4 Readiness Milestone 4 ("M4")
 - 7.7.5 Security Requirements
 - 7.7.7 Site Control
- Section 8. Interconnection Facilities Study
 - 8.1 Interconnection Facilities Study Agreement.
 - 8.2 Scope of Interconnection Facilities Study.
 - 8.3 Interconnection Facilities Study Procedures.
 - 8.4 Meeting with Transmission Provider.
 - 8.5 Re-Study.
- Section 9. Engineering & Procurement ("E&P") Agreement.
- Section 10. Standard Large Generator Interconnection Agreement (LGIA)
 - 10.1 Tender.
 - 10.2 Negotiation.
 - 10.3 Execution and Filing.
 - 10.4 Commencement of Interconnection Activities.
- Section 11. Construction of Transmission Provider's Interconnection Facilities and Network Upgrades
 - 11.1 Schedule.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

11.2 Construction Sequencing

11.2.1 General.

11.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer.

11.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of the Transmission Provider.

11.2.4 Amended Definitive Interconnection System Impact Study.

Section 12. Miscellaneous

12.1 Confidentiality.

12.1.1 Scope.

12.1.2 Release of Confidential Information.

12.1.3 Rights.

12.1.4 No Warranties.

12.1.5 Standard of Care.

12.1.6 Order of Disclosure.

12.1.7 Remedies.

12.1.8 Disclosure to FERC, its Staff, or a State.

12.2 Delegation of Responsibility.

12.3 Obligation for Study Costs

12.4 Third Parties Conducting Studies.

12.5 Disputes.

12.5.1 Submission.

12.5.2 External Arbitration Procedures.

12.5.3 Arbitration Decisions.

12.5.4 Costs.

12.5.5 Non-Binding Dispute Resolution Procedures.

12.6 Local Furnishing Bonds.

12.6.1 Transmission Providers That Own Facilities Financed by Local Furnishing Bonds.

12.6.2 Alternative Procedures for Requesting Interconnection Service.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Appendix A-1 – Overview and timeline of initiation of a DISIS Cluster: the DISIS Request Window, Customer Engagement Window, and Phase 1 of the DISIS

Appendix A-2 – Overview and Timeline of Definitive Interconnection Study Process, Including the DISIS Process.

Appendix 1 – Interconnection Request for a Large Generating Facility

Appendix 2 – Definitive Interconnection System Impact Study Agreement

Appendix 3 – Interconnection Facilities Study Agreement

Appendix 4 – Transitional Serial Interconnection Facilities Study Agreement

Appendix 5.1– Transitional Cluster Study Agreement

Appendix 5.2 –Provisional Interconnection Study Agreement

Appendix 5.3 – Surplus Interconnection Study Agreement

Appendix 5.4 – Informational Interconnection Study Request

Appendix 5.5 – Informational Interconnection Study Agreement

Appendix 6 – Standard Large Generator Interconnection Agreement

Appendix 6.1 – Interconnection Procedures For A Wind Generating Plant

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Section 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Transmission System to which the Generating Facility is directly interconnected.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday. If a requirement due date lands on a Saturday, Sunday or Federal Holiday, the requirement is due the next Business Day.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Cluster shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies.

Cluster Study shall mean an Interconnection Study evaluating one or more Interconnection Requests.

Clustering shall mean the process whereby a group of Interconnection Requests is studied together, instead of serially, for the purpose of conducting the Interconnection Studies.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Contingent Facilities shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for Re-Studies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Control Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation of the interconnection. A Control Area must be certified by an Applicable NERC Regional Reliability Entity. Control Area shall have the same meaning as Balancing Authority Area as defined by NERC.

Customer Engagement Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Definitive Interconnection Study Process ("Definitive Interconnection Study") shall mean the complete definitive study process inclusive of the DISIS Request Window, Customer Engagement Window, Definitive Interconnection System Impact Study, and the Interconnection Facilities Study. Both the Resource Solicitation Cluster and the DISIS Cluster are processed under the Definitive Interconnection Study.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Definitive Interconnection System Impact Study (“DISIS”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of the Transmission System and, if applicable, an Affected System.

Definitive Interconnection System Impact Study Agreement (“DISIS Agreement”) shall mean the form of agreement contained in Appendix 2 of the Revised LGIP for conducting the Definitive Interconnection System Impact Study.

Definitive Interconnection System Impact Study Cluster (“DISIS Cluster”) shall mean an engineering study that evaluates the impact of the proposed interconnection(s) on the safety and reliability of Transmission System and, if applicable, an Affected System.

DISIS Request Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of a Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which the Transmission Provider's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission Provider's Transmission System on an available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Financial Security shall have the meaning set forth in Section 7.7.1 of the Revised LGIP.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or

Proposed Effective Date: 12/5/2019

Approved Effective Date:

power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “radioactive substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Informational Interconnection Study shall mean an analysis based on assumptions specified by Interconnection Customer in the Informational Interconnection Study Agreement.

Informational Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.5 of the Revised LGIP for conducting the Informational Interconnection Study.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities (e.g. for generator interconnection).

Interconnection Facilities shall mean the Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Interconnection Facilities may be shared by more than one Generating Facility in a Cluster.

Interconnection Facilities Study shall mean a study conducted by the Transmission Provider or a third party consultant for the Interconnection Customer to determine a list of facilities

Proposed Effective Date: 12/5/2019

Approved Effective Date:

(including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Definitive Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Provider's Transmission System. The scope of the study is defined in Section 8 of the Revised LGIP.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 3 of the Revised LGIP for conducting the Interconnection Facilities Study.

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Revised LGIP, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Informational Interconnection Study, the Definitive Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

Interconnection Study Agreement shall mean any of the following agreements: the Informational Interconnection Study Agreement, the Definitive Interconnection System Impact Study Agreement, or the Interconnection Facilities Study Agreement described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with a later or equal Queue Position.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

OASIS shall mean the Transmission Provider's Open Access Same-Time Information System.

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Permissible Technological Advancement shall mean modification to equipment that (1) results in electrical performance that is equal to or better than the electrical performance expected prior to the technology change, (2) does not cause any reliability concerns, (3) does not degrade the electrical characteristics of the generating equipment (e.g., the ratings, impedances, efficiencies, capabilities, and performance of the equipment under steady-state and dynamic conditions) and (4) does not have a material impact on the cost or timing of any Interconnection Request with a later queue priority date, and is therefore not a Material Modification. A Permissible Technological Advancements is a change in equipment that may achieve cost or grid performance efficiencies that may include turbines, inverters, plant

Proposed Effective Date: 12/5/2019

Approved Effective Date:

supervisory controls or other devices that may affect a generating facility's ability to provide ancillary services but does not include changes in generation technology type of fuel type.

Phase ("Phase 1, Phase 2, Phase 3, or Phase 4") shall mean a distinct part of the Definitive Study Process as described in Section 7.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Provider's Transmission System.

Provisional Interconnection Service shall mean interconnection service provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Interconnection Study shall mean an analysis based on assumptions specified in the Provisional Interconnection Study Agreement.

Provisional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.2 of the Standard Large Generator Interconnection Procedures for conducting the Provisional Interconnection Study.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or the Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes.

Queue shall mean a queue for valid Interconnection Requests for the Definitive Interconnection Study Process.

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Interconnection Study Process. The Queue Position is established based upon the date and time Interconnection Customer satisfies all of the requirements of Section 7.2 of this Attachment N to enter the Definitive Study Process.

Readiness Milestone(s) shall have the meaning set forth in Section 7.7 of the Revised LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Revised LGIP shall mean the Large Generator Interconnection Process as described in this Attachment N.

Resource Plan shall mean any process authorized or required by Applicable Laws and Regulations for, *inter alia*, the selection of Generating Facilities.

Resource Planning Entity shall mean any entity required to develop a Resource Plan or conduct a Resource Solicitation Process.

Resource Solicitation Cluster shall mean a Cluster Study associated with a Resource Plan or related process.

Resource Solicitation Process shall mean any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer and Transmission Provider conducted for the purpose of discussing the proposed interconnection request, alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to affect such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection Facilities. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities; or (3) any other documentation that clearly demonstrates the right of the Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider must provide the Interconnection Customer a written technical explanation outlining why the Transmission

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Provider's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

Surplus Interconnection Study shall mean an analysis based on assumptions specified by the Interconnection Customer in the Surplus Interconnection Study Agreement.

Surplus Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.3 of the Standard Large Generator Interconnection Procedures for conducting the Surplus Interconnection Study.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Provider's Transmission System or on other delivery systems or other generating systems to which the Transmission Provider's Transmission System is directly connected.

Tariff shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled, or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to

Proposed Effective Date: 12/5/2019

Approved Effective Date:

such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Transmission Provider's Interconnection Facilities may be shared by more than one Generating Facility in a given Study.

Transmission System shall mean the facilities owned, controlled or operated by the Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Withdrawal Penalty shall have the meaning set forth in Section 3.7.1 of the Revised LGIP.

Section 2. Scope and Application.

2.1 Application of Revised LGIP.

Sections 2 through 12 apply to processing an Interconnection Request pertaining to a Large Generating Facility. As provided in Attachment P to the Tariff, Small Generating Facilities that are not eligible for the fast track process will be processed in a single Queue with Large Generating Facilities. Additionally, Small Generating Facilities requesting NRIS shall be processed under this Revised LGIP.

2.2 Comparability.

Transmission Provider shall receive, process and analyze all Interconnection Requests in a timely manner as set forth in this Revised LGIP. Transmission Provider will use the same Reasonable Efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Generating Facilities are owned by Transmission Provider, its subsidiaries or Affiliates, or others.

2.3 Base Case Data.

Transmission Provider shall maintain base power flow, short circuit and stability databases, including all underlying assumptions, and contingency list on either its OASIS site or a password-protected website subject to confidentiality provisions in Revised LGIP Section 12.1. In addition, Transmission Provider shall maintain network models and underlying assumptions on either its OASIS site or a password-protected website. Such network models and underlying assumptions should reasonably represent those used during the most recent Interconnection Study and be representative of current system conditions. If Transmission Provider posts this information on a password-protected website, a link to the information must be provided on Transmission Provider's OASIS site. Transmission Provider is permitted to require that Interconnection Customers, OASIS site users and password-protected website users sign a confidentiality agreement before the release of commercially sensitive information or Critical Energy Infrastructure Information in the Base Case data. Such databases and

Proposed Effective Date: 12/5/2019

Approved Effective Date:

lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the applicable authority.

2.4 No Applicability to Transmission Service.

Nothing in this Revised LGIP shall constitute a request for transmission service or confer upon an Interconnection Customer any right to receive transmission service.

Section 3. Interconnection Requests.

3.1 General.

An Interconnection Customer shall submit to Transmission Provider an Interconnection Request in the form of Appendix 1 to this Revised LGIP, an application fee of \$5000, and a study deposit of:

- a. \$75,000 for requests of less than 50 MW, or
- b. \$150,000 for requests of 50 MW and greater, but less than 200 MW, or
- c. \$250,000 for requests of 200 MW and greater.

Transmission Provider shall apply the study deposit toward the cost of the Definitive Interconnection Study Process. Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. Interconnection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Interconnection Requests. Interconnection Customers evaluating different options (such as different sizes, sites or voltages) are encouraged but not required to use the Informational Interconnection Study Process (please see Section 9) before entering the Definitive Interconnection Study Process.

At Interconnection Customer's option, Transmission Provider and Interconnection Customer will identify alternative Point(s) of Interconnection and configurations at the Scoping Meeting to evaluate in this process and attempt to eliminate alternatives in a reasonable fashion given resources and information available. Interconnection Customer shall select the definitive Point of Interconnection to be studied no later than the execution of the Definitive System Impact Study Agreement. For purposes of clustering Interconnection Service requests, Transmission Provider may make reasonable changes to the requested Point(s) of Interconnection to facilitate efficient interconnection of Interconnection Customers at common points of interconnection. Transmission Provider shall notify Interconnection Customers in writing of any intended changes to the requested Point(s) of Interconnection and the Point(s) of Interconnection shall only change upon mutual agreement.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Interconnection Customer may request a level of Interconnection Service below the Generating Facility Capacity. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of Interconnection Facilities and Network Upgrades, but may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by the Interconnection Customer. If after the additional studies are complete, Transmission Provider determines that additional Network Upgrades are necessary, then Transmission Provider must: (1) specify which additional Network Upgrade costs are based on which studies; and (2) provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade costs required for safety and reliability also will be borne by the Interconnection Customer. Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, LGIA.

3.2 Identification of Types of Interconnection Services.

At the time the Interconnection Request is submitted, Interconnection Customer must request either Energy Resource Interconnection Service or Network Resource Interconnection Service, as described below. Interconnection Customer may designate only one type of Interconnection Service for each separate Interconnection Request in the Queue. The type of Interconnection Service must be finalized on submission of the executed Definitive System Impact Study Agreement and may only be changed after the start of the Definitive Study Process between Phase 2 and Phase 3 of the Definitive Interconnection Study Process and only if a Cluster must be re-studied in Phase 3 (See Section 7.4) and otherwise may not be changed.

3.2.1 Energy Resource Interconnection Service.

3.2.1.1 The Product.

Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. Energy Resource Interconnection Service does not in and of itself convey any right to deliver electricity to any specific customer or Point of Delivery.

3.2.1.2 The Study.

The study consists of short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The short circuit/fault duty analysis would identify direct

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Interconnection Facilities required and the Network Upgrades necessary to address short circuit issues associated with the Interconnection Facilities. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed Large Generating Facility and would also identify the maximum allowed output, at the time the study is performed, of the interconnecting Large Generating Facility without requiring additional Network Upgrades.

3.2.2 Network Resource Interconnection Service.

3.2.2.1 The Product. Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility: (1) in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market-based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service allows Interconnection Customer's Large Generating Facility to be designated as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. If the Transmission Provider has not been notified pursuant to Section 29.2 of Part III of the Tariff that Interconnection Customer's proposed Generating Facility is to be designated as a Network Resource within Transmission Provider's Control Area, the Interconnection Customer must provide the point of delivery or the geographic location on PSCo's system at which Interconnection Customer intends to deliver output out of Transmission Provider's Control Area.

3.2.2.2 The Study. The Interconnection Study for Network Resource Interconnection Service shall assure that Interconnection Customer's Large Generating Facility meets the requirements for Network Resource Interconnection Service and, as a general matter, that such Large Generating Facility's interconnection is also studied with Transmission Provider's Transmission System at peak load, under a variety of severely stressed conditions, to determine whether, with the Large Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on Transmission Provider's Transmission System, consistent with

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Transmission Provider's reliability criteria and procedures. This approach assumes that some portion of existing Network Resources' output is displaced by the output of Interconnection Customer's Large Generating Facility. Network Resource Interconnection Service in and of itself does not convey any right to deliver electricity to any specific customer or Point of Delivery. The Transmission Provider may also study the Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the Transmission Provider must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

3.3 Utilization of Surplus Interconnection Service.

Transmission Provider's process below allows an Interconnection Customer to utilize or transfer Surplus Interconnection Service at an existing Point of Interconnection. The original Interconnection Customer or one of its affiliates shall have priority to utilize Surplus Interconnection Service. If the existing Interconnection Customer or one of its affiliates does not exercise its priority, then that service may be made available to other potential Interconnection Customers.

3.3.1 Surplus Interconnection Service Requests.

Surplus Interconnection Service requests may be made by the existing Interconnection Customer whose Generating Facility is already interconnected or one of its affiliates. Surplus Interconnection Service requests also may be made by another Interconnection Customer. Section 3.3.2 provides a process for evaluating Interconnection Requests for Surplus Interconnection Service. Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary.

3.3.2 Process for Evaluating Surplus Interconnection Requests and Obtaining Surplus Interconnection Service.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

The following process will be used for evaluating and obtaining Surplus Interconnection Service.

An existing (original) Interconnection Customer whose Generating Facility is already interconnected may choose to, but is not required to, make Surplus Interconnection Service available to potential Interconnection Customers. The original Interconnection Customer retains the ability to use, either for themselves, for an affiliate, or for sale to a third party of their choosing, any Surplus Interconnection Service. The original Interconnection Customer may (a) stipulate the amount of Surplus Interconnection Service that is available, (b) designate when that service is available, and (c) describe any other conditions under which Surplus Interconnection Service at the point of interconnection may be used.

If the original Interconnection Customer makes Surplus Interconnection Service available at its Point of Interconnection, Transmission Provider shall work with the original Interconnection Customer (and the requesting Interconnection Customer, if different) to evaluate that Surplus Interconnection Service. Transmission Provider may accept third-party studies demonstrating no adverse impact to the Transmission Provider's Transmission System, but may require its own or additional studies at its discretion. Transmission Provider will use available studies to the extent applicable. If a Generating Facility interconnected prior to the issuance of Order No. 2003 and does not have an existing Large Generator Interconnection Agreement, it shall be considered to have Interconnection Service up to its installed capacity for purposes of the offering of Surplus Interconnection Service.

The requesting Interconnection Customer shall execute a Surplus Interconnection Study Agreement to evaluate Surplus Interconnection Service in the form of Appendix 5.3, and the Interconnection Customer requesting Surplus Interconnection Service shall be responsible for the cost of such study. Transmission Provider shall study Surplus Interconnection Service outside of the Queue and shall make reasonable efforts to complete the study within sixty (60) days of executing the Surplus Interconnection Study Agreement including the study deposit and receiving data required to perform the study.

Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the

Proposed Effective Date: 12/5/2019

Approved Effective Date:

original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary. Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring new Network Upgrades.

Transmission Provider, original Interconnection Customer, and Surplus Interconnection Customer shall develop a Surplus Interconnection Agreement and other agreements as necessary and file such agreements with the Commission. Such agreements shall, among other things, establish conditions such as the term of operation, the interconnection service limit, and the mode of operation for energy production (i.e., common or singular operation) and the roles and responsibilities of the parties for maintaining the operation of the facility within the parameters of the surplus interconnection service agreement.

Transmission Provider is not required to execute an Interconnection Agreement for Surplus Interconnection Service if the agreements do not meet the definition set forth in their tariff or if the customer does not agree to the terms of such service, including any requirements that may be identified by the Transmission Provider in the studies for Surplus Interconnection Service. If the Surplus Interconnection Customer disputes an issue in the Interconnection Agreement for Surplus Interconnection Service, Transmission Provider must file the unexecuted Surplus Interconnection Service Agreement with the Commission if requested to do so by the Surplus Interconnection Customer.

3.4 Valid Interconnection Request.

3.4.1 Initiating an Interconnection Request.

An Interconnection Customer wishing to join the Definitive Interconnection Study Process shall submit its Interconnection Request to Transmission Provider within, and no later than the close of the DISIS Request Window. To initiate an Interconnection Request, Interconnection Customer must submit all of the following:

- a. The application fee and study deposit described in Section 3.1;
- b. A completed application in the form of Appendix 1 to the Revised LGIP (including applicable technical information);

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- c. A demonstration of Site Control as defined in Sections 1 and 7.7 of the Revised LGIP. Specifications for acceptable site size for the purposes of demonstrating Site Control are posted on Transmission Provider's OASIS website. Interconnection Customer may propose alternative specifications for site size to those posted on OASIS for Transmission Provider approval. In the event Transmission Provider and Interconnection Customer cannot reach agreement related to adequacy of site size, Transmission Provider will accept a Professional Engineer (licensed in the state of Colorado) stamped site plan drawing that depicts the proposed generation arrangement and specifies the maximum facility output for that arrangement;
- d. A Point of Interconnection;
- e. If the request is for NRIS and if Transmission Provider has not been notified pursuant to Section 29.2 of Part III of the Tariff that Interconnection Customer's proposed Generating Facility is to be designated as a Network Resource within Transmission Provider's Control Area, the point of delivery or the geographic location on Transmission Provider's system at which Interconnection Customer intends to deliver output out of Transmission Provider's Control Area;
- f. A Generating Facility size (MW) (and requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity);
- g. One of the following Readiness Milestone ("M1") options totaling the entire capacity of the Generating Facility (or requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity) or security equal to one times the study deposit described in Section 3.1 in the form of an irrevocable letter of credit or cash *in lieu* of the Readiness Milestone. The security is refunded to the Interconnection Customer according to Section 7.7.5.
- i. Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale (1) of the constructed Generating Facility, or (2) of the Generating Facility's energy, or (3) of the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- ii. Reasonable evidence that the project has been selected in a Resource Plan or Resource Solicitation Process; or
 - iii. Provisional Large Generator Interconnection Agreement filed with FERC that contains a commitment to move forward with constructing the Generating Facility and is not suspended; and
- h. Security equal one times the study deposit described in Section 3.1 in the form of an irrevocable letter of credit or cash. The security is refunded to the Interconnection Customer according to Section 7.7.5.

The expected In-Service Date of the new Large Generating Facility or increase in capacity of the existing Generating Facility shall be no more than the process window for the regional expansion planning period (or in the absence of a regional planning process, the process window for Transmission Provider's expansion planning period) not to exceed seven (7) years from the date the Interconnection Request is received by Transmission Provider, unless Interconnection Customer demonstrates that engineering, permitting and construction of the new Large Generating Facility or increase in capacity of the existing Generating Facility will take longer than the regional expansion planning period. The In-Service Date may succeed the date the Interconnection Request is received by Transmission Provider by a period up to ten (10) years, or longer where Interconnection Customer and Transmission Provider agree, such agreement not to be unreasonably withheld.

3.4.2 Acknowledgment of Interconnection Request.

Transmission Provider shall acknowledge receipt of the Interconnection Request within five (5) Business Days of the close of the DISIS Request Window and attach a copy of the received Interconnection Request to the acknowledgement.

3.4.3 Deficiencies in Interconnection Request.

An Interconnection Request will not be considered to be a valid request until all items in Section 3.4.1 have been received by Transmission Provider.

If an Interconnection Request fails to meet the requirements set forth in Section 3.4.1, Transmission Provider shall notify Interconnection Customer within five (5) Business Days of the close of the DISIS Request Window of the reasons for such failure and that the Interconnection Request does not constitute a valid request. Interconnection Customer shall provide Transmission Provider the additional requested information needed to constitute a valid request

Proposed Effective Date: 12/5/2019

Approved Effective Date:

within ten (10) Business Days after receipt of such notice. At any time, if Transmission Provider identifies issues with technical data provided by Interconnection Customer, Interconnection Customer and Transmission Provider shall work expeditiously and in good faith to remedy any data issues. Failure by Interconnection Customer to comply with this Section 3.4.3 shall be treated in accordance with Section 3.7.

Transmission Provider shall determine if the information contained in the Interconnection Request is adequately sufficient to start the Definitive System Impact Study by the close of the Customer Engagement Window.

3.4.4 Scoping Meeting.

Within ten (10) Business Days after the close of the DISIS Request Window, Transmission Provider shall host an open Scoping Meeting, for all Interconnection Requests received in that DISIS Request Window. If requested by Interconnection Customer, Transmission Provider shall also hold individual customer specific Scoping Meetings, which must be requested no later than fifteen (15) business days after the close of the DISIS Request Window.

The purpose of the Scoping Meeting shall be to discuss alternative interconnection options; to exchange information, including any transmission data that would reasonably be expected to impact such interconnection options; to analyze such information; and to determine the potential feasible Points of Interconnection. Transmission Provider and Interconnection Customer will bring to the meeting such technical data, including, but not limited to: (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues as may be reasonably required to accomplish the purpose of the meeting. Transmission Provider and Interconnection Customer will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer shall designate its Point of Interconnection, pursuant to Section 7.2. The duration of the meeting shall be sufficient to accomplish its purpose.

3.5 OASIS Posting.

3.5.1 OASIS Posting.

Transmission Provider will maintain on its OASIS a list of all Interconnection Requests. The list will identify, for each Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the status of

Proposed Effective Date: 12/5/2019

Approved Effective Date:

the Interconnection Request, including Queue Position; (vi) the type of Interconnection Service being requested; (vii) the availability of any studies related to the Interconnection Request; (viii) the date of the Interconnection Request; (ix) the type of Generating Facility to be constructed (combined cycle, base load or combustion turbine, and fuel type); and (x) for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed. Except in the case of an Affiliate, the list will not disclose the identity of Interconnection Customer until Interconnection Customer executes an LGIA or requests that Transmission Provider file an unexecuted LGIA with FERC. Before holding a Scoping Meeting with its Affiliate, Transmission Provider shall post on OASIS an advance notice of its intent to do so. Transmission Provider shall post to its OASIS site any deviations from the study timelines set forth herein. Interconnection Study reports shall be posted to Transmission Provider's OASIS site subsequent to the meeting between Interconnection Customer and Transmission Provider to discuss the applicable study results. Transmission Provider shall also post any known deviations in the Large Generating Facility's In-Service Date.

Transmission Provider will maintain on its OASIS or its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. For each calendar quarter, Transmission Providers must calculate and post the information detailed in sections 3.5.1.1 through 3.5.1.3.

3.5.1.1 Definitive Study Phase 1 Processing Time.

- (A) Number of Interconnection Requests that had Phase 1 Studies completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Phase 1 Studies completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than ninety (90) Calendar Days after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection Feasibility Study Agreement,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Feasibility Studies where such Interconnection Requests had executed Interconnection Feasibility Study Agreements received by Transmission Provider more than ninety (90) Calendar Days before the reporting quarter end,

Proposed Effective Date: 12/5/2019

(D) Mean time (in days), Interconnection Feasibility Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the date when Transmission Provider received the executed Interconnection Feasibility Study Agreement to the date when Transmission Provider provided the completed Interconnection Feasibility Study to the Interconnection Customer,

(E) Percentage of Interconnection Feasibility Studies exceeding ninety (90) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.1.1(B) plus 3.5.1.1(C) divided by the sum of 3.5.1.1(A) plus 3.5.1.1(C)).

3.5.1.2 Definitive Interconnection System Impact Studies Processing Time.

(A) Number of Interconnection Requests that had Definitive Interconnection System Impact Studies (Phase 2 and Phase 3) completed within Transmission Provider's coordinated region during the reporting quarter,

(B) Number of Definitive Interconnection Requests that had Interconnection System Impact Studies completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than one hundred fifty (150) Calendar Days after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection System Impact Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Definitive System Impact Studies where such Interconnection Requests had executed Definitive Interconnection System Impact Study Agreements received by Transmission Provider more than one hundred fifty (150) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Definitive Interconnection System Impact Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the date when Transmission Provider received the executed Interconnection System Impact Study Agreement to the date when Transmission Provider provided the completed Interconnection System Impact Study to the Interconnection Customer,

Proposed Effective Date: 12/5/2019

- (E) Percentage of Interconnection System Impact Studies exceeding one hundred fifty (150) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.1.2(B) plus 3.5.1.1(C) divided by the sum of 3.5.1.1(A) plus 3.5.1.1(C)).

3.5.1.3

Interconnection Facilities Studies Processing Time.

- (A) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than ninety (90) Calendar Days after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection Facilities Study Agreement,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Service requests with ongoing incomplete Interconnection Facilities Studies where such Interconnection Requests had executed Interconnection Facilities Studies Agreement received by Transmission Provider more than ninety (90) Calendar Days before the reporting quarter end,
- (D) Mean time (in days), for Interconnection Facilities Studies completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the date when Transmission Provider received the executed Interconnection Facilities Study Agreement to the date when Transmission Provider provided the completed Interconnection Facilities Study to the Interconnection Customer,
- (E) Percentage of delayed Interconnection Facilities Studies this reporting quarter, calculated as the sum of 3.5.1.2(B) plus 3.5.1.2(C) divided by the sum of 3.5.1.2(A) plus 3.5.1.2(C)).

3.5.1.4

Interconnection Service Requests Withdrawn from Interconnection Queue.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- (A) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter,
- (B) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of any interconnection studies or execution of any interconnection study agreements,
- (C) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of an Interconnection System Impact Study,
- (D) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of an Interconnection Facilities Study,
- (E) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue after execution of a generator interconnection agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement,
- (F) Mean time (in days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when Transmission Provider received the request to withdraw from the queue.

3.5.2 Requirement to Post Interconnection Study Metrics.

Transmission Provider is required to post on OASIS or its website the measures in paragraph 3.5.1.1(A) through paragraph 3.5.1.3(F) for each calendar quarter within 30 days of the end of the calendar quarter. Transmission Provider will keep the quarterly measures posted on OASIS or its website for three calendar years with the first required report to be in the first quarter of 2020. If Transmission Provider retains this information on its website, a link to the information must be provided on Transmission Provider's OASIS site.

3.5.3 Reporting Requirement for Late Studies.

In the event that any of the values calculated in paragraphs 3.5.1.1(E), or 3.5.1.2(E) exceeds 25 percent for two consecutive calendar quarters, Transmission Provider will have to comply with the measures below for the

Proposed Effective Date: 12/5/2019

Approved Effective Date:

next four consecutive calendar quarters and must continue reporting this information until Transmission Provider reports four consecutive calendar quarters without the values calculated in 3.5.1.1(E), or 3.5.1.2(E) exceeding 25 percent for two consecutive calendar quarters:

- (i) Transmission Provider must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline (i.e., 90, 150 or 90 days) for completion (excluding any allowance for Reasonable Efforts). Transmission Provider must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the Commission within 45 days of the end of the calendar quarter.
- (ii) Transmission Provider shall aggregate the total number of employee-hours and third party consultant hours expended towards interconnection studies within its coordinated region that quarter and post on OASIS or its website. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. This information is to be posted within 30 days of the end of the calendar quarter.

3.6 Coordination with Affected Systems.

Transmission Provider will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in this Revised LGIP. Transmission Provider will include such Affected System Operators in all meetings held with Interconnection Customer as required by this Revised LGIP. Interconnection Customer will cooperate with Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A Transmission Provider which may be an Affected System shall cooperate with Transmission Provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems. It is the responsibility of the Affected System Owner to provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to (i) complete any interconnection studies and (ii) construct any necessary interconnection facilities and network upgrades needed to reliably interconnect at the requested service level.

3.7 Withdrawal.

Interconnection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to Transmission Provider. In addition, if Interconnection Customer fails to adhere to all requirements of this Revised LGIP, except as provided in Section 12.5 (Disputes), Transmission Provider shall

Proposed Effective Date: 12/5/2019

Approved Effective Date:

deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Upon receipt of such written notice, Interconnection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify Transmission Provider of its intent to pursue Dispute Resolution.

Withdrawal shall result in the loss of Interconnection Customer's Queue Position. If Interconnection Customer disputes the withdrawal and loss of its Queue Position, then during Dispute Resolution, Interconnection Customer's Interconnection Request is eliminated from the Queue until such time that the outcome of Dispute Resolution would restore its Queue Position. An Interconnection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to Transmission Provider all costs that Transmission Provider prudently incurs with respect to that Interconnection Request prior to Transmission Provider's receipt of notice described above. Interconnection Customer must pay all monies due to Transmission Provider before it is allowed to obtain any Interconnection Study data or results.

In the case of a withdrawal, Transmission Provider shall: (i) update the OASIS Queue Position posting; (ii) impose the Withdrawal Penalty described in Section 3.7.1, (iii), refund any security after settling the final invoice (see Section 7.7.5), and (iv) refund to Interconnection Customer any of the refundable portion of Interconnection Customer's study deposit that exceeds the share of the costs that Transmission Provider has incurred, including interest calculated in accordance with section 35.19a(a)(2) of FERC's regulations. In the event of such withdrawal, Transmission Provider, subject to the confidentiality provisions of Section 12.1, shall provide, at Interconnection Customer's request, all information that Transmission Provider developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.

3.7.1 Withdrawal Penalty.

Interconnection Customers shall be subject to a Withdrawal Penalty if they withdraw their request from the Queue or the Generating Facility does not otherwise reach Commercial Operation unless (1) the withdrawal does not negatively affect the timing or cost of equal or lower queued projects; (2) the cost responsibility identified for that Interconnection Customer in the current study report associated with new upgrades to the Transmission Provider's System increased by more than twenty-five percent (25%) compared to the costs identified in the previous report; or (3) if the customer withdraws after the Phase 4 report is published and before providing M5, and the cost responsibility for that Interconnection Customer identified in the Interconnection Facilities Study report (the Phase 4 report) increases by more than one hundred percent (100%) compared to the Phase 2 report.

3.7.1.1 Calculation of the Withdrawal Penalty.

Proposed Effective Date: 12/5/2019

If the Interconnection Customer provided a demonstration of readiness, that Interconnection Customer's Withdrawal Penalty shall be equal to the higher of the study deposit or one (1) times of its actual allocated cost of the Definitive Interconnection Study Process.

If the Interconnection Customer did not provide a demonstration of readiness, that Interconnection Customer's Withdrawal Penalty shall be dependent on the Phase in which the Interconnection Customer withdraws and shall be calculated as follows:

1. If the Interconnection Customer withdraws in Phase 1 (after M1, but before M2), the Withdrawal Penalty shall be the higher of the study deposit or two (2) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at one (1) million dollars.
2. If the Interconnection Customer withdraws in Phase 2 (after M2, but before M3), the Withdrawal Penalty shall be the higher of the study deposit or three (3) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at one and one half (1.5) million dollars.
3. If the Interconnection Customer withdraws in Phase 3 (after M3, but before M4), the study cost obligation shall be the higher of the study deposit or five (5) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at two (2) million dollars.
4. If the Interconnection Customer withdraws in Phase 4 (after M4, but before M5), the Withdrawal Penalty shall be the higher of the study deposit or seven (7) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at two and a half (2.5) million dollars.

The Withdrawal Penalty for any customer that has executed an LGIA is the higher of the study deposit or nine (9) times its actual allocated cost of the Definitive Interconnection Study Process.

3.7.1.2 Distribution of the Withdrawal Penalty.

Any Withdrawal Penalty revenues shall be used to fund generation interconnection studies. Withdrawal Penalty revenues shall first be applied, in the form of a bill credit, to

Proposed Effective Date: 12/5/2019

Approved Effective Date:

not-yet-invoiced study costs for other Interconnection Customers in the same cluster, and to the extent that such studies are fully credited, shall be applied to study costs of future clusters in Queue order. Withdrawn Interconnection Customers shall not receive a bill credit associated with Withdrawal Penalties. Distribution of Withdrawal Penalty revenues to a specific study shall not exceed the total actual study costs. Allocation of Withdrawal Penalty revenues within a cluster to a specific customer shall be comparable to the allocation of study costs described in Section 4.2.3. Specifically, the Withdrawal Penalty revenue distribution to each customer in a specific cluster, shall be (1) fifty percent (50%) on a per capita basis based on number of Interconnection Requests in the applicable Cluster; and (2) fifty percent (50%) to Interconnection Customers on a pro-rata basis based on requested megawatts included in the applicable Cluster. Distribution of Withdrawal Penalty revenue associated with Readiness Milestone 5 shall not be distributed to the remaining customers in that cluster until all customers in that cluster have reached Commercial Operation and thereafter shall be distributed as described above. Transmission Provider shall not change the distribution of Withdrawal Penalty revenue without authorization by the Commission. Transmission Provider shall post the Withdrawal Penalty balance on its OASIS site.

3.8 Identification of Contingent Facilities.

Contingent Facilities shall be identified in the Interconnection System Impact Study report including in any subsequent restudies, in the Interconnection Facilities Study report including in any subsequent restudies, and then included in the Interconnection Customer's Large Generator Interconnection Agreement. Transmission Provider shall also provide, upon request of the Interconnection Customer, the estimated interconnection facility and/or network upgrade costs and estimated in-service completion date of each identified Contingent Facility when this information is readily available and not commercially sensitive.

Any unbuilt Interconnection Facility and/or Network Upgrade included in the study model that is necessary as determined through technical studies such as power flow, short circuit and/or stability analysis to accommodate the Interconnection Request, will be identified as a Contingent Facility. Network Upgrades will include both Network Upgrades planned by the Transmission Provider or Affected Systems in the Base Case as well as those Network Upgrades identified for higher queued Interconnection Requests.

Additionally, all new Interconnection Facilities and/or Network Upgrades identified by Transmission Provider and Affected Systems as required for the current Interconnection Request are Contingent Facilities.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Section 4. Interconnection Request Evaluation Process.

4.1 Queue Position.

4.1.1 Assignment of Queue Position

Transmission Provider shall assign a Queue Position as follows: the Queue Position within the Queue shall be assigned based upon the date and time of receipt of all items required pursuant to the provisions of Section 3.4. There is no queue for Informational Interconnection Studies.

4.1.2 Higher Queue Position

A higher Queue Position assigned to an Interconnection Request is one that has been placed “earlier” in the Queue in relation to another Interconnection Request that is assigned a lower Queue Position. All requests studied in a single Cluster shall be considered equally queued but Clusters initiated earlier in time shall be considered to have a higher Queue Position than clusters initiated later. The Queue Position of an Interconnection Request shall have no bearing on the allocation of the cost of the common upgrades identified in the applicable Cluster Study (such costs will be allocated among Interconnection Requests in accordance with Section 4.2.4). Moving a Point of Interconnection shall result in a loss of Queue Position if it is deemed a Material Modification under Section 4.4.3.

4.2 General Study Process.

The diagram attached as Appendix A-1 provides an overview and timeline of initiation of a Definitive Interconnection Study: the DISIS Request Window, Customer Engagement Window, and Phase 1 of the DISIS.

Cluster Studies performed within the Definitive Interconnection Study Process shall be conducted in such a manner to ensure the efficient implementation of the applicable regional transmission expansion plan in light of the Transmission System's capabilities at the time of each study.

4.2.1 Initiation of a Definitive Interconnection System Impact Study Cluster.

Transmission Provider shall accept Interconnection Requests during a forty five (45) Calendar Day period, hereinafter referred to as the “DISIS Request Window.” A DISIS Request Window shall open annually on February 1st and close on March 15th or the following Business Day if March 15th falls on a weekend or NERC recognized holiday. A second DISIS Request Window shall open annually on August 1st and close on September 15th (or the following Business Day if September 15th falls on a Saturday or Sunday).

If one or more valid requests are received, for seventy-five (75) Calendar Days following the close of the DISIS Request Window (the

Proposed Effective Date: 12/5/2019

Approved Effective Date:

“Customer Engagement Window”), Transmission Provider shall work with applicable Interconnection Customers to build models, verify data, hold stakeholder meetings (including Scoping Meetings, as appropriate), work with requestors to cure any deficiencies in the Interconnection Request, and generally prepare for the start of the Definitive Interconnection System Impact Study. Notwithstanding the preceding sentence and upon written consent of all Interconnection Requests for a specific Cluster, Transmission Provider may shorten the “Customer Engagement Window” in order to start the Definitive Interconnection System Impact Study earlier. Within the first ten (10) Business Days following the close of the DISIS Request Window, Transmission Provider shall post on its OASIS site a list of Interconnection Requests for that Cluster. The list shall identify, for each Interconnection Request: (i) the requested amount of Interconnection Service; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the type of Interconnection Service (vi) cluster being requested; and (vi) the type of Generating Facility to be constructed including fuel type such as wind, natural gas, coal, or solar.

At the end of the Customer Engagement Window, all Interconnection Requests deemed sufficient that have an executed DISIS Agreement shall be included in that DISIS Cluster. Any Interconnection Requests not deemed sufficient or undergoing Dispute Resolution at the close of the Customer Engagement Window shall not be included in that DISIS Cluster. Immediately following the Customer Engagement Window, Transmission Provider shall initiate the Definitive Interconnection System Impact Study described in more detail in Section 7.

4.2.2 Initiation of a Resource Solicitation Cluster.

At any time, and upon request of a Resource Planning Entity, Transmission Provider may initiate the study of a Resource Solicitation Cluster. The Resource Solicitation Cluster shall respect Queue Position and shall be studied as its own Cluster. Within ten (10) Business Days of receipt of a request to perform a Resource Solicitation Cluster that includes valid Interconnection Requests as described in Section 3.4, Transmission Provider and Resource Planning Entity shall meet to determine a mutually agreeable scope of study and timeframe to initiate the Resource Solicitation Cluster. The timeline shall indicate the close of the Customer Engagement Window for that Resource Solicitation Cluster. Thereafter the Definitive Interconnection System Impact Study shall proceed as described in Section 7.

In order to initiate Transmission Provider’s study of Interconnection Requests made in connection with a Resource Solicitation Process,

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Resource Planning Entity must: (a) act as the authorized representative for all Interconnection Requests submitted to the Resource Solicitation Cluster; (b) submit all Interconnection Requests arising from the Resource Solicitation Process at the same time to ensure an equal Queue Position for all Generating Facilities included in the Resource Solicitation Cluster; (c) cooperate with Transmission Provider in conducting the studies; and (d) request a reasonable number of different combinations of such Interconnection Requests to meet Resource Planning Entity's identified need and assumptions in the Resource Solicitation Process. Such studies in connection with a Resource Solicitation Process shall be implemented based upon Queue Position (relative to higher or lower queued clusters) and shall consider Resource Planning Entity's needs and assumptions identified in the Resource Solicitation Process.

The Resource Planning Entity may submit for inclusion in the Resource Solicitation Process an Interconnection Request for a Generating Facility that already has a higher Queue Position pursuant to Section 4.1.1. A Generating Facility that initially is associated with a Queue Position through the Resource Solicitation Process may also reserve a lower Queue Position separate from the Resource Solicitation Process pursuant to Section 4.1.1. In either case, Interconnection Customer must meet all requirements associated with maintaining each Queue Position for the Generating Facility. In the event a Generating Facility has multiple Queue Positions, it shall not be double counted in the study models.

A Generating Facility in the Resource Solicitation Process is subject to study according to the Queue Position of the Resource Solicitation Cluster. A Generating Facility that is not a part of the Resource Solicitation Process is also subject to study according to its Queue Position. All studies must be performed in accordance with the provisions of the Revised LGIP, and may not be delayed as a result of the Resource Solicitation Process.

After Transmission Provider completes the Definitive Interconnection System Impact Studies for the requested combinations, the results will be provided (Phase 1 Reports, Phase 2 Reports, Phase 3 Reports, etc.; as applicable under Section 7.4) to the Resource Planning Entity for use in the Resource Solicitation Process. The results will be posted on Transmission Provider's OASIS consistent with the posting of other study results.

After receipt of the Phase 2 Report, Resource Planning Entity must select one of the studied combinations prior to the commencement of any Interconnection Facilities Study associated with the Resource Solicitation Process. Prior to the completion of the Interconnection Facilities Study of all of the components of the selected combination,

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Resource Planning Entity may replace components, subject to any necessary Re-Study pursuant to Sections 7.6 or 8.5. While conducting the Definitive Interconnection Study Process, Transmission Provider may suspend further action on the Interconnection Requests in the Resource Solicitation Process that are not included in the selected combination. Once a Generating Facility is rejected in the Resource Solicitation Process, the Generating Facility shall lose the Queue Position it held as part of the Resource Solicitation Process. If a Generating Facility is selected by Resource Planning Entity at the conclusion of the Resource Solicitation Process, the Generating Facility may no longer maintain more than one Queue Position.

4.2.3 Study Cost Allocation.

Transmission Provider shall determine each Interconnection Customer's share of the DISIS costs of a Cluster Study by allocating: (1) fifty percent (50%) of the applicable study costs to Interconnection Customers on a per capita basis based on number of Interconnection Requests included in the applicable Cluster; and (2) fifty percent (50%) of the applicable study costs to Interconnection Customers on a pro-rata basis based on requested megawatts included in the applicable Cluster. For instance, the cost of a cluster study consisting of a 100 MW request and a 900 MW request would be allocated 30% to the 100 MW request and 70% to the 900 MW request. The Interconnection Facilities Study portion of the Definitive Interconnection Study Process is an individual study and costs for each Interconnection Facilities Study is directly assigned to the Interconnection Customer associated with such study.

4.2.4 Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation.

For Transmission Provider's Interconnection Facilities and Network Upgrades identified in Cluster Studies, Transmission Provider shall calculate each Interconnection Customer's share of costs in the following manner:

- a) Station equipment Network Upgrades, including all switching stations, shall be allocated based on the number of Generating Facilities interconnecting at an individual station on a per capita basis (i.e. on a per Interconnection Request basis). If multiple Interconnection Customers are connecting to the Transmission Provider's System through a single Interconnection Customer's Interconnection Facility (i.e. sharing the Interconnection Customer's Interconnection Facility connecting to the Transmission Provider's Interconnection Facility(ies)), those Interconnection Customers shall be considered one Interconnection Customer for the per capita calculation described in the preceding sentence. Shared Transmission Provider's Interconnection Facilities shall be allocated based on the number

Proposed Effective Date: 12/5/2019

Approved Effective Date:

of Generating Facilities sharing that Transmission Provider's Interconnection Facility on a per capita basis.

- b) All Network Upgrades other than those identified in Section 4.2.4.a will be allocated based on the proportional impact of each individual Generating Facility in the Cluster Studies on such Network Upgrades. The proportional impact of such Network Upgrades shall be calculated as follows. All transmission lines and transformers identified as Network Upgrades shall be allocated using distribution factor analysis. Voltage support related Network Upgrades shall be allocated using a voltage impact analysis which will identify each Generating Facility's contribution to the voltage violation. Network Upgrades associated with upgrading existing breakers not physically located at the substation to which the Generating Facility is interconnecting or associated with a new transmission facility shall be allocated based on short circuit analysis.
- c) Costs of Transmission Provider's Interconnection Facilities are directly assigned to the Interconnection Customer(s) using such facilities.

Interconnection Customer funding of Network Upgrades are eligible for credits as provided in Section 11.4 of the LGIA.

4.3 Transferability of Queue Position.

An Interconnection Customer may transfer its Queue Position to another entity only if such entity acquires the specific Generating Facility identified in the Interconnection Request and the Point of Interconnection does not change.

4.4 Modifications.

Interconnection Customer shall submit to Transmission Provider, in writing, modifications to any information provided in the Interconnection Request. Interconnection Customer shall retain its Queue Position if the modifications are in accordance with Sections 4.4.1, 4.4.2, 4.4.5, or are determined not to be Material Modifications pursuant to Section 4.4.3.

Notwithstanding the above, during the course of the Interconnection Studies, either Interconnection Customer or Transmission Provider may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. Subject to the forgoing sentence, and provided, however, they do not result in a material modification, to the extent the identified changes are acceptable to Transmission Provider, Interconnection Customer and potentially impacted Interconnection Customers in the same Cluster, such acceptance not to be unreasonably withheld, Transmission Provider shall modify the Point of Interconnection and/or configuration in accordance with such changes and proceed with any re-studies necessary to do

Proposed Effective Date: 12/5/2019

Approved Effective Date:

so in accordance with Section 7.6 and Section 8.5 as applicable and Interconnection Customer shall retain its Queue Position.

4.4.1 No later than forty (40) Calendar Days after the close of the DISIS Request Window and prior to the return of the executed Definitive Interconnection System Impact Study Agreement to Transmission Provider, the modifications permitted under this Section shall include specifically: (a) a decrease of up to sixty percent (60%) of electrical output (MW) of the proposed project, through either (1) a decrease in plant size, or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment; (b) modifying the technical parameters associated with the Large Generating Facility technology or the Large Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. For plant increases, the incremental increase in plant output will go to the end of the Queue for the purposes of cost allocation and study analysis.

4.4.2 Prior to the return of the executed Interconnection Facilities Study Agreement to Transmission Provider, the modifications permitted under this Section shall include specifically: (a) fifteen percent (15%) decrease of electrical output of the proposed project through either (1) a decrease in in plant size (MW), or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment; (b) Large Generating Facility technical parameters associated with modifications to Large Generating Facility technology and transformer impedances; provided, however, the incremental costs associated with those modifications are the responsibility of the requesting Interconnection Customer; and (c) a Permissible Technological Advancement for the Large Generating Facility after the submission of the Interconnection Request. Section 4.4.6 specifies a separate technological change procedure including the requisite information and process that will be followed to assess whether the Interconnection Customer's proposed technological advancement under Section 4.4.2(c) is a Material Modification. Section 1 contains a definition of Permissible Technological Advancement.

4.4.3 Prior to making any modification other than those specifically permitted by Sections 4.4.1, 4.4.2, and 4.4.5, Interconnection Customer may first request that Transmission Provider evaluate whether such modification is a Material Modification. In response to Interconnection Customer's request, Transmission Provider shall evaluate the proposed modifications prior to making them and inform Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Any change to the Point of

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Interconnection, except those deemed acceptable under Sections 4.4.1, or so allowed elsewhere, shall constitute a Material Modification. Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

4.4.4 Upon receipt of Interconnection Customer's request for modification permitted under this Section 4.4, Transmission Provider shall commence and perform any necessary additional studies as soon as practicable, but in no event shall Transmission Provider commence such studies later than thirty (30) Calendar Days after receiving notice of the modification of Interconnection Customer's request. Any additional studies resulting from such modification shall be performed at Interconnection Customer's cost.

4.4.5 Extensions of less than three (3) cumulative years in the Commercial Operation Date of the Generating Facility to which the Interconnection Request relates are not material and should be handled through construction sequencing. The initial requested Commercial Operation Date used for this calculation is determined from the date proposed in the initial Interconnection Request (Revised LGIP Appendix 1 Section 4.d). Such cumulative extensions are inclusive of extensions requested after execution by Interconnection Customer of the LGIA.

4.4.6 Technological Change Procedure.

The technological change procedure included in this Section 4.4.4 will be followed to assess whether Interconnection Customer's proposed modification is a Material Modification.

4.4.6.1 Technological Change Request.

If an Interconnection Customer seeks to incorporate a technological advancement into its existing Interconnection Request, it must submit a Technological Change Request (TCR) as described below to the Transmission Provider in writing any time prior to the return of the signed Interconnection Facilities Study Agreement.

The Interconnection Customer's initial TCR must include a description of the proposed advancement and may include a technical analysis of the advancement. The analysis should contain engineering evidence and reasoning that clearly demonstrates the proposed change aligns with the definition of a Permissible Technological Advancement. Accordingly, a TCR should demonstrate that the proposed incorporation of the technological advancement would result in electrical performance that is equal to or better than the electrical performance expected prior to the technology change and would not cause any reliability concerns (i.e., would not

Proposed Effective Date: 12/5/2019

Approved Effective Date:

materially impact the transmission system with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response).

4.4.6.2 Technological Change Request Evaluation.

The Transmission Provider will assess the Interconnection Customer's initial TCR and make a determination based on an evaluation of analysis provided by the Interconnection Customer that the request either: (1) meets the definition of a Permissible Technological Advancement, or (2) may fail to meet the definition of a Permissible Technological Advancement.

If the proposed technology is determined to meet the definition of a Permissible Technological Advancement, then no additional study is necessary and the proposed advancement is considered a Permissible Technological Advancement. The TCR is then approved and incorporated into the Interconnection Request. Once the Permissible Technological Advancement is approved and incorporated into the Interconnection Request; a new TCR would be required for the Interconnection Customer to revert back to the original equipment or to make other additional modifications to equipment.

If the Transmission Provider is unable to determine if the requested modification meets the definition of Permissible Technological Advancement from the information provided by the Interconnection Customer, then additional studies may be required to assess the impact(s) of the technological advancement.

Transmission Provider shall notify Interconnection Customer within ten (10) Business Days after the Interconnection Customer submits the initial TCR if the request is accepted or if additional studies are required, what additional information is required to complete the additional study. Such additional information is dependent on the specific TCR and may include information such as: updated technical data called for in Appendix 1, Attachment A; type and specifications of equipment being replaced; make and model of new equipment; specifications of new equipment; dynamic, steady-state and performance characteristics of the new equipment; and efficiencies, impedances, and ratings of the equipment.

4.4.6.3 Transmission Provider Technological Advancement Study Process.

Proposed Effective Date: 12/5/2019

Should assessment of the initial TCR result in the need for additional studies, the Interconnection Customer shall update its TCR with any additional information required to conduct the study and submit the updated TCR along with a deposit of \$10,000, so that the Transmission Provider may complete studies to evaluate whether or not the technological advancement is permissible. Once the deposit is received along with any data required to conduct the studies, Transmission Provider shall complete the studies as soon as practical but no later than thirty (30) Calendar Days after the receipt of the completed TCR and deposit.

Transmission Provider shall evaluate the TCR by (1) representing the new equipment in the study models, (2) rerunning any completed studies and (3) comparing the new study results with the study results prior to the change.

Transmission Provider will produce a report of the study findings that will state if the technological advancement is permissible. If the proposed technology fails to meet the definition of a Permissible Technological Advancement then the TCR is deemed to be a Material Modification. In such cases, the study report shall provide an explanation regarding why the technological advancement is a Material Modification. The Interconnection Customer can choose to abandon the request and retain its queue position or choose to proceed with the request and reenter the queue with a new queue position.

If the study determines that the proposed technology meets the definition of a Permissible Technological Advancement the modification is approved and will be incorporated into the Interconnection Request. Feasibility or System Impact Study reports may be updated if appropriate. Once the Permissible Technological Advancement is approved and incorporated into the Interconnection Request; a new TCR would be required for the Interconnection Customer to revert back to the original equipment or make additional modifications to equipment.

Transmission Provider shall either refund any overage or charge for any shortage for costs of the study that exceed the deposit amount. The studies associated with the TCR shall be billed separately from other Interconnection Studies.

Section 5. Transition Procedures.

5.1 Procedures for Transitioning to the First-Ready, First-Served Revised LGIP.

Proposed Effective Date: 12/5/2019

5.1.1 An Interconnection Customer assigned a Queue Position prior to September 27, 2019, shall retain that Queue Position subject to the requirements in Sections 5.1.1.1 and 5.1.1.2. An Interconnection Customer that fails to meet these requirements shall have its Interconnection Request deemed withdrawn pursuant to Section 3.7. Any unused deposit amounts of withdrawn Interconnection Requests shall be returned pursuant to Section 3.7. If an Interconnection Customer elects to continue with a Transitional Serial Interconnection Facilities Study or a Transitional Cluster Study as described below, Transmission Provider shall retain the current study deposits, and Interconnection Customer shall be responsible for the entire cost of all studies pursuant to Sections 4.2.3 and 12.3.

5.1.1.1 Transitional Serial Projects.

An Interconnection Customer that has a) a final System Impact Study Report that identifies facilities required to feasibly interconnect and b) an Interconnection Facilities Study Agreement that was executed prior to September 27, 2019, may opt to continue with the Interconnection Facilities Study process if the Interconnection Customer: (1) meets each of the following requirements that demonstrate readiness; and (2) executes a Transitional Serial Interconnection Facilities Study Agreement in the form of Appendix 4 to the Revised LGIP within thirty (30) Calendar Days of the Effective Date of this Revised LGIP. All of the following are required:

- a) A deposit on the Transmission Provider's Interconnection Facilities and Network Upgrades identified in the System Impact Study Report. The deposit shall be equal to one hundred percent (100%) of the costs identified for Transmission Provider's Interconnection Facilities and Network Upgrades in the System Impact Study Report and will be reconciled to actual costs after the associated facilities are in-service. If the Interconnection Customer does not withdraw, the deposit shall be reconciled with and applied towards future construction costs described in the LGIA. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, the deposit is fully refundable once the final invoice for study costs and Withdrawal Penalty is settled. The deposit shall be in the form of an irrevocable letter of credit upon which the Transmission Provider may draw

Proposed Effective Date: 12/5/2019

or cash where cash deposits will be treated according to Section 7.7.5.

- b) Exclusive Site Control for the entire Generating Facility and any Interconnection Customer's Interconnection Facilities.
- c) Interconnection Customer shall provide one following:
 - i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years, or
 - ii. Reasonable evidence that the Generating Facility is included in an approved Resource Plan or Resource Solicitation Process, or
 - iii. An executed Provisional Large Generator Interconnection Agreement filed with FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

All LGIA negotiations shall be completed and the LGIA executed (or filed unexecuted) within sixty (60) Calendar Days of the publication of the final Interconnection Facilities Study Report or the Interconnection Request shall be deemed withdrawn pursuant to Section 3.7 unless extended by mutual agreement of Transmission Provider and Interconnection Customer. A change in the Commercial Operation Date shall not delay the construction of facilities if such delay negatively affects lower or equal queued projects. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, a Withdrawal Penalty equal to nine (9) times the Interconnection customer's total study cost is imposed.

5.1.1.2 Combined System Impact and Interconnection Facilities Transitional Cluster Study.

An Interconnection Customer with an assigned Queue Position prior to September 27, 2019, may opt to enter the combined system impact and interconnection facilities transitional cluster study ("Transitional Cluster Study") if the Interconnection Customer: (1) meets each of the following requirements that demonstrate readiness; and (2) executes a Transitional Cluster Study Agreement in the form of

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Appendix 5.1 to the Revised LGIP within thirty (30) Calendar Days of the Effective Date of this Revised LGIP. All Interconnection Requests that enter the Transitional Cluster Study shall be considered to have an equal Queue Position, and identified upgrade costs shall be allocated according to Section 4.2.4 of the Revised LGIP. The Transitional Cluster Study costs shall be allocated according to the method described in Section 4.2.3. Interconnection Customer may make a one-time extension to its requested Commercial Operation date upon entry into the Transitional Cluster Study and such an extension shall not be past 2023.

All of the following are required:

- a) Choice of requesting either ERIS or NRIS
- b) A deposit on the Transmission Provider's Interconnection Facilities and Network Upgrades expected to be identified in the Transitional Cluster Study. The deposit shall be equal to five million dollars (\$5,000,000) and be in the form of an irrevocable letter of credit upon which the Transmission Provider may draw or cash where cash deposits will be treated according to Section 7.7.5. If the Interconnection Customer does not withdraw, the deposit shall be reconciled with and applied towards future construction costs described in the LGIA. Any amounts in excess of the actual construction costs shall be returned to the customer. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, the deposit is fully refundable once the final invoice for study costs and Withdrawal Penalty is settled.
- c) Exclusive Site Control for the entire Generating Facility.
- d) Interconnection Customer shall provide one following:
 - i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years, or
 - ii. Reasonable evidence that the Generating Facility is included in an approved Resource Plan or Resource Solicitation Process, or

Proposed Effective Date: 12/5/2019

- iii. An executed Provisional Large Generator Interconnection Agreement filed with FERC that is not in suspension with 1) a commitment to construct the facility, 2) a Commercial Operation Date no later than 2023 and 3) a security deposit in addition to the five million dollars identified in 5.1.1.2.a where the total security deposit represents a reasonable estimation of the potential costs that could be ultimately allocated to the project in the transitional cluster study.

After the Transitional Cluster Study report is published, the remaining process shall proceed according to Section 10 of this Revised LGIP. All LGIA negotiations shall be completed and the LGIA executed (or filed unexecuted) within sixty (60) Calendar Days of the tender of the draft LGIA or the Interconnection Request is deemed withdrawn unless extended by mutual agreement of Transmission Provider and Interconnection Customer. A change in the Commercial Operation Date shall not delay the construction of Transmission Provider's Interconnection Facilities or Network Upgrades if such delay negatively affects lower or equal queued projects.

If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, a Withdrawal Penalty equal to nine (9) times the Interconnection customer's total study cost is imposed.

5.2 New Transmission Provider.

If Transmission Provider transfers control of its Transmission System to a successor Transmission Provider during the period when an Interconnection Request is pending, the original Transmission Provider shall transfer to the successor Transmission Provider any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by this Revised LGIP shall be paid by or refunded to the Interconnection Customer, as appropriate. The original Transmission Provider shall coordinate with the successor Transmission Provider to complete any Interconnection Study, as appropriate, that the original Transmission Provider has begun but has not completed.

If original Transmission Provider has tendered a draft LGIA to Interconnection Customer, but Interconnection Customer has not either executed the LGIA or requested the filing of an unexecuted LGIA with FERC, unless otherwise provided, Interconnection Customer must complete negotiations with the successor Transmission Provider.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Section 6. Informational Interconnection Study.

6.1 Informational Interconnection Study Agreement.

At any time, a customer may request, and Transmission Provider (either itself or through a consultant) shall perform a reasonable number of Informational Interconnection Studies. Provisional Interconnection Service maybe requested based on the results of the Informational Interconnection Study. Interconnection Customer shall submit a separate Informational Interconnection Request for each site and may submit multiple Informational Interconnection Requests for a single site. Interconnection Customer must submit a deposit with each Informational Interconnection Request even when more than one request is submitted for a single site. An Informational Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Informational Interconnection Requests. The request shall use the form in Appendix 5.4 of the Revised LGIP and shall describe the assumptions that Interconnection Customer wishes Transmission Provider to study within the scope described in Section 6.2 of the Revised LGIP below. Within five (5) Business Days after receipt of a request for an Informational Interconnection Study, Transmission Provider shall provide to Interconnection Customer an Informational Interconnection Study Agreement in the form of Appendix 5.5.

The Informational Interconnection Study Agreement shall: (i) include the scope of work for the Informational Interconnection Study (ii) specify the technical data that Interconnection Customer must provide, (iii) specify the Informational Interconnection Study case and assumptions, and (iv) identify the Transmission Provider's estimate of the cost of the Informational Interconnection Study. To the extent known by Transmission Provider, such estimate shall include any costs expected to be incurred by any Affected System whose participation is necessary to complete the Informational Interconnection Study. Notwithstanding the above, Transmission Provider shall not be required as a result of an Informational Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request.

Interconnection Customer shall execute the Informational Interconnection Study Agreement within ten (10) Business Days of receipt of an agreed upon scope of work and deliver the Informational Interconnection Study Agreement, the technical data, and a \$10,000 deposit to Transmission Provider.

6.2 Scope of Informational Interconnection Study.

The intent of the Informational Interconnection Study is to aid Interconnection Customer in its business decisions related to interconnection of generation facilities prior to entering the Definitive Interconnection Process. The Informational Interconnection Study shall consist of analysis based on the assumptions and scope of work specified by Interconnection Customer in the Informational Interconnection Study Agreement. The Informational Interconnection Study shall identify the potential Transmission Provider's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Service based upon the results and assumptions of the Informational Interconnection Study. The Informational Interconnection Study shall be performed solely for informational purposes. Transmission Provider shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. Transmission Provider shall utilize existing studies to the extent practicable in conducting the Informational Interconnection Study.

6.3 Informational Interconnection Study Procedures.

The executed Informational Interconnection Study Agreement, the deposit, and technical and other data called for therein must be provided to Transmission Provider within ten (10) Business Days of Interconnection Customer receipt of the Informational Interconnection Study Agreement. Transmission Provider shall use Reasonable Efforts to complete the Informational Interconnection Study within a mutually agreed upon time period specified within the Informational Interconnection Study Agreement. If Transmission Provider is unable to complete the Informational Interconnection Study within such time period, it shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Any difference between the study payment and the actual cost of the study shall be paid to Transmission Provider or refunded to Interconnection Customer, as appropriate. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation and work papers and databases or data developed in the preparation of the Informational Interconnection Study, subject to confidentiality arrangements consistent with Section 12.1.

Section 7. Phase 1 through 3 of the Definitive Interconnection Study Process.

7.1 Definitive Interconnection System Impact Study Agreement.

Unless otherwise agreed, pursuant to the Scoping Meeting provided for in Section 3.4.4, within thirty (30) Calendar Days acknowledgement of a valid Interconnection Request indicating that a Definitive Interconnection System Impact Study is to be performed, Transmission Provider shall provide to Interconnection Customer a DISIS Agreement in the form of Appendix 2 to this Revised LGIP. The DISIS Agreement shall provide that Interconnection Customer shall compensate Transmission Provider for the actual cost of the DISIS. At least seven (7) Calendar Days before the close of a Customer Engagement Window, Transmission Provider shall provide to Interconnection Customer a non-binding updated good faith estimate of the cost and timeframe for completing the Definitive Interconnection System Impact Study.

7.2 Execution of Definitive Interconnection System Impact Study Agreement.

Interconnection Customer shall execute the DISIS Agreement and deliver the executed DISIS Agreement to Transmission Provider no later than the close of the Customer Engagement Window.

7.3 Scope of Definitive Interconnection System Impact Study.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

The Definitive Interconnection System Impact Study shall evaluate the impact of the proposed interconnection on the reliability of the Transmission System. The Definitive Interconnection System Impact Study will consider the Base Case as well as all generating facilities (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued requests) that, on the date the DISIS Request Window closes: (i) are existing and directly interconnected to the Transmission System; (ii) are existing and interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System; and (iv) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC. Generating facilities with pending higher or equal queued NRIS requests, or requests associated with Firm Transmission Service shall generally be modeled at full output while existing generation may be re-dispatched to accommodate new requests in the model. Higher queued ERIS requests or in-service ERIS generators without associated Firm Transmission Service may be dispatched at zero in some study models. If the total requests for NRIS in a Cluster exceeds or otherwise cannot be sunk to the Network Load projected in the Base Case, such exceedance shall be assumed to be delivered outside of the Transmission System. In-service generation in the study model may be re-dispatched in the DISIS, but generally will not be studied at less than its minimum operating limit unless the generation owner agrees the Generating Facility should be modeled as if retired. Existing generation dispatch will be used, for instance, to maintain reliability and stress the system as appropriate.

As discussed in more detail in Section 7.4 below, the Definitive Interconnection System Impact Study is a phased study where the first phase (Phase 1) consists of a power flow and voltage analysis that is followed by a phase (Phase 2) that consists of a short circuit analysis and a stability analysis. Any DISIS re-studies (Phase 3) shall consist of a power flow/voltage analysis, a short circuit analysis, and/or a stability analysis as needed. The Definitive Interconnection System Impact Study report will state the assumptions upon which it is based; state the results of the analyses; and provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Definitive Interconnection System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. The Definitive Interconnection System Impact Study will provide a list of facilities that are required as a result of the Interconnection Request and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.

7.4 Definitive Interconnection System Impact Study Procedures.

Transmission Provider shall coordinate the Definitive Interconnection System Impact Study with any Affected System that is affected by the Interconnection

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Request pursuant to Section 3.6 above. Transmission Provider shall utilize existing studies to the extent practicable when it performs the DISIS. Interconnection Requests for DISIS may be submitted only within the DISIS Request Window and Transmission Provider shall initiate the Definitive Interconnection Study Process pursuant to Section 4.2.1.

The diagrams attached as Appendix A-2 provides an overview and timeline of the Definitive Interconnection Study Process, including the Phases and milestones associated with the Definitive Interconnection System Impact Study.

- a. The DISIS Cluster shall consist of all eligible Interconnection Requests that have executed a DISIS Agreement and have provided all required information before the close of the Customer Engagement Window. Transmission Provider shall use Reasonable Efforts to complete the first phase (Phase 1) consisting of a power flow and voltage analysis within ninety (90) Calendar Days. The Phase 1 Report shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades that are expected to be required as a result of the Interconnection Request(s) and a non-binding good-faith indicative level estimate of cost responsibility and a non-binding good-faith estimated time to construct. Transmission Provider shall hold an open stakeholder meeting ("Phase 1 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 1 results on OASIS.
- b. Within twenty (20) Calendar Days of the Phase 1 Report Meeting, all Interconnection Customers are required to provide Readiness Milestone 2 ("M2") and continued evidence of Site Control as described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.
- c. Interconnection Customers whose M2 and Site Control are accepted by Transmission Provider shall continue in to the second phase ("Phase 2") of the Definitive Interconnection System Impact Study. Phase 2 consists of an updated power flow/voltage analysis (if necessary), stability analysis and short circuit analysis for the Interconnection Customers remaining in the DISIS Cluster. Transmission Provider shall use Reasonable Efforts to complete the Phase 2 analysis within one hundred fifty (150) Calendar Days. The results of this analysis shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades expected to be required to reliably interconnect the Generating Facilities in that DISIS Cluster at the requested Interconnection Service level and shall provide non-binding estimates for required upgrades. The Phase 2 Report shall identify each Interconnection Customer's estimated allocated costs for Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades. Transmission Provider shall hold an open

Proposed Effective Date: 12/5/2019

Approved Effective Date:

stakeholder meeting ("Phase 2 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 2 results on OASIS.

- d. Within twenty (20) Calendar Days of the Phase 2 Report Meeting, each Interconnection Customer is required to provide Readiness Milestone 3 ("M3") and additional evidence of Site Control described in Section 7.7.7. Milestones for the Definitive Interconnection Study Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.
 - i. If all Interconnection Customers in the Cluster provide M3 and no Interconnection Customers withdraw from the Queue at this stage, the Definitive Interconnection Study Process advances to the Interconnection Facilities Study (Section 7.4.g). Transmission Provider shall electronically notify Interconnection Customers in the Cluster that Phase 3 is not required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.
 - ii. If one or more Interconnection Customer withdraws from the Cluster, Transmission Provider shall determine if a full system impact re-study is necessary. If Transmission Provider determines a re-study is not necessary and Phase 3 is not required, Transmission Provider shall provide an updated Phase 2 Report within thirty (30) Calendar Days of such determination and the Definitive Interconnection Study Process advances to the Interconnection Facilities Study (Section 7.4.g). When the updated Phase 2 report is issued, Transmission Provider shall electronically notify Interconnection Customers in the Cluster that Phase 3 is not required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.
 - iii. If one or more Interconnection Customers withdraws from the Cluster and Transmission Provider determines a full system impact re-study is necessary, Transmission Provider will continue with System Impact re-studies ("Phase 3") as described in Section 7.4.e below, until Transmission Provider determines that no further re-studies are required. If a customer withdraws after Section 7.4.d.i or Section 7.4.d.ii or during the Interconnection Facilities Study and Transmission Provider determines system impact level studies are necessary, the Cluster shall be restudied under the terms of Phase 3. Transmission Provider shall electronically notify Interconnection Customers in the Cluster and post on OASIS that a re-study is required. Interconnection Customers that have elected NRIS may make a onetime change between Phase 2 and Phase 3 (before the re-study starts) to ERIS if they notify Transmission Provider of such change in election within five (5) Business Days of the Transmission Provider's notification the first re-study is required.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- e. Interconnection Customers whose M3 and additional evidence of Site Control is accepted by Transmission Provider shall continue with the third phase ("Phase 3") of the Definitive Interconnection System Impact Study. Phase 3 may consist of updated power flow/voltage analysis, stability analysis, and/or short circuit analysis if necessary for the Interconnection Customers remaining in the Cluster. Transmission Provider shall use Reasonable Efforts to complete the Phase 3 analysis within one hundred fifty (150) Calendar Days. The results of this analysis shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades expected to be required to reliably interconnect the Generating Facilities in that Cluster at the requested Interconnection Service level and shall provide non-binding estimates for required upgrades. The Phase 3 Report shall identify each Interconnection Customer's estimated allocated costs for Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades. Transmission Provider shall hold an open stakeholder meeting ("Phase 3 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 3 results on OASIS. If additional re-studies are required before moving to Phase 4 below, within twenty (20) Calendar Days of the Phase 3 Report Meeting (or Phase 3 Updated Report Meeting), all Interconnection Customers are required to provide an updated Readiness Milestone 3 ("M3"). Readiness Milestones for the Definitive Interconnection Study Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7. Transmission Provider shall electronically notify Interconnection Customers in the Cluster when no further re-studies are required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.
- f. Within twenty (20) Calendar Days of the notice that no System Impact re-studies are needed, each Interconnection Customer is required to provide Readiness Milestone 4 ("M4"), Site Control requirements described in Section 7.7.7, and an executed Interconnection Facilities Agreement in the form of Appendix 3 (completed and including all required data identified therein). Readiness Milestones for the Definitive Interconnection System Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.
- g. Twenty (20) Calendar Days after the notice that no further Re-Studies are needed, Transmission Provider shall proceed with the Interconnection Facilities Study phase ("Phase 4") of the Definitive Study Process, described in detail in Section 8 below. An additional study deposit is not required for Phase 4.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

At the request of Interconnection Customer or at any time Transmission Provider determines that it will not meet the indicated timeframe for completing the DISIS, Transmission Provider shall notify Interconnection Customer(s) as to the schedule status of the DISIS Cluster. If Transmission Provider is unable to complete the DISIS within the time period, it shall notify Interconnection Customer(s) and provide an estimated completion date with an explanation of the reasons why additional time is required.

Upon request, Transmission Provider shall provide Interconnection Customer all supporting documentation, workpapers, and relevant pre-Interconnection Request and post-Interconnection Request power flow, short circuit and stability databases for the DISIS, subject to confidentiality arrangements consistent with Section 12.1.

7.5 Meeting with Transmission Provider.

Within ten (10) Business Days of furnishing a DISIS study report to Interconnection Customer and posting the report on OASIS, Transmission Provider shall convene an open meeting to discuss the study results. Transmission Provider shall, upon request, also make itself available to meet with individual Interconnection Customers after the study report is provided.

7.6 Re-Study.

If Re-Study of the Definitive Interconnection System Impact Study other than the re-study described above in 7.4.e is required due to a higher or equal priority queued project dropping out of the Queue, or a modification of a higher queued project subject to Section 4.4, Transmission Provider shall notify Interconnection Customer(s) in writing. The Transmission Provider shall make Reasonable Efforts to ensure such Re-Study take no longer than one hundred fifty (150) Calendar Days from the date of notice. Any cost of Re-Study shall be borne by Interconnection Customer(s) being re-studied.

7.7 Readiness Milestones and Site Control.

Readiness Milestones are required throughout the Definitive Interconnection Study Process to demonstrate readiness. A customer that does not sufficiently demonstrate readiness by providing a Readiness Milestones is subject to withdrawal as described in Section 3.7 which may include additional penalties.

There are three Readiness Milestone options that demonstrate readiness through the study process (i.e. for Readiness Milestones 1 (M1) through Readiness Milestones 4 (M4).

7.7.1 Readiness Milestone 1 ("M1").

M1 is satisfied by any one of the three options below (also described in 3.4.1.f) at Interconnection Customer's option. M1 may also be satisfied by providing additional security described in Section 7.7.5 below *in lieu* of providing one of the three options to demonstrate readiness.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- a) Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.
- b) Reasonable evidence the project has been selected in a Resource Plan or Resource Solicitation Process; or
- c) Provisional Large Generator Interconnection Agreement accepted for filing at FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

7.7.2 Readiness Milestone 2 ("M2").

M2 is satisfied by any one of the three options below at Interconnection Customer's option. M2 may also be satisfied by providing additional security as described in Section 7.7.5 *in lieu* of providing one of the three options to demonstrate readiness.

- a) Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.
- b) Reasonable evidence that the project has been selected in a Resource Plan or Resource Solicitation Process; or
- c) Provisional Large Generator Interconnection Agreement accepted for filing at FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

7.7.3 Readiness Milestone 3 ("M3").

M3 is satisfied by any one of the three options below at Interconnection Customer's option. M3 may also be satisfied by providing additional security described in Section 7.7.5 *in lieu* of providing one of the three options to demonstrate readiness.

- a) Executed contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- b) Reasonable evidence that the project has been selected in an approved Resource Plan or Resource Solicitation Process; or
- c) An unsuspended Provisional Large Generator Interconnection Agreement accepted for filing by FERC with reasonable evidence that the Generating Facility and Interconnection Facilities have commenced design and engineering.

7.7.4 Readiness Milestone 4 (“M4”).

M4 is satisfied by any one of the three options below at Interconnection Customer's option. M4 may also be satisfied by providing additional security as described in Section 7.7.5 below *in lieu* of providing one of the three options to demonstrate readiness.

- a) Executed contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services and capacity if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;
- b) Reasonable evidence that the project has been selected in an approved Resource Plan or Resource Solicitation Process; or
- c) An unsuspended Provisional Large Generator Interconnection Agreement accepted for filing by FERC with reasonable evidence that the Generating Facility and Interconnection Facilities have commenced construction.

7.7.5 Security Requirements.

A table showing the security required in each milestone is provided in Appendix A-2. The security amount is dependent on if the customer provided a Readiness Milestone and the study phase the customer is entering. All security described below shall be in the form of an irrevocable letter of credit upon which Transmission Provider may draw or cash. If cash is provided as security, it shall be held in an interest bearing account. The security is refunded to the Interconnection Customer upon withdrawal, LGIA termination, or Commercial Operation after any final invoice is settled. If cash is provided as security, it shall be refunded plus interest, where the interest is calculated using the interest rate of the account in which it was held. Security may be drawn upon if costs under this LGIP including the LGIA remain unpaid as per this Revised LGIP and the attached LGIA.

As part of a valid interconnection request all Interconnection Customers must provide security equal to the study deposit amount as

Proposed Effective Date: 12/5/2019

Approved Effective Date:

described in Section 3.4.1.h. The security provided in Section 3.1.4.h will be applied towards the amount of security required for M5.

An Interconnection Customer may opt to provide security *in lieu* of providing Readiness Milestones 1 through 4, as described above in Sections 7.7.1, 7.7.2, 7.7.3, and 7.7.4. The security provided is applied towards the security amount required for each successive milestone if the Interconnection Customer does not withdraw from the queue. For example, the security provided for M2 is applied to the amount of security required for M3.

In lieu of providing a demonstration of readiness for Milestones 1 through 4, the amount of security required is a multiple of the study deposit described in Section 3.1 and is in addition to the security required for all Interconnection Customers under Sections 3.4.1.h. The additional amount of security required for each milestone for Interconnection Customers that do not provide a demonstration of readiness is:

M1 = 1 times the study deposit amount

M2 = 2 times the study deposit amount

M3 = 4 times the study deposit amount

M4 = 6 times the study deposit amount

For clarity, the total (i.e. inclusive of the security required under Section 3.4.1.h) amount of security required for each milestone for Interconnection Customers that do not provide a demonstration of readiness is:

M1 = 2 times the study deposit amount

M2 = 3 times the study deposit amount

M3 = 5 times the study deposit amount

M4 = 7 times the study deposit amount

All Interconnection Customers are required to provide security in order to satisfy Readiness Milestone 5 (M5) when the LGIA is executed as described in Section 10.3. The amount of security required for M5 is equal to nine (9) times the Interconnection Customer's share of the Definitive Interconnection Study Process study costs. If this amount is not known, the study deposit amount shall be used as an estimate of study cost until such amounts are known. If initially estimated, M5 shall be updated when the final invoice for actual study costs is issued. As this M5 amount is the total security required to satisfy

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Readiness Milestone 5, any security provided pursuant to Sections 3.4.1.h, 7.7.5.a, 7.7.5.b, 7.7.1, 7.7.2, 7.7.3, and 7.7.4 shall be applied towards the Readiness Milestone 5 amount when the LGIA is executed. The Interconnection Customer shall only be responsible to provide the incremental amount of security to the Transmission Provider and any excess security provided shall be refunded to the Interconnection Customer. Transmission Provider shall refund all security provided under this section to the Interconnection Customer upon achieving Commercial Operation.

7.7.7 Site Control.

In addition to the above Readiness Milestones, Site Control is required to determine increased readiness through the Definitive Interconnection Study Process. Additional information on Site Control is posted on Transmission Provider's OASIS.

- a) Before entering Phase 1 (concurrent with M1) demonstration of 50% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- b) Before entering Phase 2 (concurrent with M2): continued demonstration of 50% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- c) Before entering Phase 3 (concurrent with M3): demonstration of 60% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- d) Before entering Phase 4 (concurrent with M4): demonstration of 75% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- e) Before executing an LGIA (concurrent with M5): demonstration of 90% Site Control and 50% Site Control of Interconnection Customer's Interconnection Facilities is required.

Section 8. Interconnection Facilities Study.

8.1 Interconnection Facilities Study Agreement.

Simultaneously with the notice to Interconnection Customer(s) that Phase 3 is complete or not required, Transmission Provider shall provide to Interconnection Customer an Interconnection Facilities Study Agreement in the form of Appendix 3 to this Revised LGIP. Within five (5) Business Days following the open DISIS results (Phase 2 or Phase 3) meeting, Transmission Provider shall provide to Interconnection Customer a non-binding good faith estimate of the cost and timeframe for completing the Interconnection Facilities Study. The Interconnection Facilities Study Agreement shall provide that Interconnection

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Customer shall compensate Transmission Provider for the actual cost of the Interconnection Facilities Study. Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to Transmission Provider within twenty (20) Calendar Days after its receipt, together with the required technical data, Readiness Milestone 4 and the Site Control requirements described in Section 7.7.7. Interconnection Customers that do not provide the Readiness Milestone (or additional security *in lieu* of the Readiness Milestone) and provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.

8.2 Scope of Interconnection Facilities Study.

The Interconnection Facilities Study shall specify and provide a non-binding estimate of the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the final Phase 2 or Phase 3 Report (as appropriate) in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facilities to the Transmission System. The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Transmission Provider's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities.

The Interconnection Facilities Study will also identify any potential control equipment for requests for Interconnection Service that are lower than the Generating Facility Capacity.

8.3 Interconnection Facilities Study Procedures.

- a. Transmission Provider shall coordinate the Interconnection Facilities Study with any Affected System pursuant to Section 3.6 above. Transmission Provider shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. Transmission Provider shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to Interconnection Customer within ninety (90) Calendar Days after acceptance of the Interconnection Facilities Agreement and Readiness Milestone 4.
- b. At the request of Interconnection Customer Transmission Provider shall notify Interconnection Customer as to the schedule status of the Interconnection Facilities Study. If Transmission Provider is unable to complete the Interconnection Facilities Study and issue a draft Interconnection Facilities Study report within the time identified, it shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- c. Interconnection Customer may, within thirty (30) Calendar Days after receipt of the draft Interconnection Facilities Study report, provide written comments to Transmission Provider, which Transmission Provider shall consider in completing the final Interconnection Facilities Study report. Transmission Provider shall issue the final Interconnection Facilities Study report within fifteen (15) Business Days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. Transmission Provider may reasonably extend such fifteen (15) Business Day period upon notice to Interconnection Customer if Interconnection Customer's comments require Transmission Provider to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Study report. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation, workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 12.1.

8.4 Meeting with Transmission Provider.

Within ten (10) Business Days of providing a draft Interconnection Facilities Study report to Interconnection Customer, Transmission Provider and Interconnection Customer shall meet to discuss the results of the Interconnection Facilities Study.

8.5 Re-Study.

If Re-Study of the Interconnection Facilities Study is required due to a higher or equal priority queued project dropping out of the Queue or a modification of a higher queued project pursuant to Section 4.4, Transmission Provider shall so notify Interconnection Customer in writing. The Transmission Provider shall make Reasonable Efforts to ensure such Re-Study take no longer than sixty (60) Calendar Days from the date of notice. Re-Studies that require rerunning the system impact study analysis may take longer than sixty days. Any cost of Re-Study shall be borne by the Interconnection Customer(s) being re-studied.

Section 9. Engineering & Procurement ("E&P") Agreement.

Prior to executing an LGIA, an Interconnection Customer may, in order to advance the implementation of its interconnection, request and Transmission Provider shall offer the Interconnection Customer, an E&P Agreement that authorizes Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, Transmission Provider shall not be obligated to offer an E&P Agreement if Interconnection Customer is in Dispute Resolution as a result of an allegation that Interconnection Customer has failed to meet any Readiness Milestones or comply with any prerequisites specified in other parts of the Revised LGIP. The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Queue Position or In-Service Date. The E&P Agreement shall provide for Interconnection Customer to pay the cost of all activities authorized

Proposed Effective Date: 12/5/2019

Approved Effective Date:

by Interconnection Customer and to make advance payments or provide other satisfactory security for such costs.

Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If Interconnection Customer withdraws its application for interconnection or either Party terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, Transmission Provider may elect: (i) to take title to the equipment, in which event Transmission Provider shall refund Interconnection Customer any amounts paid by Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to Interconnection Customer, in which event Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

Section 10. Standard Large Generator Interconnection Agreement (LGIA).

10.1 Tender.

Interconnection Customer shall tender comments on the draft Interconnection Facilities Study Report within thirty (30) Calendar Days of receipt of the report. Within thirty (30) Calendar Days after the comments are submitted or after the Interconnection Customer notifies Transmission Provider that it will provide no comments, Transmission Provider shall tender a draft LGIA, together with draft appendices. The draft LGIA shall be in the form of Transmission Provider's FERC-approved standard form LGIA, which is in Appendix 6. Interconnection Customer shall return the completed draft appendices and execute the LGIA within thirty (30) Calendar Days unless the sixty (60) Calendar Day negotiation period under Section 10.2 has commenced.

10.2 Negotiation.

Notwithstanding Section 10.1, at the request of Interconnection Customer, Transmission Provider shall begin negotiations with Interconnection Customer concerning the appendices to the LGIA at any time after Interconnection Customer executes the Interconnection Facilities Study Agreement. Transmission Provider and Interconnection Customer shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender of the final Interconnection Facilities Study Report. If Interconnection Customer determines that negotiations are at an impasse, Interconnection Customer may request termination of the negotiations at any time after tender of the draft LGIA pursuant to Section 10.1 and request submission of the unexecuted LGIA with FERC or initiate Dispute Resolution procedures pursuant to Section 12.5. If Interconnection Customer requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Interconnection Request.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Unless otherwise agreed by the Parties, if Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute

Resolution procedures pursuant to Section 12.5 within sixty (60) Calendar Days of tender of draft LGIA, it shall be deemed to have withdrawn its Interconnection Request. Transmission Provider shall provide to Interconnection Customer a final LGIA within fifteen (15) Business Days after the completion of the negotiation process.

10.3 Execution and Filing.

Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer shall (a) provide reasonable evidence that continued Site Control as defined in Section 7.7.7 and (b) post Readiness Milestone 5 (security equal to nine (9) times that Interconnection Customer's share of the Definitive Interconnection Study Process study costs. If the actual study costs are not known at the time, study costs shall be estimated as the study deposit described in Section 3.1, and the M5 amount shall be updated when the study costs are known. If the Interconnection Customer does not reach Commercial Operation, upon payment of any final invoice, including any Withdrawal Penalty, Readiness Milestone 5 shall be refunded to the Interconnection Customer, including any accumulated interest, if applicable. If the Interconnection Customer reaches Commercial Operation, Readiness Milestone 5 is refunded to the Interconnection Customer including any accumulated interest, if applicable. Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer also shall provide reasonable evidence that one or more of the following milestones in the development of the Large Generating Facility, at Interconnection Customer election, has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Large Generating Facility (not available for wind or solar resources); (ii) the execution of a contract for the supply of cooling water to the Large Generating Facility (not available for wind or solar resources); (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Large Generating Facility; (iv) execution of a contract (or comparable evidence) for the sale of electric energy or capacity from the Large Generating Facility; or (v) application for an air, water, or land use permit.

Interconnection Customer shall either: (i) execute two originals of the tendered LGIA and return them to Transmission Provider; or (ii) request in writing that Transmission Provider file with FERC an LGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of the tendered LGIA (if it does not conform with a FERC-approved standard form of interconnection agreement) or the request to file an unexecuted LGIA, Transmission Provider shall file the LGIA with FERC, together with its explanation of any matters as to which Interconnection Customer and Transmission Provider disagree and support for the costs that Transmission Provider proposes to charge to Interconnection Customer under the LGIA. An unexecuted LGIA should contain terms and conditions deemed appropriate by Transmission Provider for the Interconnection Request. If the Parties agree to

Proposed Effective Date: 12/5/2019

Approved Effective Date:

proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted LGIA, they may proceed pending FERC action.

10.4 Commencement of Interconnection Activities.

If Interconnection Customer executes the final LGIA, Transmission Provider and Interconnection Customer shall perform their respective obligations in accordance with the terms of the LGIA, subject to modification by FERC. Upon submission of an unexecuted LGIA, Interconnection Customer and Transmission Provider shall promptly comply with the unexecuted LGIA, subject to modification by FERC.

Section 11. Construction of Transmission Provider's Interconnection Facilities and Network Upgrades.

11.1 Schedule.

Transmission Provider and Interconnection Customer shall negotiate in good faith concerning a schedule for the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades.

11.2 Construction Sequencing.

11.2.1 General.

In general, the In-Service Date of an Interconnection Customers seeking interconnection to the Transmission System will determine the sequence of construction of Network Upgrades. Construction Sequencing may also apply to shared Transmission Provider's Interconnection Facilities in a similar manner as described below for Network Upgrades.

11.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: (i) were assumed in the Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such In-Service Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than Interconnection Customer that is seeking interconnection to the Transmission System, in time to support such In-Service Date. Upon such request, Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Provider: (i) any associated expediting costs; and (ii) the cost of such Network Upgrades.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Transmission Provider will refund to Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the LGIA. Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that Transmission Provider has not refunded to Interconnection Customer. Payment by that entity shall be due on the date that it would have been due had there been no request for advance construction. Transmission Provider shall forward to Interconnection Customer the amount paid by the entity with a contractual obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to Interconnection Customer. Transmission Provider then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the LGIA.

11.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of the Transmission Provider.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: (i) are necessary to support such In-Service Date; and (ii) would otherwise not be completed, pursuant to an expansion plan of Transmission Provider, in time to support such In-Service Date. Upon such request, Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Provider any associated expediting costs. Interconnection Customer shall be entitled to transmission credits, if any, for any expediting costs paid.

11.2.4 Amended Definitive Interconnection System Impact Study.

A Definitive Interconnection System Impact Study may be amended to determine the facilities necessary to support the requested In-Service Date. This amended study will include those transmission and Large Generating Facilities that are expected to be in service on or before the requested In-Service Date.

Section 12. Miscellaneous.

12.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of an LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is

Proposed Effective Date: 12/5/2019

Approved Effective Date:

conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

12.1.1 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the LGIA; or (6) is required, in accordance with Section 12.1.6, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the LGIA

Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

12.1.2 Release of Confidential Information.

Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 12.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 12.1.

12.1.3 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The

Proposed Effective Date: 12/5/2019

Approved Effective Date:

disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

12.1.4 No Warranties.

By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

12.1.5 Standard of Care.

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under these procedures or its regulatory requirements.

12.1.6 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of the LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

12.1.7 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Section 12.1. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Section 12.1, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Section 12.1, but shall be in addition to all other remedies available at law or in equity. The Parties further

Proposed Effective Date: 12/5/2019

Approved Effective Date:

acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 12.1.

12.1.8 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Section 12.1 to the contrary, and pursuant to 18 CFR Section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to the Revised LGIP, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR Section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR Section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations.

12.1.9 Subject to the exception in Section 12.1.8, any information that a Party claims is competitively sensitive, commercial or financial information (“Confidential Information”) shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this Revised LGIP or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a subregional, regional or national reliability organization or planning group. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from

Proposed Effective Date: 12/5/2019

Approved Effective Date:

public disclosure by confidentiality agreement, protective order or other reasonable measures.

- 12.1.10** This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a Breach of this provision).

Transmission Provider shall, at Interconnection Customer's election, destroy, in a confidential manner, or return the Confidential Information provided at the time of Confidential Information is no longer needed.

12.2 Delegation of Responsibility.

Transmission Provider may use the services of subcontractors as it deems appropriate to perform its obligations under this Revised LGIP. Transmission Provider shall remain primarily liable to Interconnection Customer for the performance of such subcontractors and compliance with its obligations of this Revised LGIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and no other purpose.

12.3 Obligation for Study Costs and Withdrawal Penalty

Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Studies and the Withdrawal Penalty, as applicable. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded, except as otherwise provided herein. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study as well as the Withdrawal Penalty, if applicable. Interconnection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice. Transmission Provider shall not be obligated to perform or continue to perform any studies unless Interconnection Customer has paid all undisputed amounts in compliance herewith. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided under this Revised LGIP to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

12.4 Third Parties Conducting Studies.

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) Interconnection Customer receives notice pursuant to Sections 7.4 or 8.3 that Transmission Provider will not complete an Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) Interconnection Customer receives neither the Interconnection Study nor a notice under Sections 7.4 or 8.3 within the applicable timeframe for such Interconnection Study, then Interconnection Customer may require Transmission Provider to utilize a third

Proposed Effective Date: 12/5/2019

Approved Effective Date:

party consultant reasonably acceptable to Interconnection Customer and Transmission Provider to perform such Interconnection Study under the direction of Transmission Provider. At other times, Transmission Provider may also utilize a third party consultant to perform such Interconnection Study, either in response to a general request of Interconnection Customer, or on its own volition.

In all cases, use of a third party consultant shall be in accord with Article 26 of the LGIA (Subcontractors) and limited to situations where Transmission Provider determines that doing so will help maintain or accelerate the study process for Interconnection Customer's pending Interconnection Request and not interfere with Transmission Provider's progress on Interconnection Studies for other pending Interconnection Requests. In cases where Interconnection Customer requests use of a third party consultant to perform such Interconnection Study, Interconnection Customer and Transmission Provider shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. Transmission Provider shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as practicable upon Interconnection Customer's request subject to the confidentiality provision in Section 12.1. In any case, such third party contract may be entered into with either Interconnection Customer or Transmission Provider at Transmission Provider's discretion. In the case of clause (iii), above, Interconnection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such third party study. Such third party consultant shall be required to comply with this Revised LGIP, Article 26 of the LGIA (Subcontractors), and the relevant Tariff procedures and protocols as would apply if Transmission Provider were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes. Transmission Provider shall cooperate with such third party consultant and Interconnection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

12.5 Disputes.

12.5.1 Submission.

In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with the LGIA, the Revised LGIP, or their performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

12.5.2 External Arbitration Procedures.

Any arbitration initiated under these procedures shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Section 12, the terms of this Section 12 shall prevail.

12.5.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the LGIA and Revised LGIP and shall have no power to modify or change any provision of the LGIA and Revised LGIP in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

12.5.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one-half of the cost of the third arbitrator chosen; or (2) one-half the cost of the single arbitrator jointly chosen by the Parties.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

12.5.5 Non-Binding Dispute Resolution Procedures.

If a Party has submitted a Notice of Dispute pursuant to Section 12.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue the Section 12.5 arbitration process, a Party may request that Transmission Provider engage in Non-binding Dispute Resolution pursuant to this section by providing written notice to Transmission Provider ("Request for Non-binding Dispute Resolution"). Conversely, either Party may file a Request for Non-binding Dispute Resolution pursuant to this section without first seeking mutual agreement to pursue the Section 12.5 arbitration process. The process in Section 12.5.5 shall serve as an alternative to, and not a replacement of, the Section 12.5 arbitration process. Pursuant to this process, Transmission Provider must within thirty (30) Calendar Days of receipt of the Request for Non-binding Dispute Resolution appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with either Party. Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. This decision-maker shall be authorized only to interpret and apply the provisions of the Revised LGIP and LGIA and shall have no power to modify or change any provision of the Revised LGIP and LGIA in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in the non-binding dispute resolution process in future dispute resolution processes, including in Section 12.5 arbitration, or in a Federal Power Act Section 206 complaint. Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute.

12.6 Local Furnishing Bonds.

12.6.1 Transmission Providers That Own Facilities Financed by Local Furnishing Bonds.

This provision is applicable only to a Transmission Provider that has financed facilities for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code ("local furnishing bonds"). Notwithstanding any other provision of this LGIA and Revised LGIP, Transmission Provider shall not be required to provide Interconnection Service to Interconnection Customer pursuant to this LGIA and Revised LGIP if the provision of such Transmission Service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance Transmission Provider's facilities that would be used in providing such Interconnection Service.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

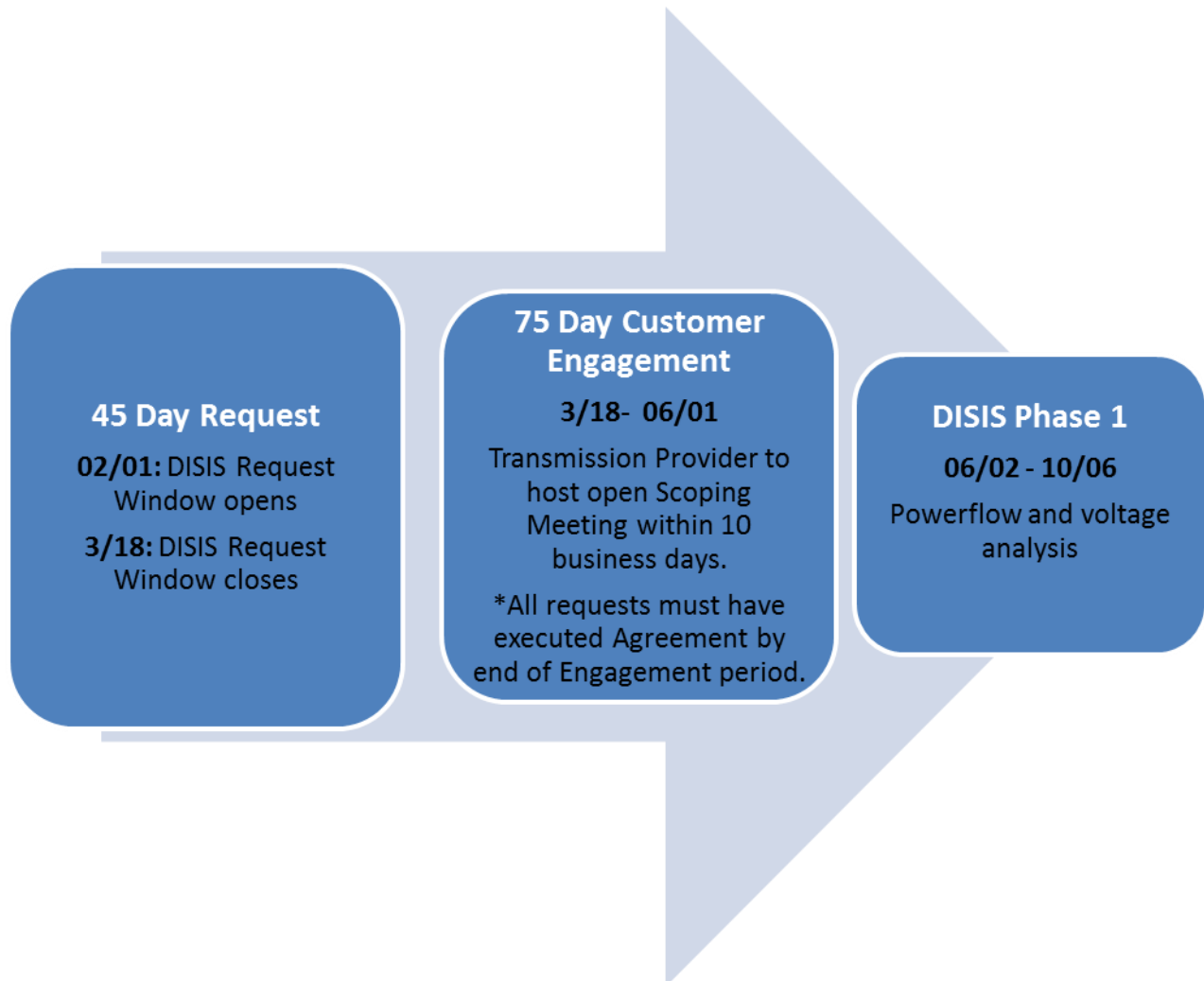
12.6.2 Alternative Procedures for Requesting Interconnection Service.

If Transmission Provider determines that the provision of Interconnection Service requested by Interconnection Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance its facilities that would be used in providing such Interconnection Service, it shall advise Interconnection Customer within thirty (30) Calendar Days of receipt of the Interconnection Request.

Interconnection Customer thereafter may renew its request for interconnection using the process specified in Article 5.2(ii) of the Transmission Provider's Tariff.

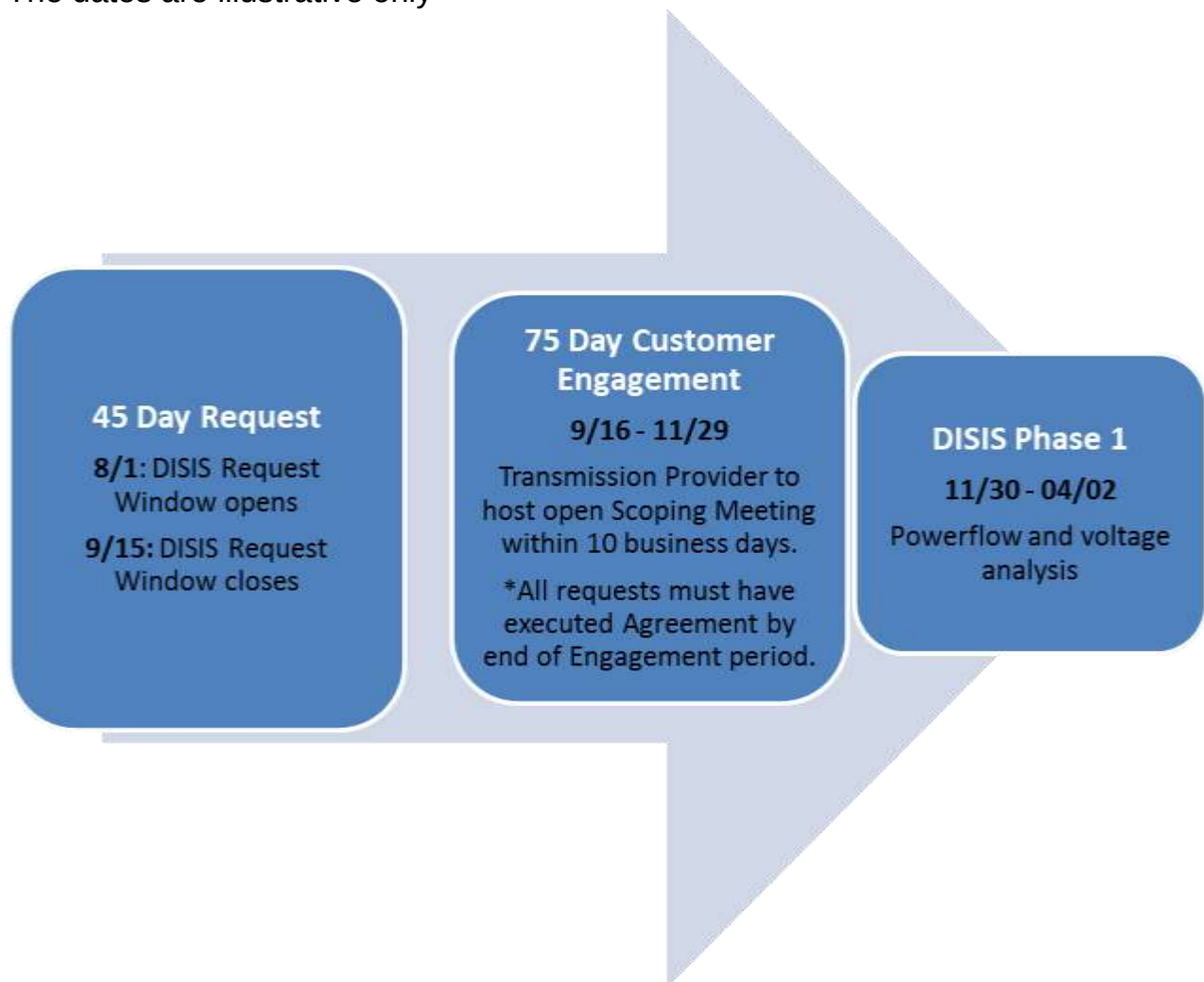
Timeline: Appendix A-1 – Start of the Spring DISIS Cluster

The dates are illustrative only



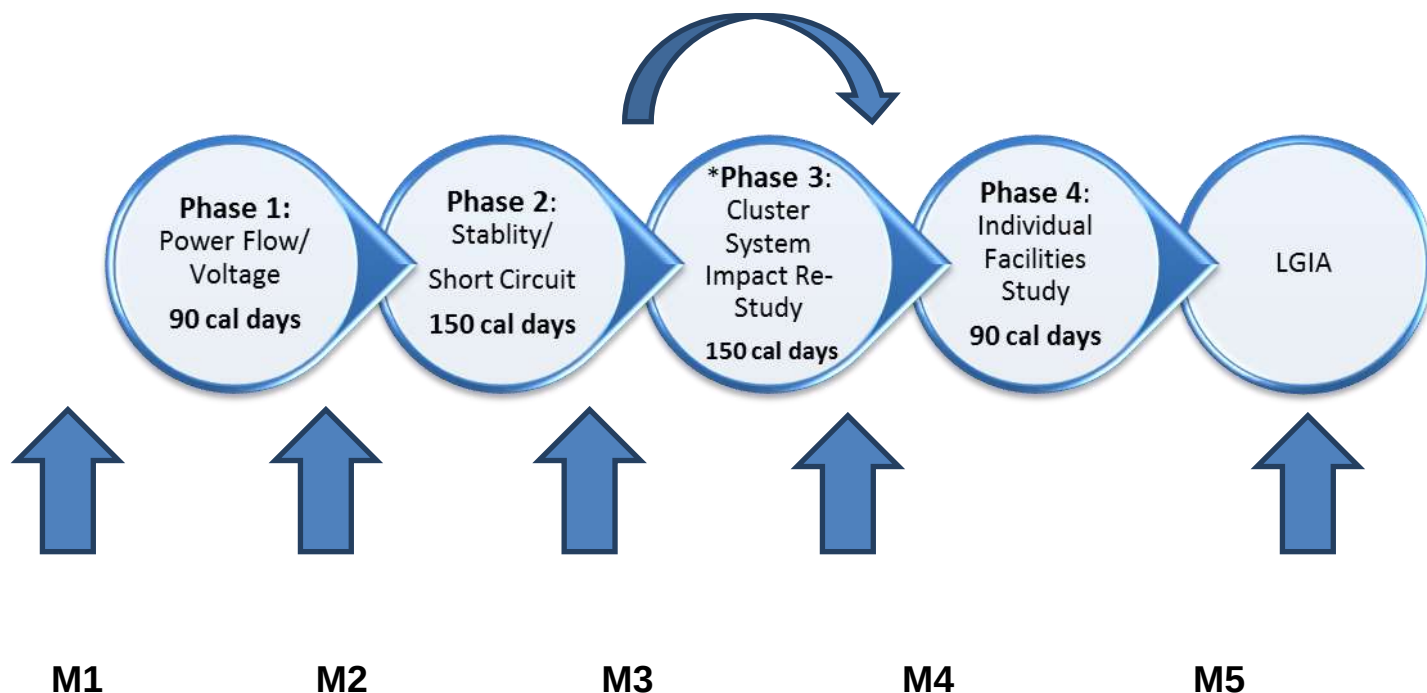
Timeline: Appendix A-1 – Start of the Fall DISIS Cluster

The dates are illustrative only



Proposed Effective Date: 12/5/2019

Timeline: Appendix A-2



Milestone	Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness <u>IS</u> Provided	Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness <u>IS NOT</u> Provided	Demonstration of Site Control for All Fuel Types	Site Control of ICIF's
M1	1x	2x	50%	0%
M2	1x	3x	50%	0%
M3	1x	5x	60%	0%
M4	1x	7x	75%	0%
M5	9x	9x	90%	50%

Proposed Effective Date: 12/5/2019

Phase 1: Power Flow/Voltage: Within 90 calendar days

- Transmission Provider to perform Power Flow and Voltage Analysis.
- Transmission Provider to complete Phase 1 report within 90 calendar days and post results on OASIS.
- Transmission Provider to hold open Stakeholder Meeting within 10 business days of publishing DISIS Phase 1 results on OASIS.
- Interconnection Customer demonstrate M2 Readiness within 20 business days following open Stakeholder Meeting

Phase 2: Stability/Short Circuit: Within 150 calendar days

- Transmission Provider to complete Phase 2 analysis within 150 calendar and post results on OASIS.
- Transmission Provider to hold Phase 2 Report Meeting within 10 business days of publishing report results on OASIS.
- Interconnection Customer to demonstrate M3 (if Re-Study is necessary) or M4 Readiness within 20 business days of Report Meeting.

****Phase 3: Iterative Cluster System Impact Re-Study: Within 150 calendar days**

****May not be necessary****

- If a Re-Study is needed, Transmission Provider perform Phase 3 Re-Study within 150 calendar days and post Re-Study results on OASIS.
- Transmission Provider to hold open Interconnection Customer Report Meeting within 10 business days of publishing Re-Study results on OASIS.
- Interconnection Customer to demonstrate M4 Readiness if no further System Impact Re-Studies are necessary within 20 business days of Report Meeting.

Phase 4: Individual Facilities Study: Within 90 calendar days

- Transmission Provider to complete Facilities Study, complete and submit draft Facilities Study Report to Interconnection Customer and post results of Study on OASIS within 90 calendar days from start of Phase 4.
- Transmission Provider to hold open Interconnection Customer Report Meeting within 10 business days of end of Phase 4.
- Interconnection Customer to provide written comments of Facilities Study Report to Transmission Provider within 30 days of receipt of draft Facilities Study Report.
- Transmission Provider to issue Final Facilities Study Report to Customer within 15 business days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments.

Phase 5: LGIA:

- Transmission Provider to provide Interconnection Customer with draft LGIA within 30 calendar days of receipt of Interconnection Customer's Facilities Study comments.
- Interconnection Customer to execute and return completed draft appendices within 30 calendar days of receipt of draft LGIA.
- Deadline for LGIA negotiations to be completed within 60 calendar days of after tender of the final Interconnection Facilities Study Report.
- Deadline for filing or executing LGIA is within 60 calendar days of after tender the draft LGIA provided to Interconnection Customer.
- Interconnection Customer to satisfy Readiness Milestone 5 within 15 business days of receiving final LGIA

Proposed Effective Date: 12/5/2019

**APPENDIX 1 to Revised LGIP
INTERCONNECTION REQUEST FOR A
LARGE GENERATING FACILITY**

1. The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility with Transmission Provider's Transmission System pursuant to a Tariff.
2. This Interconnection Request is for (check one):
☐ A proposed new Large Generating Facility.
☐ An increase in the generating capacity or a Material Modification of an existing Generating Facility.
☐ A Generating Facility proposed for inclusion in a resource solicitation process.
3. The type of interconnection service requested (check one):
☐ Energy Resource Interconnection Service
☐ Network Resource Interconnection Service
4. Interconnection Customer provides the following information:
 - a. Address or location of the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;
 - b. Maximum summer at ____ degrees C and winter at ____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
 - c. General description of the equipment configuration;
 - d. Commercial Operation Date (Day, Month, and Year);
 - e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;
 - f. Approximate location of the proposed Point of Interconnection (optional);
 - g. Interconnection Customer Data (set forth in Attachment A)
 - h. Primary frequency response operating range for electric storage resources.
 - i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity).
5. Interconnection Customer provides applicable study deposit amount as specified in the Revised LGIP.

\$75,000 for requests of less than 50 MW; or
\$150,000 for requests of 50 MW and Greater, but less than 200 MW; or
\$250,000 for requests of 200 MW and greater
6. Interconnection Customer provides Readiness Milestone 1 (M1) as specified in the Revised LGIP.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

M1 is satisfied by any one of the three options below (also described in 3.4.1.f of the Revised LGIP) at Interconnection Customer's option. M1 may also be satisfied by providing additional security described in Section 7.7.5 *in lieu* of providing one of the three options to demonstrate readiness.

- i. Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;
 - ii. Reasonable evidence the project has been selected in a Resource Plan or Resource Solicitation Process; or
 - iii. Provisional Large Generator Interconnection Agreement accepted for filing with FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.
7. Interconnection Customer provides security equal to one times the study deposit described in Section 3.1 of the Revised LGIP in the form of an irrevocable letter of credit or cash.
8. If requesting NRIS: Interconnection Customer provides the expected point of delivery to deliver within the Transmission Provider's Control Area or to an adjoining Control Area if the Generating Facility is not designated a Network Resource pursuant to Section 30.2 of the Tariff.
9. Interconnection Customer provides Evidence of Site Control as specified in the Revised LGIP and Transmission Provider's business practices posted on OASIS.
10. This Interconnection Request shall be submitted to the representative indicated below:

[To be completed by Transmission Provider]

11. Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

12. This Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

Name (type or print): _____

Title: _____

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Date: _____

**Attachment A to Appendix 1
Interconnection Request**

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____	°F _____	Voltage _____
Power Factor _____		
Speed (RPM) _____	Connection (e.g. Wye) _____	
Short Circuit Ratio _____	Frequency, Hertz _____	
Stator Amperes at Rated kVA _____		Field Volts _____
Max Turbine MW _____	°F _____	

Primary frequency response operating range for electric storage resources.

Minimum State of Charge: _____
Maximum State of Charge: _____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/kVA
Moment-of-Inertia, WR^2 = _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

DIRECT AXIS QUADRATURE AXIS

Synchronous – saturated	X_{dv} _____	X_{qv} _____
Synchronous – unsaturated	X_{di} _____	X_{qi} _____
Transient – saturated	X'_{dv} _____	X'_{qv} _____
Transient – unsaturated	X'_{di} _____	X'_{qi} _____
Subtransient – saturated	X''_{dv} _____	X''_{qv} _____
Subtransient – unsaturated	X''_{di} _____	X''_{qi} _____
Negative Sequence – saturated	X_{2v} _____	
Negative Sequence – unsaturated	X_{2i} _____	
Zero Sequence – saturated	X_{0v} _____	
Zero Sequence – unsaturated	X_{0i} _____	

Proposed Effective Date: 12/5/2019

Leakage Reactance X_{lm} _____

Open Circuit	T'_{do} _____	T'_{qo} _____
Three-Phase Short Circuit Transient	T'_{d3} _____	T'_q _____
Line to Line Short Circuit Transient	T'_{d1} _____	
Short Circuit Subtransient	T''_d _____	T''_q _____
Open Circuit Subtransient	T'_{d2} _____	
Line to Neutral Short Circuit Transient	T''_{do} _____	T''_{qo} _____

FIELD TIME CONSTANT DATA (SEC)
ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T_{a3} _____
Line to Line Short Circuit	T_{a2} _____
Line to Neutral Short Circuit	T_{a1} _____

NOTE: If requested information is not applicable, indicate by marking "N/A."

MW CAPABILITY AND PLANT CONFIGURATION
LARGE GENERATING FACILITY DATA

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R_1 _____
Negative	R_2 _____
Zero	R_0 _____

Rotor Short Time Thermal Capacity $I_2^2 t$ = _____
Field Current at Rated kVA, Armature Voltage and PF = _____ amps
Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps
Three Phase Armature Winding Capacitance = _____ microfarad
Field Winding Resistance = _____ ohms _____ °C
Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves.
Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity	Self-cooled/

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Maximum Nameplate
_____/_____/_____ kVA

Voltage Ratio(Generator Side/System side/Tertiary)
_____/_____/_____ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))
_____/_____/_____

Fixed Taps Available _____

Present Tap Setting _____

If more than one transformer stage is used to deliver the output from the proposed Generating Facility to the Transmission System, please provide the information above for each transformer or transformer type.

IMPEDANCE

Positive

Z_1 (on self-cooled kVA rating) _____ % _____ X/R

Zero

Z_0 (on self-cooled kVA rating) _____ % _____ X/R

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND AND OTHER NON-SYNCHRONOUS GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

Elevation: _____ Single Phase _____ Three Phase _____

Inverter manufacturer, model name, number, and version:

Proposed Effective Date: 12/5/2019

Approved Effective Date:

List of adjustable setpoints for the protective equipment or software:

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

Project Information: Site Control and Adequacy

Total acres required to construct the Generating Facility: _____

Total acres under site control for the Generating Facility at the time of application:

Is Site Control required for Interconnection Facilities, i.e. transmission gen-tie or substation, to interconnect the Generating Facility? ____ Y ____ N

If yes, how many miles of gen-tie right-of-way are required? _____

What is the total number of acres required to build the gen-tie? _____

How many miles of gen-tie right-of-way are under Site Control at the time of this application?

List any local, state, or federal government permits required to construct the Generating Facility and any applicable Interconnection Facilities, i.e. transmission gen-tie:

Proposed Effective Date: 12/5/2019

Approved Effective Date:

INDUCTION GENERATORS

- (*) Field Volts: _____
- (*) Field Amperes: _____
- (*) Motoring Power (kW): _____
- (*) Neutral Grounding Resistor (If Applicable): _____
- (*) I_2^2t or K (Heating Time Constant): _____
- (*) Rotor Resistance: _____
- (*) Stator Resistance: _____
- (*) Stator Reactance: _____
- (*) Rotor Reactance: _____
- (*) Magnetizing Reactance: _____
- (*) Short Circuit Reactance: _____
- (*) Exciting Current: _____
- (*) Temperature Rise: _____
- (*) Frame Size: _____
- (*) Design Letter: _____
- (*) Reactive Power Required In Vars (No Load): _____
- (*) Reactive Power Required In Vars (Full Load): _____
- (*) Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Interconnection Request to determine if the information designated by (*) is required.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

**APPENDIX 2 to Revised LGIP
DEFINITIVE INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____ a _____ existing under the laws of the State of _____, (“Transmission Provider”). Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a Definitive Interconnection System Impact Study to assess the impact of interconnecting the Large Generating Facility to the Transmission System, and of any Affected Systems; and

WHEREAS, Interconnection Customer commits to provide certain Readiness Milestones through the Definitive Interconnection Study process as described in Section 7.7 of the Revised LGIP.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a Definitive Interconnection System Impact Study consistent with Sections 7.3 and 7.4 of this Revised LGIP in accordance with the Tariff.
- 3.0 The scope of the Definitive Interconnection System Impact Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Definitive Interconnection System Impact Study shall be based upon the technical information provided by Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the Revised LGIP. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Definitive Interconnection System Impact Study. If Interconnection Customer modifies its designated Point of Interconnection,

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Interconnection Request, or the technical information provided therein is modified, the time to complete the Definitive Interconnection System Impact Study may be extended.

5.0 The Definitive Interconnection System Impact Study report (Phase 2 or Phase 3 Report) shall provide the following information, as appropriate:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
- identification of any thermal overload or voltage limit violations resulting from the interconnection;
- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection; and
- description and non-binding, good faith estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 Interconnection Customer shall provide the deposit as specified in Section 3.1 of the Revised LGIP for the performance of the Definitive Interconnection System Impact Study and the Interconnection Facilities Study. Transmission Provider's good faith estimate for the time of completion of the Definitive Interconnection System Impact Study (Phase 2) is [insert date].

Upon receipt of the Interconnection Facilities Study results (Phase 4 Results), or withdrawal of the Interconnection Request, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Definitive Interconnection System Impact Study, and the Withdrawal Penalty, as applicable, allocated according to Sections 4.2.3 and 8.1 of the Revised LGIP and the cost of the individual Interconnection Facilities Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate, except as otherwise provided herein. As provided in Section 12.3 of the Revised LGIP, Interconnection Customer has thirty (30) Calendar Days of receipt of an invoice from Transmission Provider to pay any undisputed costs. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

7.0 Miscellaneous. The Definitive Interconnection System Impact Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations

Proposed Effective Date: 12/5/2019

Approved Effective Date:

and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Proposed Effective Date: 12/5/2019

Approved Effective Date:

**Attachment A to Appendix 2
Definitive Interconnection System Impact Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
DEFINITIVE INTERCONNECTION SYSTEM IMPACT STUDY**

The Definitive Interconnection System Impact Study shall be based upon the information set forth in the Interconnection Request(s) and results of applicable prior studies, subject to any modifications in accordance with Section 4.4 of the Revised LGIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and Transmission Provider]

Proposed Effective Date: 12/5/2019

Approved Effective Date:

APPENDIX 3 to Revised LGIP INTERCONNECTION FACILITIES STUDY AGREEMENT

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____ a _____ existing under the laws of the State of _____, (“Transmission Provider “). Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System;

WHEREAS, Transmission Provider has completed a Definitive Interconnection System Impact Study (the “System Impact Study”) and provided the results of said study to Interconnection Customer; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Definitive Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Interconnection Facilities Study consistent with Section 8 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection Facilities Study report (i) shall provide a description of, estimated cost of, schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short

Proposed Effective Date: 12/5/2019

Approved Effective Date:

circuit, instability, and power flow issues identified in the Definitive Interconnection System Impact Study.

- 5.0 Interconnection Customer shall meet the requirements specified under Section 8.1 of the Revised LGIP prior to the performance of the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A.
- 6.0 Interconnection Customer shall have provided the deposit as specified in Section 3.1 of the Revised LGIP for the performance of the Definitive Interconnection System Impact Study and the Interconnection Facilities Study.

Upon receipt of the Interconnection Facilities Study results (Phase 4 Results), Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Definitive Interconnection System Impact Study which includes costs allocated according to Section 4.2.3 of the Revised LGIP, the cost of the individual Interconnection Facilities Study, and the withdraw penalty calculated pursuant to 3.7.1.1, if applicable.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate, except as otherwise provided herein. As provided in Section 12.3 of the Revised LGIP, Interconnection Customer has thirty (30) Calendar Days of receipt of an invoice from Transmission Provider to pay any undisputed costs. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

- 7.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

Proposed Effective Date: 12/5/2019

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Proposed Effective Date: 12/5/2019

**Attachment A to Appendix 3
Interconnection Facilities Study Agreement**

**DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER
WITH THE INTERCONNECTION FACILITIES STUDY AGREEMENT**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing Transmission Provider station. Number of generation connections:

On the one line diagram indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one line diagram indicate the location of auxiliary power. (Minimum load on CT/PT)
Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?
_____ Yes _____ No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? _____ Yes _____ No (Please indicate on one line diagram).

What type of control system or PLC will be located at Interconnection Customer's Large Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

Bus length from generation to interconnection station:

Line length from interconnection station to Transmission Provider's transmission line.

Tower number observed in the field. (Painted on tower leg)* _____

Number of third party easements required for transmission lines*:

Proposed Effective Date: 12/5/2019

* To be completed in coordination with Transmission Provider.

Is the Large Generating Facility in Transmission Provider's service area?

_____ Yes _____ No Local provider: _____

Please provide proposed schedule dates:

Begin Construction Date: _____

Generator step-up transformer
receives back feed power Date: _____

Generation Testing Date: _____

Commercial Operation Date: _____

Proposed Effective Date: 12/5/2019

Approved Effective Date:

APPENDIX 4 to Revised LGIP

Transitional Serial Interconnection Facilities Study Agreement

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____ a _____ existing under the laws of the State of _____, (“Transmission Provider”). Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to continue processing its Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System; and

WHEREAS, Interconnection Customer has executed and Transmission Provider has accepted an Interconnection Facilities Study Agreement prior to September 27, 2019; and

WHEREAS, Interconnection Customer has provided certain requirements described in Section 5.1.1.1 of the Revised LGIP including a deposit on Transmission Provider’s Interconnection Facilities and Network Upgrades.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed an Interconnection Facilities Study consistent with Section 8 of this Revised LGIP in accordance with the Tariff.
- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A to this Agreement which shall be the same assumptions as the previous Interconnection Facilities Study Agreement.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- 4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost of (consistent with Attachment A), schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the most recently published System Impact Study.
- 5.0 Interconnection Customer has met certain requirements described in Section 5.1.1.1 of the Revised LGIP. The time for completion of the Interconnection Facilities Study is specified in Attachment A.
- 6.0 Interconnection Customer shall have previously provided the deposit of one hundred thousand dollars (\$100,000.00) for the performance of the Interconnection Facilities Study.

Upon receipt of the Interconnection Facilities Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

Proposed Effective Date: 12/5/2019

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Proposed Effective Date: 12/5/2019

**Attachment A to Appendix 4
Transitional Serial Interconnection Facilities Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
TRANSITIONAL SERIAL INTERCONNECTION FACILITIES STUDY**

[Assumptions to be completed by Interconnection Customer and Transmission Provider]

Proposed Effective Date: 12/5/2019

**APPENDIX 5.1 to Revised LGIP
Transitional Cluster Study Agreement**

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____ a _____ existing under the laws of the State of _____, (“Transmission Provider”). Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a “Transitional Cluster Study,” which is a combined system impact and interconnection facility Cluster Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to physically and electrically connect the Large Generating Facility to the Transmission System; and

WHEREAS, Interconnection Customer has provided certain requirements described in Section 5.1.1.2 of the Revised LGIP including a deposit of five million dollars (\$5,000,000) on expected Transmission Provider’s Interconnection Facilities and Network Upgrades; and

WHEREAS, Interconnection Customer has a valid Queue Position as of September 27, 2019; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a combined system impact and interconnection facility Cluster Study.
- 3.0 The Transitional Cluster Study shall be based upon the technical information provided by Interconnection Customer in the Interconnection Request. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become

Proposed Effective Date: 12/5/2019

Approved Effective Date:

necessary consistent with Good Utility Practice during the course of the Transitional Cluster Study and Interconnection Customer shall provide such data as quickly as reasonable.

4.0 The Transitional Cluster Study report shall provide the following information:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
- identification of any thermal overload or voltage limit violations resulting from the interconnection;
- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection and
- shall provide a description, estimated cost of, schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the most recently published System Impact Study.

5.0 Interconnection Customer has met certain requirements described in Section 5.1.1.2 of the Revised LGIP.

6.0 Interconnection Customer shall have previously provided a deposit for the performance of Interconnection Studies.

Upon receipt of the Transitional Cluster Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Transitional Cluster Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

7.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Proposed Effective Date: 12/5/2019

**Attachment A to Appendix 5.1
Transitional Cluster Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
TRANSITIONAL CLUSTER STUDY (A COMBINED SYSTEM IMPACT AND
INTERCONNECTION FACILITIES STUDY)**

[Assumptions to be completed by Interconnection Customer Transmission Provider]

Proposed Effective Date: 12/5/2019

**APPENDIX 5.2 to REVISED LGIP
PROVISIONAL INTERCONNECTION STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer is proposing to establish a provisional interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to Transmission Provider an Interconnection Request; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause a Provisional Interconnection Study in order to provide the service described in Article 5.9.2.
- 3.0 3.0 The Provisional Interconnection Study will determine if stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects with Provisional Interconnection Service. Transmission Provider shall determine any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of the new, modified and/or expanded Generating Facility.
- 4.0 4.0 The Provisional Interconnection Study shall determine the initial maximum permissible output of the Generating Facility.
- 5.0 The scope of the Provisional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- 6.0 Interconnection Customer shall provide a deposit of \$10,000 for the performance of the Provisional Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Provisional Interconnection Service Study is [insert date].

Upon receipt of the Provisional Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Provisional Interconnection Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Provisional Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A
Appendix 5.2
Provisional Interconnection
Study Agreement

**ASSUMPTIONS USED IN CONDUCTING
THE PROVISIONAL INTERCONNECTION STUDY**

[To be completed by Transmission Provider consistent with Article 5.9.2 of the LGIA.]

Proposed Effective Date: 12/5/2019

APPENDIX 5.3 to REVISED LGIP SURPLUS INTERCONNECTION STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is requesting to utilize Surplus Interconnection Service as described in Section 3.3 of the Revised LGIP; and

WHEREAS, Interconnection Customer is proposing to utilize an existing interconnection with the Transmission System; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Surplus Interconnection Study consistent with Section 3.3 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Surplus Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify

Proposed Effective Date: 12/5/2019

Approved Effective Date:

any additional Interconnection Facilities and/or Network Upgrades. Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring new Network Upgrades.

- 5.0 Interconnection Customer shall provide a deposit of \$10,000 for the performance of the Surplus Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Surplus Interconnection Study is [insert date].

Upon receipt of the Surplus Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Surplus Interconnection Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Surplus Interconnection Study shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A
Appendix 5.3
Surplus Interconnection
Study Agreement

**ASSUMPTIONS USED IN CONDUCTING
THE SURPLUS INTERCONNECTION STUDY**

[To be completed by Interconnection Customer and Transmission Provider consistent with
Section 3.3 of the Revised LGIP.]

Proposed Effective Date: 12/5/2019

Approved Effective Date:

**APPENDIX 5.4 to Revised LGIP
INFORMATIONAL INTERCONNECTION STUDY REQUEST**

1. The undersigned Interconnection Customer submits this request to evaluate the interconnection of its Generating Facility with Transmission Provider's Transmission System pursuant to the Tariff.
2. The type of interconnection service to be evaluated (check one):
_____ Energy Resource Interconnection Service
_____ Network Resource Interconnection Service
3. Interconnection Customer provides the following information:
 - a. Address or location of the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;
 - b. Maximum summer at _____ degrees C and winter at _____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
 - c. General description of the equipment configuration;
 - d. Commercial Operation Date to be studied (Day, Month, and Year);
 - e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;
 - f. Approximate location of the proposed Point of Interconnection;
 - g. Interconnection Customer Data (set forth in Attachment A)
 - h. Primary frequency response operating range for electric storage resources.
 - i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity); and
 - j. A Scope of Work including any additional information that may be reasonably required.
4. \$10,000 study deposit amount as specified in the Revised LGIP.
5. For study purposes, the point of delivery to deliver within the Control Area or to adjoining Control Area if the Generating Facility is not designated a Network Resource pursuant to Section 30.2 of the Tariff.
6. This Informational Interconnection Study Request shall be submitted to the representative indicated below:

[To be completed by Transmission Provider]
7. Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

Proposed Effective Date: 12/5/2019

Approved Effective Date:

8. This Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

Proposed Effective Date: 12/5/2019

**Attachment A to Appendix 5.4
Informational Interconnection Study Request**

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____ °F _____ Voltage _____
Power Factor _____
Speed (RPM) _____ Connection (e.g. Wye) _____
Short Circuit Ratio _____ Frequency, Hertz _____
Stator Amperes at Rated kVA _____ Field Volts _____
Max Turbine MW _____ °F _____

Primary frequency response operating range for electric storage resources.

Minimum State of Charge: _____
Maximum State of Charge: _____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, $H =$ _____ kW sec/kVA
Moment-of-Inertia, $WR^2 =$ _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

DIRECT AXIS QUADRATURE AXIS

Synchronous – saturated	X_{dv} _____	X_{qv} _____
Synchronous – unsaturated	X_{di} _____	X_{qi} _____
Transient – saturated	X'_{dv} _____	X'_{qv} _____
Transient – unsaturated	X'_{di} _____	X'_{qi} _____
Subtransient – saturated	X''_{dv} _____	X''_{qv} _____
Subtransient – unsaturated	X''_{di} _____	X''_{qi} _____
Negative Sequence – saturated	X_{2v} _____	
Negative Sequence – unsaturated	X_{2i} _____	
Zero Sequence – saturated	X_{0v} _____	
Zero Sequence – unsaturated	X_{0i} _____	
Leakage Reactance	X_{lm} _____	

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Open Circuit	T'_{do} _____	T'_{qo} _____
Three-Phase Short Circuit Transient	T'_{d3} _____	T'_q _____
Line to Line Short Circuit Transient	T'_{d1} _____	
Short Circuit Subtransient	T''_d _____	T''_q _____
Open Circuit Subtransient	T'_{d2} _____	
Line to Neutral Short Circuit Transient	T''_{do} _____	T''_{qo} _____

FIELD TIME CONSTANT DATA (SEC)
ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T_{a3} _____
Line to Line Short Circuit	T_{a2} _____
Line to Neutral Short Circuit	T_{a1} _____

NOTE: If requested information is not applicable, indicate by marking "N/A."

MW CAPABILITY AND PLANT CONFIGURATION
LARGE GENERATING FACILITY DATA

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R_1 _____
Negative	R_2 _____
Zero	R_0 _____

Rotor Short Time Thermal Capacity $I_2^2 t =$ _____
Field Current at Rated kVA, Armature Voltage and PF = _____ amps
Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps
Three Phase Armature Winding Capacitance = _____ microfarad
Field Winding Resistance = _____ ohms _____ °C
Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves.
Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity	Self-cooled/ Maximum Nameplate
_____	/ _____ kVA

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Voltage Ratio(Generator Side/System side/Tertiary)

_____/_____/_____ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))

_____/_____/_____

Fixed Taps Available _____

Present Tap Setting _____

If more than one transformer stage is used to deliver the output from the proposed generator to the Transmission System, please provide the information above for each transformer or transformer type.

IMPEDANCE

Positive

Z_1 (on self-cooled kVA rating) _____ % _____ X/R

Zero

Z_0 (on self-cooled kVA rating) _____ % _____ X/R

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

Elevation: _____ Single Phase _____ Three Phase _____

Inverter manufacturer, model name, number, and version:

List of adjustable setpoints for the protective equipment or software:

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

Proposed Effective Date: 12/5/2019

INDUCTION GENERATORS

- (*) Field Volts: _____
- (*) Field Amperes: _____
- (*) Motoring Power (kW): _____
- (*) Neutral Grounding Resistor (If Applicable): _____
- (*) I_2^2t or K (Heating Time Constant): _____
- (*) Rotor Resistance: _____
- (*) Stator Resistance: _____
- (*) Stator Reactance: _____
- (*) Rotor Reactance: _____
- (*) Magnetizing Reactance: _____
- (*) Short Circuit Reactance: _____
- (*) Exciting Current: _____
- (*) Temperature Rise: _____
- (*) Frame Size: _____
- (*) Design Letter: _____
- (*) Reactive Power Required In Vars (No Load): _____
- (*) Reactive Power Required In Vars (Full Load): _____
- (*) Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Informational Interconnection Study Request to determine if the information designated by (*) is required.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

**APPENDIX 5.5 to Revised LGIP
INFORMATIONAL INTERCONNECTION STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is evaluating developing a Large Generating Facility or generating capacity addition to an existing Generating Facility and

WHEREAS, Interconnection Customer is proposing to evaluate an interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to Transmission Provider an Informational Interconnection Study Interconnection Request; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Informational Interconnection Study consistent with Section 6 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Informational Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Informational Interconnection Study shall be performed solely for informational purposes.
- 5.0 The Informational Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by Interconnection Customer in Attachment A to this Agreement. The Informational Interconnection Study shall identify Transmission Provider's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof that may be required to provide transmission service or Interconnection Service based upon the assumptions specified by Interconnection Customer in Attachment A.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- 6.0 Interconnection Customer shall provide a deposit of ten thousand dollars (\$10,000.00) for the performance of the Informational Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Informational Interconnection Study is [insert date].

Upon receipt of the Informational Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Informational Interconnection Study.

Any difference between the initial deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Informational Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Proposed Effective Date: 12/5/2019

Approved Effective Date:

APPENDIX 6 to Revised LGIP

STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT (LGIA)

(Applicable to Generating Facilities that exceed 20 MW)

Proposed Effective Date: 12/5/2019

TABLE OF CONTENTS

Article 1. Definitions	
Article 2. Effective Date, Term, and Termination	
2.1	Effective Date.
2.2	Term of Agreement.
2.3	Termination Procedures.
2.3.1	Written Notice.
2.3.2	Default.
2.4	Termination Costs.
2.5	Disconnection.
2.6	Survival.
Article 3. Regulatory Filings	
3.1	Filing.
Article 4. Scope of Service	
4.1	Interconnection Product Options.
4.1.1	Energy Resource Interconnection Service.
4.1.1.1	The Product.
4.1.1.2	Transmission Delivery Service Implications.
4.1.2	Network Resource Interconnection Service.
4.1.2.1	The Product.
4.1.2.2	Transmission Delivery Service Implications.
4.2	Provision of Service.
4.3	Performance Standards.
4.4	No Transmission Delivery Service.
4.5	Interconnection Customer Provided Services
Article 5. Interconnection Facilities Engineering, Procurement, and Construction	
5.1	Options.
5.1.1	Standard Option.
5.1.2	Alternate Option.
5.1.3	Option to Build.
5.1.4	Negotiated Option.
5.2	General Conditions Applicable to Option to Build.
5.3	Liquidated Damages.
5.4	Power System Stabilizers.
5.5	Equipment Procurement.
5.6	Construction Commencement.
5.7	Work Progress.
5.8	Information Exchange.
5.9	Other Interconnection Options
5.9.1	Limited Operation.
5.9.2	Provisional Interconnection Service.
5.10	Interconnection Customer's Interconnection Facilities ("ICIF").
5.10.1	Interconnection Customer's Interconnection Facility Specifications.
5.10.2	Transmission Provider's Review.
5.10.3	ICIF Construction.
5.11	Transmission Provider's Interconnection Facilities Construction.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- 5.12 Access Rights.
- 5.13 Lands of Other Property Owners.
- 5.14 Permits.
- 5.15 Early Construction of Base Case Facilities.
- 5.16 Suspension.
 - 5.16.1 Effect of Missed Interconnection Customer LGIA Milestones.
 - 5.16.2 Effect of Suspension; Parties Obligations.
- 5.17 Taxes
 - 5.17.1 Interconnection Customer Payments Not Taxable.
 - 5.17.2 Representations and Covenants.
 - 5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider.
 - 5.17.4 Tax Gross-Up Amount.
 - 5.17.5 Private Letter Ruling or Change or Clarification of Law.
 - 5.17.6 Subsequent Taxable Events.
 - 5.17.7 Contests.
 - 5.17.8 Refund.
 - 5.17.9 Taxes Other Than Income Taxes.
 - 5.17.10 Transmission Owners Who Are Not Transmission Providers.
- 5.18 Tax Status.
- 5.19 Modification.
 - 5.19.1 General.
 - 5.19.2 Standards.
 - 5.19.3 Modification Costs.
- Article 6. Testing and Inspection
 - 6.1 Pre-Commercial Operation Date Testing and Modifications.
 - 6.2 Post-Commercial Operation Date Testing and Modifications.
 - 6.3 Right to Observe Testing.
 - 6.4 Right to Inspect.
- Article 7. Metering
 - 7.1 General.
 - 7.2 Check Meters.
 - 7.3 Standards.
 - 7.4 Testing of Metering Equipment.
 - 7.5 Metering Data.
- Article 8. Communications
 - 8.1 Interconnection Customer Obligations.
 - 8.2 Remote Terminal Unit.
 - 8.3 No Annexation.
 - 8.4 Provision of Data from a Variable Energy Resource.
- Article 9. Operations
 - 9.1 General.
 - 9.2 Control Area Notification.
 - 9.3 Transmission Provider Obligations.
 - 9.4 Interconnection Customer Obligations.
 - 9.5 Start-Up and Synchronization.
 - 9.6 Reactive Power and Primary Frequency Response.
 - 9.6.1 Power Factor Design Criteria.

Proposed Effective Date: 12/5/2019

- 9.6.1.1 Synchronous Generation.
 - 9.6.1.2 Non-Synchronous Generation.
 - 9.6.2 Voltage Schedules.
 - 9.6.2.1 Voltage Regulators.
 - 9.6.3 Payment for Reactive Power.
 - 9.6.4 Primary Frequency Response.
 - 9.6.4.1 Governor or Equivalent Controls.
 - 9.6.4.2 Timely and Sustained Response.
 - 9.6.4.3 Exemptions.
 - 9.6.4.4 Electric Storage Resources.
 - 9.7 Outages and Interruptions.
 - 9.7.1 Outages.
 - 9.7.1.1 Outage Authority and Coordination.
 - 9.7.1.2 Outage Schedules.
 - 9.7.1.3 Outage Restoration.
 - 9.7.2 Interruption of Service.
 - 9.7.3 Under-Frequency and Over Frequency Conditions.
 - 9.7.4 System Protection and Other Control Requirements.
 - 9.7.4.1 System Protection Facilities.
 - 9.7.5 Requirements for Protection.
 - 9.7.6 Power Quality.
 - 9.8 Switching and Tagging Rules.
 - 9.9 Use of Interconnection Facilities by Third Parties.
 - 9.9.1 Purpose of Interconnection Facilities.
 - 9.9.2 Third Party Users.
 - 9.10 Disturbance Analysis Data Exchange.
- Article 10. Maintenance.
- 10.1 Transmission Provider Obligations.
 - 10.2 Interconnection Customer Obligations.
 - 10.3 Coordination.
 - 10.4 Secondary Systems.
 - 10.5 Operating and Maintenance Expenses.
- Article 11. Performance Obligation.
- 11.1 Interconnection Customer Interconnection Facilities.
 - 11.2 Transmission Provider's Interconnection Facilities.
 - 11.3 Network Upgrades and Distribution Upgrades.
 - 11.4 Transmission Credits.
 - 11.4.1 Repayment of Amounts Advanced for Network Upgrades.
 - 11.4.2 Special Provisions for Affected Systems.
 - 11.5 Provision of Security.
 - 11.6 Interconnection Customer Compensation.
 - 11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition.
- Article 12. Invoice.
- 12.1 General.
 - 12.2 Final Invoice.
 - 12.3 Payment.
 - 12.4 Disputes.

Proposed Effective Date: 12/5/2019

Article 13. Emergencies

- 13.1 Definition.
- 13.2 Obligations.
- 13.3 Notice.
- 13.4 Immediate Action.
- 13.5 Transmission Provider Authority.
 - 13.5.1 General.
 - 13.5.2 Reduction and Disconnection.
- 13.6 Interconnection Customer Authority.
- 13.7 Limited Liability.

Article 14. Regulatory Requirements and Governing Law

- 14.1 Regulatory Requirements.
- 14.2 Governing Law.

Article 15. Notices

- 15.1 General.
- 15.2 Billings and Payments.
- 15.3 Alternative Forms of Notice.
- 15.4 Operations and Maintenance Notice.

Article 16. Force Majeure

Article 17. Default

- 17.1 Default.
 - 17.1.1 General.
 - 17.1.2 Right to Terminate.

Article 18. Indemnity, Consequential Damages and Insurance

- 18.1 Indemnity.
 - 18.1.1 Indemnified Person.
 - 18.1.2 Indemnifying Party.
 - 18.1.3 Indemnity Procedures.
- 18.2 Consequential Damages.
- 18.3 Insurance.

Article 19. Assignment

- 19.1 Assignment.

Article 20. Severability

- 20.1 Severability.

Article 21. Comparability

Article 22. Confidentiality

- 22.1 Confidentiality.
 - 22.1.1 Term.
 - 22.1.2 Scope.
 - 22.1.3 Release of Confidential Information.
 - 22.1.4 Rights.
 - 22.1.5 No Warranties.
 - 22.1.6 Standard of Care.
 - 22.1.7 Order of Disclosure.
 - 22.1.8 Termination of Agreement.
 - 22.1.9 Remedies.
 - 22.1.10 Disclosure to FERC, its Staff, or a State.

Article 23. Environmental Releases

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Article 24. Information Requirements

- 24.1 Information Acquisition.
- 24.2 Information Submission by Transmission Provider.
- 24.3 Updated Information Submission by Interconnection Customer.
- 24.4 Information Supplementation.

Article 25. Information Access and Audit Rights

- 25.1 Information Access.
- 25.2 Reporting of Non-Force Majeure Events.
- 25.3 Audit Rights.
- 25.4 Audit Rights Periods.
 - 25.4.1 Audit Rights Period for Construction-Related Accounts and Records.
 - 25.4.2 Audit Rights Period for All Other Accounts and Records.
- 25.5 Audit Results.

Article 26. Subcontractors

- 26.1 General.
- 26.2 Responsibility of Principal.
- 26.3 No Limitation by Insurance.

Article 27. Disputes

- 27.1 Submission.
- 27.2 External Arbitration Procedures.
- 27.3 Arbitration Decisions.
- 27.4 Costs.

Article 28. Representations, Warranties, and Covenants

- 28.1 General.
 - 28.1.1 Good Standing.
 - 28.1.2 Authority.
 - 28.1.3 No Conflict.
 - 28.1.4 Consent and Approval.

Article 29. Joint Operating Committee

- 29.1 Joint Operating Committee.

Article 30. Miscellaneous

- 30.1 Binding Effect.
- 30.2 Conflicts.
- 30.3 Rules of Interpretation.
- 30.4 Entire Agreement.
- 30.5 No Third Party Beneficiaries.
- 30.6 Waiver.
- 30.7 Headings.
- 30.8 Multiple Counterparts.
- 30.9 Amendment.
- 30.10 Modification by the Parties.
- 30.11 Reservation of Rights.
- 30.12 No Partnership.

Proposed Effective Date: 12/5/2019

Appendix A - Interconnection Facilities, Network Upgrades, and Distribution Upgrades

Appendix B – LGIA Milestones

Appendix C – Interconnection Details

Appendix D – Security Arrangements Details

Appendix E – Commercial Operation Date

Appendix F – Addresses for Delivery of Notices and Billings

Appendix G – Requirements of Generators Relying on Newer Technologies

Proposed Effective Date: 12/5/2019

STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT

THIS STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT (“Agreement” or “LGIA”) is made and entered into this ____ day of _____, 20____, by and between _____, a _____, organized and existing under the laws of the State/Commonwealth of _____, (“Interconnection Customer” with a Large Generating Facility), and _____, a _____, organized and existing under the laws of the State/Commonwealth of _____, (“Transmission Provider and/or Transmission Owner”). Interconnection Customer and Transmission Provider each may be referred to as a “Party” or collectively as the “Parties.”

Recitals

WHEREAS, Transmission Provider operates the Transmission System; and

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and,

WHEREAS, Interconnection Customer and Transmission Provider have agreed to enter into this Agreement for the purpose of interconnecting the Large Generating Facility with the Transmission System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used or the Open Access Transmission Tariff (Tariff).

Article 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more

Proposed Effective Date: 12/5/2019

intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Transmission System to which the Generating Facility is directly interconnected.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday. If a requirement due date lands on a Saturday, Sunday or Federal Holiday, the requirement is due the next Business Day.

Cluster shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies

Clustering shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Control Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation of the interconnection. A Control Area must be certified by an Applicable NERC Regional Reliability Entity. Control Area shall have the same meaning as Balancing Authority Area as defined by NERC.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Definitive Interconnection Study Process (“Definitive Interconnection Study”) shall mean the complete definitive study process inclusive of the DISIS Request Window, Customer Engagement Window, Definitive Interconnection System Impact Study, and the Interconnection Facilities Study. Both the Resource Solicitation Cluster and the DISIS Cluster are processed under the Definitive Interconnection Study.

Definitive Interconnection System Impact Study (“DISIS”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of the Transmission System and, if applicable, an Affected System.

Definitive Interconnection System Impact Study Agreement (“DISIS Agreement”) shall mean the form of agreement contained in Appendix 2 of the Revised LGIP for conducting the Definitive Interconnection System Impact Study.

Definitive Interconnection System Impact Study Cluster (“DISIS Cluster”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of Transmission System and, if applicable, an Affected System.

DISIS Request Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service

Proposed Effective Date: 12/5/2019

necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of a Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which the Transmission Provider's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission Provider's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Proposed Effective Date: 12/5/2019

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Informational Interconnection Study shall mean an analysis based on assumptions specified by Interconnection Customer in the Informational Interconnection Study Agreement.

Informational Interconnection Study Agreement shall mean the form of agreement contained in Appendix 7 of the Revised LGIP for conducting the Informational Interconnection Study.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection

Proposed Effective Date: 12/5/2019

Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities (e.g. for generator interconnection).

Interconnection Facilities shall mean the Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Interconnection Facilities may be shared by more than one Generating Facility in a Cluster.

Interconnection Facilities Study shall mean a study conducted by the Transmission Provider or a third party consultant for the Interconnection Customer to determine a list of facilities (including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Definitive Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Provider's Transmission System. The scope of the study is defined in Section 8 of the Revised LGIP.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 3 of the Revised LGIP for conducting the Interconnection Facilities Study.

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Revised LGIP, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Informational Interconnection Study, the Definitive Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures or Revised LGIP

Interconnection Study Agreement shall mean any of the following agreements: the Informational Interconnection Study Agreement, the Definitive Interconnection System Impact Study Agreement, or the Interconnection Facilities Study Agreement described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

Proposed Effective Date: 12/5/2019

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

LGIA Milestone shall mean milestones provided in Appendix B of this LGIA

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with a later or equal Queue Position.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the

Proposed Effective Date: 12/5/2019

interconnection of the Large Generating Facility to the Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

OASIS shall mean the Transmission Provider's Open Access Same-Time Information System

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Phase ("Phase 1, Phase 2, Phase 3, or Phase 4") shall mean a distinct part of the Definitive Study Process as described in Section 7.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Provider's Transmission System.

Provisional Interconnection Service shall mean interconnection service provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or the Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes. Provisional Large Generator Interconnection Agreements are not eligible for suspension.

Queue shall mean a queue for valid Interconnection Requests for the Definitive Interconnection Study Process.

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Interconnection Study Process. The Queue Position is established based upon the date and time Interconnection Customer satisfies all of the requirements of Section 7.2 of the Revised LGIP to enter the Definitive Interconnection Study Process.

Readiness Milestone(s) shall have the meaning set forth in Section 7.7 of the Revised LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely

Proposed Effective Date: 12/5/2019

and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Revised LGIP shall mean the Large Generator Interconnection Process as described in this Attachment N.

Resource Plan shall mean any process authorized or required by Applicable Laws and Regulations for, *inter alia*, the selection of Generating Facilities interconnected to the Transmission System of Transmission Provider

Resource Planning Entity shall mean any entity subject to or conducting a Resource Solicitation Process.

Resource Solicitation Cluster shall mean a Cluster Study associated with a Resource Planning Process.

Resource Solicitation Process shall mean any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources by an entity interconnected to the Transmission System of Transmission Provider.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer and Transmission Provider conducted for the purpose of discussing the proposed Interconnection Request, alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to affect such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection Facilities. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities; or (3) any other documentation that clearly demonstrates the right of the Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not a part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone

Proposed Effective Date: 12/5/2019

Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Provider's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Provider's Transmission System or on other delivery systems or other generating systems to which the Transmission Provider's Transmission System is directly connected.

Tariff shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand

Proposed Effective Date: 12/5/2019

Alone Network Upgrades or Network Upgrades. Transmission Provider's Interconnection Facilities may be shared by more than one Generating Facility in a given Cluster Study.

Transmission System shall mean the facilities owned, controlled or operated by the Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Variable Energy Resource shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

Withdrawal Penalty shall have the meaning set forth in Section 3.7.1 of the Revised LGIP.

Article 2. Effective Date, Term, and Termination

2.1 Effective Date.

This LGIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. Transmission Provider shall promptly file this LGIA with FERC upon execution in accordance with Article 3.1, if required.

2.2 Term of Agreement.

Subject to the provisions of Article 2.3, this LGIA shall remain in effect for a period of ten (10) years from the Effective Date or such other longer period as Interconnection Customer may request (Term to be specified in individual agreements) and shall be automatically renewed for each successive one-year period thereafter.

2.3 Termination Procedures.

2.3.1 Written Notice.

This LGIA may be terminated by Interconnection Customer after giving Transmission Provider ninety (90) Calendar Days advance written notice, or by Transmission Provider notifying FERC after the Generating Facility permanently ceases Commercial Operation. This LGIA shall be terminated by Transmission Provider if the Generating Facility or a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.5 of the Revised LGIP, including any extension provided thereunder, or, having previously achieved Commercial Operation, has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the Generating Facility, after giving Interconnection Customer ninety (90) Calendar Days advance written notice. When only a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Date established in accordance with Section 4.4.5 of the Revised LGIP, including any extension provided thereunder, Transmission Provider shall terminate only that portion of the LGIA. Notwithstanding the foregoing, in the limited circumstance that the Interconnection Request is served by a Contingent Facility with an in-service date that is later than the Commercial Operation Date permitted under Section 4.4.5 of the Revised LGIP, Transmission Provider shall terminate this LGIA only for failure to achieve Commercial Operation by ninety (90) Calendar Days after that later in-service date of the Contingent Facility. The Generating Facility will not be deemed to have ceased Commercial Operation for purposes of this Article 2.3.1 if Interconnection Customer can document that it has taken other significant steps to maintain or restore operational readiness of the Generating Facility for the purpose of returning the Generating Facility to Commercial Operation as soon as possible.

2.3.2 Default.

Either Party may terminate this LGIA in accordance with Article 17.

2.3.3 Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this LGIA, which notice has been accepted for filing by FERC.

2.4 Termination Costs.

If a Party elects to terminate this Agreement pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party, as of the date of the other Party's receipt of such notice of termination, that are the responsibility of the Terminating Party under this LGIA. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this LGIA, unless otherwise ordered or approved by FERC:

2.4.1 With respect to any portion of Transmission Provider's Interconnection Facilities that have not yet been constructed or installed, Transmission Provider shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Provider shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Provider for any or all such costs of materials or equipment not taken by Interconnection Customer, Transmission Provider shall promptly refund such amounts to Interconnection Customer,

Proposed Effective Date: 12/5/2019

Approved Effective Date:

less any costs, including penalties incurred by Transmission Provider to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which Transmission Provider has incurred expenses and has not been reimbursed by Interconnection Customer.

2.4.2 Transmission Provider may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Provider shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

2.4.3 With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

2.4.4 Transmission Provider shall refund the security provided under Section 10.3 of the Revised LGIP, including any accumulated interest, if applicable. Notwithstanding the foregoing, prior to remitting such security, plus accumulated interest, Transmission Provider shall offset against such security, and accumulated interest, any unpaid costs or penalties arising out of this Agreement or the Revised LGIP. Monies due the Interconnection Customer shall be remitted within 90 days of termination.

2.5 Disconnection.

Upon termination of this LGIA, the Parties will take all appropriate steps to disconnect the Large Generating Facility from the Transmission System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this LGIA or such non-terminating Party otherwise is responsible for these costs under this LGIA.

2.6 Survival.

This LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this LGIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this LGIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment

Article 3. Regulatory Filings

Proposed Effective Date: 12/5/2019

Approved Effective Date:

3.1 Filing.

Transmission Provider shall file this LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required. Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If Interconnection Customer has executed this LGIA, or any amendment thereto, Interconnection Customer shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

Article 4. Scope of Service

4.1 Interconnection Product Options.

Interconnection Customer has selected the following (checked) type of Interconnection Service:

4.1.1 Energy Resource Interconnection Service.

4.1.1.1 The Product.

Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. To the extent Interconnection Customer wants to receive Energy Resource Interconnection Service, Transmission Provider shall construct facilities identified in Attachment A.

4.1.1.2 Transmission Delivery Service Implications.

Under Energy Resource Interconnection Service, Interconnection Customer will be eligible to inject power from the Large Generating Facility into and deliver power across the interconnecting Transmission Provider's Transmission System on an "as available" basis up to the amount of MWs identified in the applicable stability and steady state studies to the extent the upgrades initially required to qualify for Energy Resource Interconnection Service have been constructed. Where eligible to do so (e.g., PJM, ISO-NE, NYISO), Interconnection Customer may place a bid to sell into the market up to the maximum identified Large Generating Facility output, subject to any conditions specified in the interconnection service approval, and the Large Generating Facility will be dispatched to the extent Interconnection Customer's bid clears. In all other instances, no transmission delivery service from the Large Generating Facility is assured, but Interconnection Customer may obtain Point-to-Point Transmission Service, Network Integration Transmission Service, or be used for secondary network transmission service, pursuant to Transmission Provider's Tariff, up to the maximum output

identified in the stability and steady state studies. In those instances, in order for Interconnection Customer to obtain the right to deliver or inject energy beyond the Large Generating Facility Point of Interconnection or to improve its ability to do so, transmission delivery service must be obtained pursuant to the provisions of Transmission Provider's Tariff. The Interconnection Customer's ability to inject its Large Generating Facility output beyond the Point of Interconnection, therefore, will depend on the existing capacity of Transmission Provider's Transmission System at such time as a transmission service request is made that would accommodate such delivery. The provision of firm Point-to-Point Transmission Service or Network Integration Transmission Service may require the construction of additional Network Upgrades.

4.1.2 Network Resource Interconnection Service.

4.1.2.1 The Product.

Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility (1) in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market based congestion management, in the same manner as all Network Resources. To the extent Interconnection Customer wants to receive Network Resource Interconnection Service, Transmission Provider shall construct the facilities identified in Attachment A to this LGIA.

4.1.2.2 Transmission Delivery Service Implications.

Network Resource Interconnection Service allows Interconnection Customer's Large Generating Facility to be designated by any Network Customer under the Tariff on Transmission Provider's Transmission System as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. Although Network Resource Interconnection Service does not convey a reservation of transmission service, any Network Customer under the Tariff can utilize its network service under the Tariff to obtain delivery of energy from the interconnected Interconnection Customer's Large Generating Facility in the same manner as it accesses Network Resources. A Large Generating Facility receiving Network Resource Interconnection Service may also be used to provide Ancillary Services after technical studies and/or periodic analyses are performed with respect to the Large Generating Facility's ability to provide any applicable Ancillary

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Network Resource. However, if an Interconnection Customer's Large Generating Facility has not been designated as a Network Resource by any load, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all generating facilities that are similarly situated. The provision of Network Integration Transmission Service or firm Point-to-Point Transmission Service may require additional studies and the construction of additional upgrades. Because such studies and upgrades would be associated with a request for delivery service under the Tariff, cost responsibility for the studies and upgrades would be in accordance with FERC's policy for pricing transmission delivery services.

Network Resource Interconnection Service does not necessarily provide Interconnection Customer with the capability to physically deliver the output of its Large Generating Facility to any particular load on Transmission Provider's Transmission System without incurring congestion costs. In the event of transmission constraints on Transmission Provider's Transmission System, Interconnection Customer's Large Generating Facility shall be subject to the applicable congestion management procedures in Transmission Provider's Transmission System in the same manner as Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that Interconnection Customer's Large Generating Facility be designated as a Network Resource by a Network Service Customer under the Tariff or that Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Large Generating Facility as a Network Resource, it must do so pursuant to Transmission Provider's Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining Network Resource Interconnection Service, any future transmission service request for delivery from the Large Generating Facility within Transmission Provider's Transmission System of any amount of capacity and/or energy, up to the amount initially studied, will not require that any additional studies be performed or that any further upgrades associated with such Large Generating Facility be undertaken, regardless of whether or not such Large Generating Facility is ever designated by a Network Customer as a Network Resource and regardless of changes in ownership of the Large Generating Facility. However, the reduction or elimination of congestion or redispatch costs may

Proposed Effective Date: 12/5/2019

require additional studies and the construction of additional upgrades.

To the extent Interconnection Customer enters into an arrangement for long term transmission service for deliveries from the Large Generating Facility outside Transmission Provider's Transmission System, such request may require additional studies and upgrades in order for Transmission Provider to grant such request.

4.2 Provision of Service.

Transmission Provider shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.

4.3 Performance Standards.

Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith. If such Party is a Transmission Provider or Transmission Owner, then that Party shall amend the LGIA and submit the amendment to FERC for approval.

4.4 No Transmission Delivery Service.

The execution of this LGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Provider's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.

4.5 Interconnection Customer Provided Services.

The services provided by Interconnection Customer under this LGIA are set forth in Article 9.6 and Article 13.5.1. Interconnection Customer shall be paid for such services in accordance with Article 11.6.

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

5.1 Options.

Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select the In-Service Date, Initial Synchronization Date, and Commercial Operation Date; and either the Standard Option or Alternate Option set forth below for completion of Transmission Provider's Interconnection Facilities and Network Upgrades as set forth in Appendix A, Interconnection Facilities and Network Upgrades, and such dates and selected option shall be set forth in Appendix B, Milestones. At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in Article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Transmission Provider, the Interconnection Customer shall notify Transmission Provider

Proposed Effective Date: 12/5/2019

Approved Effective Date:

within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

5.1.1 Standard Option.

Transmission Provider shall design, procure, and construct Transmission Provider's Interconnection Facilities and Network Upgrades, using Reasonable Efforts to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the dates set forth in Appendix B, LGIA Milestones. Transmission Provider shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Transmission Provider reasonably expects that it will not be able to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the specified dates, Transmission Provider shall promptly provide written notice to Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.1.2 Alternate Option.

If the dates designated by Interconnection Customer are acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days, and shall assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities by the designated dates.

If Transmission Provider subsequently fails to complete Transmission Provider's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B, LGIA Milestones; Transmission Provider shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each day that the applicable RTO or ISO refuses to grant clearances to install equipment.

5.1.3 Option to Build.

Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2. Transmission Provider and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

5.1.4 Negotiated Option.

If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3) If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Transmission Provider shall assume responsibility for the design, procurement and construction of all facilities other than Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

5.2 General Conditions Applicable to Option to Build.

If Interconnection Customer assumes responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades,

- (1) Interconnection Customer shall engineer, procure equipment, and construct Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Provider;
- (2) Interconnection Customer's engineering, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Transmission Provider would be subject in the engineering, procurement or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (3) Transmission Provider shall review and approve the engineering design, equipment acceptance tests, and the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (4) Prior to commencement of construction, Interconnection Customer shall provide to Transmission Provider a schedule for construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider;
- (5) At any time during construction, Transmission Provider shall have the right to gain unrestricted access to Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- (6) At any time during construction, should any phase of the engineering, equipment procurement, or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Provider, Interconnection Customer shall be obligated to remedy deficiencies in that portion of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (7) Interconnection Customer shall indemnify Transmission Provider for claims arising from Interconnection Customer's construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 Indemnity;
- (8) Interconnection Customer shall transfer control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Provider;
- (9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Transmission Provider's Interconnection Facilities and Stand-Alone Network Upgrades to Transmission Provider;
- (10) Transmission Provider shall approve and accept for operation and maintenance Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2; and
- (11) Interconnection Customer shall deliver to Transmission Provider "as-built" drawings, information, and any other documents that are reasonably required by Transmission Provider to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Transmission Provider.
- (12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission Provider the agreed upon amount of [\$ PLACEHOLDER] for Transmission Provider to execute the responsibilities enumerated to Transmission Provider under Article 5.2. Transmission Provider shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

5.3 Liquidated Damages.

The actual damages to Interconnection Customer, in the event Transmission Provider's Interconnection Facilities or Network Upgrades are not completed by the dates designated by Interconnection Customer and accepted by Transmission Provider

Proposed Effective Date: 12/5/2019

Approved Effective Date:

pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Provider to Interconnection Customer in the event that Transmission Provider does not complete any portion of Transmission Provider's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to $\frac{1}{2}$ of 1 percent per day of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades, in the aggregate, for which Transmission Provider has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades for which Transmission Provider has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Provider to Interconnection Customer as just compensation for the damages caused to Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this LGIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Provider's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for the Large Generating Facility's Trial Operation or to export power from the Large Generating Facility on the specified dates, unless Interconnection Customer would have been able to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for Large Generating Facility's Trial Operation or to export power from the Large Generating Facility, but for Transmission Provider's delay; (2) Transmission Provider's failure to meet the specified dates is the result of the action or inaction of Interconnection Customer or any other Interconnection Customer who has entered into an LGIA with Transmission Provider or any cause beyond Transmission Provider's reasonable control or reasonable ability to cure; (3) the Interconnection Customer has assumed responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades; or (4) the Parties have otherwise agreed.

5.4 Power System Stabilizers.

The Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the Applicable Reliability Council. Transmission Provider reserves the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. If the Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative. The requirements of this paragraph shall not apply to wind generators.

Proposed Effective Date: 12/5/2019

5.5 Equipment Procurement.

If responsibility for construction of Transmission Provider's Interconnection Facilities or Network Upgrades is to be borne by Transmission Provider, then Transmission Provider shall commence design of Transmission Provider's Interconnection Facilities or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

- 5.5.1** Transmission Provider has completed the Interconnection Facilities Study pursuant to the Interconnection Facilities Study Agreement;
- 5.5.2** Transmission Provider has received written authorization to proceed with design and procurement from Interconnection Customer by the date specified in Appendix B, LGIA Milestones; and
- 5.5.3** Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, LGIA Milestones.

5.6 Construction Commencement.

Transmission Provider shall commence construction of Transmission Provider's Interconnection Facilities and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

- 5.6.1** Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;
- 5.6.2** Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of Transmission Provider's Interconnection Facilities and Network Upgrades;
- 5.6.3** Transmission Provider has received written authorization to proceed with construction from Interconnection Customer by the date specified in Appendix B, LGIA Milestones; and
- 5.6.4** Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, LGIA Milestones.

5.7 Work Progress.

The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party. If, at any time, Interconnection Customer determines that the completion of Transmission Provider's Interconnection Facilities will not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Transmission Provider of such later date upon which the completion of Transmission Provider's Interconnection Facilities will be required.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

5.8 Information Exchange.

As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with Transmission Provider's Transmission System, and shall work diligently and in good faith to make any necessary design changes.

5.9 Other Interconnection Options

5.9.1 Limited Operation.

If any of Transmission Provider's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Large Generating Facility, Transmission Provider shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Large Generating Facility and Interconnection Customer's Interconnection Facilities may operate prior to the completion of Transmission Provider's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this LGIA. Transmission Provider shall permit Interconnection Customer to operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.

5.9.2 Provisional Interconnection Service.

Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Provider may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with the Interconnection Customer for limited Interconnection Service at the discretion of Transmission Provider based upon an evaluation that will consider the results of available studies. Transmission Provider shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission System. Transmission Provider shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of Interconnection Service from the Generating Facility. Where available studies indicate that such, Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, Transmission Provider will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are

Proposed Effective Date: 12/5/2019

Approved Effective Date:

required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated if necessary on a quarterly basis and at the Interconnection Customer's expense. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

5.10 Interconnection Customer's Interconnection Facilities ("ICIF").

Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.10.1 Interconnection Customer's Interconnection Facility Specifications.

Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Transmission Provider at least one-hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Transmission Provider shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Provider and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

5.10.2 Transmission Provider's Review.

Transmission Provider's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Provider, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Provider.

5.10.3 ICIF Construction.

The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one-hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Transmission Provider "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with Interconnection Customer's step-up

Proposed Effective Date: 12/5/2019

Approved Effective Date:

transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facility. The Interconnection Customer shall provide Transmission Provider specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

5.11 Transmission Provider's Interconnection Facilities Construction.

Transmission Provider's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one-hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Provider shall deliver to Interconnection Customer the following "as-built" drawings, information and documents for Transmission Provider's Interconnection Facilities [include appropriate drawings and relay diagrams]. Transmission Provider will obtain control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities.

5.12 Access Rights.

Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Large Generating Facility with the Transmission System; (ii) operate and maintain the Large Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this LGIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

5.13 Lands of Other Property Owners.

If any part of Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Transmission Provider or Transmission Owner, Transmission Provider or Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades upon such property.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

5.14 Permits.

Transmission Provider or Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Transmission Provider or Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to Transmission Provider's own, or an Affiliate's generation.

5.15 Early Construction of Base Case Facilities.

Interconnection Customer may request Transmission Provider to construct, and Transmission Provider shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades required for Interconnection Customer to be interconnected to the Transmission System which are included in the Base Case of the Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date.

5.16 Suspension.

Interconnection Customer reserves the right, upon written notice to Transmission Provider, to suspend at any time all work by Transmission Provider associated with the construction and installation of Transmission Provider's Interconnection Facilities and/or Network Upgrades required under this LGIA with the condition that Transmission System shall be left in a safe and reliable condition in accordance with Good Utility Practice and Transmission Provider's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Transmission Provider (i) has incurred pursuant to this LGIA prior to the suspension and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the Transmission System during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Transmission Provider cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Transmission Provider shall obtain Interconnection Customer's authorization to do so.

Transmission Provider shall invoice Interconnection Customer for such costs pursuant to Article 12 and shall use due diligence to minimize its costs. In the event Interconnection Customer suspends work by Transmission Provider required under this LGIA pursuant to this Article 5.16, and has not requested Transmission Provider to recommence the work required under this LGIA on or before the expiration of three (3) years following commencement of such suspension, this LGIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified.

5.16.1 Effect of Missed Interconnection Customer LGIA Milestones.

If Interconnection Customer fails to provide notice of suspension pursuant to Article 5.16, and Interconnection Customer fails to fulfill or complete any Interconnection Customer LGIA Milestone provided in Appendix B ("LGIA

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Milestone”), this constitutes a Breach under this LGIA. Depending upon the consequences of the Breach and effectiveness of the cure pursuant to Article 17, Transmission Provider’s LGIA Milestones may be revised, following consultation with Interconnection Customer, consistent with Reasonable Efforts, and in consideration of all relevant circumstances. Parties shall employ Reasonable Efforts to maintain their remaining respective LGIA Milestones.

5.16.2 Effect of Suspension; Parties Obligations.

In the event that Interconnection Customer suspends work pursuant to this Article 5.16, the applicable construction duration, timelines and schedules set forth in Appendix B shall be suspended during the period of suspension. Should Interconnection Customer thereafter request that work be recommenced, Appendix A and Appendix B may be revised to account for construction sequencing and modified milestones. If the Commercial Operation Date is extended beyond three (3) cumulative years described in Section 4.4.5 of the Revised LGIP and Article 2.3.1 of this LGIA, such an extension may be considered a Material Modification and result in the termination of the LGIA under Article 2.3.1. Interconnection Customer is required to maintain Site Control while this LGIA is in effect, including during suspension.

5.17 Taxes

5.17.1 Interconnection Customer Payments Not Taxable.

The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Provider for the installation of Transmission Provider’s Interconnection Facilities and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

5.17.2 Representations and Covenants.

In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Provider for Transmission Provider’s Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of Transmission Provider’s Interconnection Facilities that is a “dual-use intertie,” within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. For this purpose, “de minimis amount” means no more than percent of the total power flows in both directions, calculated in accordance with the “5 percent test” set forth in IRS Notice 88-129. This is not intended to be

Proposed Effective Date: 12/5/2019

Approved Effective Date:

an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Transmission Provider's request, Interconnection Customer shall provide Transmission Provider with a report from an independent engineer confirming its representation in clause (iii), above. Transmission Provider represents and covenants that the cost of Transmission Provider's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider.

Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Transmission Provider from the cost consequences of any current tax liability imposed against Transmission Provider as the result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Provider.

Transmission Provider shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this LGIA unless (i) Transmission Provider has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Provider should be reported as income subject to taxation or (ii) any Governmental Authority directs Transmission Provider to report payments or property as income subject to taxation; provided, however, that Transmission Provider may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Provider (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Transmission Provider for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Provider of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten-year testing period and the applicable statute of limitation, as it may be extended by Transmission Provider upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

5.17.4 Tax Gross-Up Amount.

Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Transmission Provider, in addition to the

Proposed Effective Date: 12/5/2019

Approved Effective Date:

amount paid for the Interconnection Facilities and Network Upgrades, an amount equal to (1) the current taxes imposed on Transmission Provider ("Current Taxes") on the excess of (a) the gross income realized by Transmission Provider as a result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Transmission Provider to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Transmission Provider's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Provider will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Transmission Provider's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Provider's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$. Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.17.5 Private Letter Ruling or Change or Clarification of Law.

At Interconnection Customer's request and expense, Transmission Provider shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Provider under this LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Transmission Provider and Interconnection Customer shall cooperate in good faith with respect to the submission of such request. Transmission Provider shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Provider shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.17.6 Subsequent Taxable Events.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

If, within ten (10) years from the date on which the relevant Transmission Provider's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenants contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this LGIA terminates and Transmission Provider retains ownership of the Interconnection Facilities and Network Upgrades, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Provider, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

5.17.7 Contests.

In the event any Governmental Authority determines that Transmission Provider's receipt of payments or property constitutes income that is subject to taxation, Transmission Provider shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Provider may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Transmission Provider reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Provider shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.

Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Transmission Provider may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Transmission Provider, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally-recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Provider for the tax at issue in the contest.

5.17.8 Refund.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

In the event that (a) a private letter ruling is issued to Transmission Provider which holds that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Provider under the terms of this LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Provider in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Provider under the terms of this LGIA is not taxable to Transmission Provider, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Provider are not subject to federal income tax, or (d) if Transmission Provider receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Provider pursuant to this LGIA, Transmission Provider shall promptly refund to Interconnection Customer the following:

- (i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,
- (ii) interest on any amount paid by Interconnection Customer to Transmission Provider for such taxes which Transmission Provider did not submit to the taxing authority, calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Provider refunds such payment to Interconnection Customer, and
- (iii) with respect to any such taxes paid by Transmission Provider, any refund or credit Transmission Provider receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Transmission Provider for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Provider to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Provider will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Provider has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to Transmission Provider's Interconnection Facilities. The intent of this provision is to leave the Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

5.17.9 Taxes Other Than Income Taxes.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Provider for which Interconnection Customer may be required to reimburse Transmission Provider under the terms of this LGIA. Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Transmission Provider shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Provider for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Provider.

5.17.10 Transmission Owners Who Are Not Transmission Providers.

If Transmission Provider is not the same entity as the Transmission Owner, then (i) all references in this Article 5.17 to Transmission Provider shall be deemed also to refer to and to include the Transmission Owner, as appropriate, and (ii) this LGIA shall not become effective until such Transmission Owner shall have agreed in writing to assume all of the duties and obligations of Transmission Provider under this Article 5.17 of this LGIA.

5.18 Tax Status.

Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this LGIA is intended to adversely affect any Transmission Provider's tax exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

5.19 Modification.

5.19.1 General.

Either Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, that Party shall provide to the other Party sufficient information regarding such modification so that the other Party may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be confidential hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) Calendar Days in advance of the commencement of the

Proposed Effective Date: 12/5/2019

Approved Effective Date:

work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Large Generating Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Transmission Provider shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission System, Transmission Provider's Interconnection Facilities or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

5.19.2 Standards.

Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed, and operated in accordance with this LGIA and Good Utility Practice.

5.19.3 Modification Costs.

Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Transmission Provider makes to Transmission Provider's Interconnection Facilities or the Transmission System to facilitate the interconnection of a third party to Transmission Provider's Interconnection Facilities or the Transmission System, or to provide transmission service to a third party under Transmission Provider's Tariff. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

Article 6. Testing and Inspection

6.1 Pre-Commercial Operation Date Testing and Modifications.

Prior to the Commercial Operation Date, Transmission Provider shall test Transmission Provider's Interconnection Facilities and Network Upgrades and Interconnection Customer shall test the Large Generating Facility and Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.

6.2 Post-Commercial Operation Date Testing and Modifications.

Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Large Generating Facility with the Transmission

Proposed Effective Date: 12/5/2019

Approved Effective Date:

System in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.

6.3 Right to Observe Testing.

Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities. The other Party has the right, at its own expense, to observe such testing.

6.4 Right to Inspect.

Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) review the settings of the other Party's System Protection Facilities and other protective equipment; and (iii) review the other Party's maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Party. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this LGIA.

Article 7. Metering

7.1 General.

Each Party shall comply with the Applicable Reliability Council requirements. Unless otherwise agreed by the Parties, Transmission Provider shall install Metering Equipment at the Point of Interconnection prior to any operation of the Large Generating Facility and shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Large Generating Facility shall be measured at or, at Transmission Provider's option, compensated to, the Point of Interconnection. Transmission Provider shall provide metering quantities, in analog and/or digital form, to Interconnection Customer upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

7.2 Check Meters.

Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Transmission Provider's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this LGIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

7.3 Standards.

Transmission Provider shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.

7.4 Testing of Metering Equipment.

Transmission Provider shall inspect and test all Transmission Provider-owned Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by Interconnection Customer, Transmission Provider shall, at Interconnection Customer's expense, inspect or test Metering Equipment more frequently than every two (2) years. Transmission Provider shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to Transmission Provider's failure to maintain, then Transmission Provider shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent from the measurement made by the standard meter used in the test, Transmission Provider shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment.

7.5 Metering Data.

At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and one or more locations designated by Interconnection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection.

Article 8. Communications

8.1 Interconnection Customer Obligations.

Interconnection Customer shall maintain satisfactory operating communications with Transmission Provider's Transmission System dispatcher or representative designated by Transmission Provider. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Large Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Transmission Provider as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Large Generating Facility to the location(s) specified by Transmission Provider. Any required maintenance of such communications equipment shall be performed by Interconnection Customer. Operational communications shall be activated and

Proposed Effective Date: 12/5/2019

maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data

8.2 Remote Terminal Unit.

Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer, or by Transmission Provider at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Provider through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. The communication protocol for the data circuit(s) shall be specified by Transmission Provider. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Provider.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

8.3 No Annexation.

Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

8.4 Provision of Data from a Variable Energy Resource.

The Interconnection Customer whose Generating Facility is a Variable Energy Resource shall provide meteorological and forced outage data to the Transmission Provider to the extent necessary for the Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources.

The Interconnection Customer with a Variable Energy Resource having wind as the energy source, at a minimum, will be required to provide the Transmission Provider with site-specific meteorological data including: manufacturer, model, and year of all wind turbines and meteorological instrumentation, latitude, longitude and hub height at every wind turbine and meteorological tower, real-time data including turbine generation (kW), wind speed (mph), turbine availability, wind direction (in degrees relative to true north), temperature (Celsius and F), pressure (mb), air density and turbine manufacturer power curve. The information provided shall be refreshed in approximately four-ten (4-10) second intervals with regard to its generation of Renewable Energy at the Facility.

The Interconnection Customer with a Variable Energy Resource having solar as the energy source, at a minimum, will be required to provide the Transmission Provider with site-specific meteorological data including: manufacturer, model and year of all panels, inverters and meteorological instrumentation, latitude and longitude of the center of the solar panels for every inverter and every meteorological tower, real-time data including inverter generation (kW), inverter availability, direct normal solar insolation (solar

Proposed Effective Date: 12/5/2019

Approved Effective Date:

intensity), temperature, barometric pressure, wind speed (mph), wind direction (degrees relative to true north) and solar panel manufacturer power curve. The information provided shall be refreshed as frequently as allowed by the SCADA System, not to exceed sixty (60) second intervals.

The Transmission Provider and Interconnection Customer whose Generating Facility is a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. The Interconnection Customer whose Generating Facility is a Variable Energy Resource also shall submit data to the Transmission Provider regarding all forced outages to the extent necessary for the Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the Transmission Provider including the frequency and timing of data submittals shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Provider. Such requirements for meteorological and forced outage data are set forth in Appendix C, Interconnection Details, of this LGIA, as they may change from time to time.

Article 9. Operations

- 9.1 General.** Each Party shall comply with the Applicable Reliability Council requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 Control Area Notification.** At least three months before Initial Synchronization Date, Interconnection Customer shall notify Transmission Provider in writing of the Control Area in which the Large Generating Facility will be located. If Interconnection Customer elects to locate the Large Generating Facility in a Control Area other than the Control Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this LGIA, and remote Control Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented prior to the placement of the Large Generating Facility in the other Control Area.
- 9.3 Transmission Provider Obligations.** Transmission Provider shall cause the Transmission System and Transmission Provider's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA. Transmission Provider may provide operating instructions to Interconnection Customer consistent with this LGIA and Transmission Provider's operating protocols and procedures as they may change from time to time. Transmission Provider will consider changes to its operating protocols and procedures proposed by Interconnection Customer.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

9.4 Interconnection Customer Obligations. Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA. Interconnection Customer shall operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of the Control Area of which it is part, as such requirements are set forth in Appendix C, Interconnection Details, of this LGIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Either Party may request that the other Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this LGIA.

9.5 Start-Up and Synchronization. Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Large Generating Facility to Transmission Provider's Transmission System.

9.6 Reactive Power and Primary Frequency Response.

9.6.1 Power Factor Design Criteria.

9.6.1.1 Synchronous Generation. Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all synchronous generators in the Control Area on a comparable basis.

9.6.1.2 Non-Synchronous Generation. Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Provider has established a different power factor range that applies to all non-synchronous generators in the Control Area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).¹ This requirement also applies to existing non-synchronous generators making upgrades that require a new Generator Interconnection Agreement where the System Impact Study shows the need for reactive power as a result of an upgrade.

Proposed Effective Date: 12/5/2019

[1] The effective date of Order 827 is October 14, 2016.

9.6.2 Voltage Schedules. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Transmission Provider shall require Interconnection Customer to operate the Large Generating Facility to produce or absorb reactive power within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). Transmission Provider's voltage schedules shall treat all sources of reactive power in the Control Area in an equitable and not unduly discriminatory manner. Transmission Provider shall exercise Reasonable Efforts to provide Interconnection Customer with such schedules at least one (1) day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission System. Interconnection Customer shall operate the Large Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify the System Operator.

9.6.2.1 Voltage Regulators.

Whenever the Large Generating Facility is operated in parallel with the Transmission System and voltage regulators are capable of operation, Interconnection Customer shall operate the Large Generating Facility with its voltage regulators in automatic operation. If the Large Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Large Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Large Generating Facility's generating unit(s) and steady state stability limits. Interconnection Customer shall not cause its Large Generating Facility to disconnect automatically or instantaneously from the Transmission System or trip any generating unit comprising the Large Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Control Area on a comparable basis.

9.6.3 Payment for Reactive Power.

Transmission Provider is required to pay Interconnection Customer for reactive power that Interconnection Customer provides or absorbs from the Large Generating Facility when Transmission Provider requests Interconnection Customer to operate its Large Generating Facility outside the range specified in Article 9.6.1, provided that if

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Transmission Provider pays its own or affiliated generators for reactive power service within the specified range, it must also pay Interconnection Customer. Payments shall be pursuant to Article 11.6 or such other agreement to which the Parties have otherwise agreed.

9.6.4 Primary Frequency Response.

Interconnection Customer shall ensure the primary frequency response capability of its Large Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Large Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Large Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Provider that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in Articles 9.6.4.1 and 9.6.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

9.6.4.1 Governor or Equivalent Controls.

Whenever the Large Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the Transmission System.

9.6.4.2 Timely and Sustained Response.

Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Large Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value

Proposed Effective Date: 12/5/2019

Approved Effective Date:

within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

9.6.4.3 Exemptions.

Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Articles 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Article 9.6.4, but shall be otherwise exempt from the operating requirements in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

9.6.4.4 Electric Storage Resources.

Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.3 of this Agreement. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Article 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System

Proposed Effective Date: 12/5/2019

Approved Effective Date:

and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

9.7 Outages and Interruptions.

9.7.1 Outages.

9.7.1.1 Outage Authority and Coordination.

Each Party may in accordance with Good Utility Practice in coordination with the other Party remove from service any of its respective Interconnection Facilities or Network Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Party of such removal.

9.7.1.2 Outage Schedules.

Transmission Provider shall post scheduled outages of its transmission facilities on the OASIS. Interconnection Customer shall submit its planned maintenance schedules for the Large Generating Facility to Transmission Provider for a minimum of a rolling twenty-four month period. Interconnection Customer shall update its planned maintenance schedules as necessary. Transmission Provider may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of generation supply shall not be a criterion in determining Transmission System reliability. Transmission Provider shall compensate Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred

Proposed Effective Date: 12/5/2019

Approved Effective Date:

absent Transmission Provider's request to reschedule maintenance. Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities.

9.7.1.3 Outage Restoration.

If an outage on a Party's Interconnection Facilities or Network Upgrades adversely affects the other Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Party, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice explaining the nature of the outage.

9.7.2 Interruption of Service.

If required by Good Utility Practice to do so, Transmission Provider may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Provider's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

9.7.2.1 The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

9.7.2.2 Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission System;

9.7.2.3 When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Provider shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;

9.7.2.4 Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Provider shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify

Proposed Effective Date: 12/5/2019

Interconnection Customer of the expected duration. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer and Transmission Provider; and

- 9.7.2.5** The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Large Generating Facility, Interconnection Facilities, and the Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice.

9.7.3 Under-Frequency and Over Frequency Conditions.

The Transmission System is designed to automatically activate a load-shed program as required by the Applicable Reliability Council in the event of an under-frequency system disturbance. Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the Applicable Reliability Council to ensure "ride through" capability of the Transmission System. Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with Transmission Provider in accordance with Good Utility Practice. The term "ride through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice.

9.7.4 System Protection and Other Control Requirements.

- 9.7.4.1 System Protection Facilities.** Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Provider shall install at Interconnection Customer's expense any System Protection Facilities that may be required on Transmission Provider's Interconnection Facilities or the Transmission System as a result of the interconnection of the Large Generating Facility and Interconnection Customer's Interconnection Facilities.

- 9.7.4.2** Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.

- 9.7.4.3** Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

- 9.7.4.4** Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of Interconnection Customer's units.
- 9.7.4.5** Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice.
- 9.7.4.6** Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated

9.7.5 Requirements for Protection.

In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the Transmission System not otherwise isolated by Transmission Provider's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the Transmission System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission System could adversely affect the Large Generating Facility.

9.7.6 Power Quality.

Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric

Proposed Effective Date: 12/5/2019

Approved Effective Date:

industry standard, ANSI Standard C84.1-1989, or the applicable superseding electric industry standard, shall control.

9.8 Switching and Tagging Rules.

Each Party shall provide the other Party a copy of its switching and tagging rules that are applicable to the other Party's activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

9.9 Use of Interconnection Facilities by Third Parties.

9.9.1 Purpose of Interconnection Facilities.

Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Transmission System and shall be used for no other purpose.

9.9.2 Third Party Users.

If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use Transmission Provider's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to FERC for resolution.

9.10 Disturbance Analysis Data Exchange.

The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or Transmission Provider's Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice

Article 10. Maintenance.

10.1 Transmission Provider Obligations.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Transmission Provider shall maintain the Transmission System and Transmission Provider's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.2 Interconnection Customer Obligations.

Interconnection Customer shall maintain the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.3 Coordination.

The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Large Generating Facility and the Interconnection Facilities.

10.4 Secondary Systems.

Each Party shall cooperate with the other in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. Each Party shall provide advance notice to the other Party before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

10.5 Operating and Maintenance Expenses.

Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Transmission Provider's Interconnection Facilities.

Article 11. Performance Obligation.

11.1 Interconnection Customer Interconnection Facilities.

Interconnection Customer shall design, procure, construct, install, own and/or control Interconnection Customer Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at its sole expense.

11.2 Transmission Provider's Interconnection Facilities.

Transmission Provider or Transmission Owner shall design, procure, construct, install, own and/or control the Transmission Provider's Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at the sole expense of the Interconnection Customer.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

11.3 Network Upgrades and Distribution Upgrades.

Transmission Provider or Transmission Owner shall design, procure, construct, install, and own the Network Upgrades and Distribution Upgrades described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades. The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Unless Transmission Provider or Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by Interconnection Customer.

11.4 Transmission Credits.

11.4.1 Repayment of Amounts Advanced for Network Upgrades.

Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to Transmission Provider and Affected System Operator, if any, for the Network Upgrades, including any tax gross-up or other tax-related payments associated with Network Upgrades, and not refunded to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under Transmission Provider's Tariff and Affected System's Tariff for transmission services with respect to the Large Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii) from the date of any cash payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interconnection Customer may assign such repayment rights to any person.

Notwithstanding the foregoing, Interconnection Customer, Transmission Provider, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Transmission Provider and Affected System Operator take one of the following actions no later than five years from the Commercial Operation Date: (1) return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that Transmission Provider or Affected System Operator will continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

If the Large Generating Facility fails to achieve Commercial Operation, but it or another Generating Facility is later constructed and makes use of the Network Upgrades, Transmission Provider and Affected System Operator shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can

Proposed Effective Date: 12/5/2019

occur, the Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which reimbursement must be made.

11.4.2 Special Provisions for Affected Systems.

Unless Transmission Provider provides, under the LGIA, for the repayment of amounts advanced to Affected System Operator for Network Upgrades, Interconnection Customer and Affected System Operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the repayment by the Affected System Operator.

- 11.4.3** Notwithstanding any other provision of this LGIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or in the future under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Large Generating Facility.

11.5 Provision of Security.

At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of a Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades, Interconnection Customer shall provide Transmission Provider, at Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Provider and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring and installing the applicable portion of Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Provider for these purposes.

In addition:

- 11.5.1** The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Provider, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.
- 11.5.2** The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

11.5.3 The surety bond must be issued by an insurer reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

11.6 Interconnection Customer Compensation.

If Transmission Provider requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.5.1 of this LGIA, Transmission Provider shall compensate Interconnection Customer in accordance with Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to an RTO or ISO FERC-approved rate schedule. Interconnection Customer shall serve Transmission Provider or RTO or ISO with any filing of a proposed rate schedule at the time of such filing with FERC. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb any Reactive Power under this LGIA, Transmission Provider agrees to compensate Interconnection Customer in such amount as would have been due Interconnection Customer had the rate schedule been in effect at the time service commenced; provided, however, that such rate schedule must be filed at FERC or other appropriate Governmental Authority within sixty (60) Calendar Days of the commencement of service

11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition.

Transmission Provider or RTO or ISO shall compensate Interconnection Customer for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the Transmission System during an Emergency Condition in accordance with Article 11.6.

Article 12. Invoice.

12.1 General.

Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

12.2 Final Invoice.

Within six months after completion of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades, Transmission Provider shall provide an invoice of the final cost of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Provider shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of

Proposed Effective Date: 12/5/2019

Approved Effective Date:

construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

12.3 Payment.

Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by either Party will not constitute a waiver of any rights or claims either Party may have under this LGIA. If Interconnection Customer has not paid the final invoice following a withdrawal within thirty (30) Calendar Days, Transmission Provider shall draw upon the security provided under this LGIA to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

12.4 Disputes.

In the event of a billing dispute between Transmission Provider and Interconnection Customer, Transmission Provider shall continue to provide Interconnection Service under this LGIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Provider may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii)

Article 13. Emergencies

13.1 Definition.

Emergency Condition" shall mean a condition or situation: (i) that in the judgment of the Party making the claim is imminently likely to endanger life or property; (ii) that, in the case of Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Provider's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (iii) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Large Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by this LGIA to possess black start capability.

13.2 Obligations.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Each Party shall comply with the Emergency Condition procedures of the applicable ISO/RTO, NERC, the Applicable Reliability Council, Applicable Laws and Regulations, and any emergency procedures agreed to by the Joint Operating Committee.

13.3 Notice.

Transmission Provider shall notify Interconnection Customer promptly when it becomes aware of an Emergency Condition that affects Transmission Provider's Interconnection Facilities or the Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Interconnection Customer shall notify Transmission Provider promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission System or Transmission Provider's Interconnection Facilities. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Provider's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.

13.4 Immediate Action.

Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Transmission Provider, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Provider or otherwise regarding the Transmission System.

13.5 Transmission Provider Authority.

13.5.1 General.

Transmission Provider may take whatever actions or inactions with regard to the Transmission System or Transmission Provider's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Transmission System or Transmission Provider's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.

Transmission Provider shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Provider may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.5.2; directing Interconnection Customer to assist with blackstart (if available) or

Proposed Effective Date: 12/5/2019

Approved Effective Date:

restoration efforts; or altering the outage schedules of the Large Generating Facility and Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Transmission Provider's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

13.5.2 Reduction and Disconnection.

Transmission Provider may reduce Interconnection Service or disconnect the Large Generating Facility or Interconnection Customer's Interconnection Facilities, when such, reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to Transmission Provider's Tariff. When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the reduction or disconnection during periods of least impact to Interconnection Customer and Transmission Provider. Any reduction or disconnection shall continue only for so long as reasonably necessary under Good Utility Practice. The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

13.6 Interconnection Customer Authority.

Consistent with Good Utility Practice and the LGIA and the Revised LGIP, Interconnection Customer may take actions or inactions with regard to the Large Generating Facility or Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Large Generating Facility or Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and Transmission Provider's Interconnection Facilities. Transmission Provider shall use Reasonable Efforts to assist Interconnection Customer in such actions.

13.7 Limited Liability.

Except as otherwise provided in Article 11.6.1 of this LGIA, neither Party shall be liable to the other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

Article 14. Regulatory Requirements and Governing Law

14.1 Regulatory Requirements.

Proposed Effective Date: 12/5/2019

Each Party's obligations under this LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978.

14.2 Governing Law.

- 14.2.1** The validity, interpretation and performance of this LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.
- 14.2.2** This LGIA is subject to all Applicable Laws and Regulations.
- 14.2.3** Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

Article 15. Notices

15.1 General.

Unless otherwise provided in this LGIA, any notice, demand or request required or permitted to be given by either Party to the other and any instrument required or permitted to be tendered or delivered by either Party in writing to the other shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for Delivery of Notices and Billings.

Either Party may change the notice information in this LGIA by giving five (5) Business Days written notice prior to the effective date of the change.

15.2 Billings and Payments.

Billings and payments shall be sent to the addresses set out in Appendix F.

15.3 Alternative Forms of Notice.

Any notice or request required or permitted to be given by a Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

15.4 Operations and Maintenance Notice.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Each Party shall notify the other Party in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

Article 16. Force Majeure

16.1 Force Majeure.

16.1.1 Economic hardship is not considered a Force Majeure event.

16.1.2 Neither Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

Article 17. Default

17.1 Default.

17.1.1 General.

No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this LGIA or the result of an act of omission of the other Party. Upon a Breach, the non-breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the breaching Party shall have thirty (30) Calendar Days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

17.1.2 Right to Terminate.

If a Breach is not cured as provided in this article, or if a Breach is not capable of being cured within the period provided for herein, the non-breaching Party shall have the right to declare a Default and terminate this

Proposed Effective Date: 12/5/2019

LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this LGIA, to recover from the breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this LGIA.

Article 18. Indemnity, Consequential Damages and Insurance

18.1 Indemnity.

The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnified Party.

18.1.1 Indemnified Person.

If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

18.1.2 Indemnifying Party.

If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

18.1.3 Indemnity Procedures.

Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert

Proposed Effective Date: 12/5/2019

Approved Effective Date:

such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

18.2 Consequential Damages.

Other than the Liquidated Damages heretofore described, in no event shall either Party be liable under any provision of this LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

18.3 Insurance.

Each party shall, at its own expense, maintain in force throughout the period of this LGIA, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

18.3.1 Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

18.3.2 Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with

Proposed Effective Date: 12/5/2019

Approved Effective Date:

minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.

- 18.3.3** Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.
- 18.3.4** Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.3.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.
- 18.3.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 18.3.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.
- 18.3.8** The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this LGIA.

Proposed Effective Date: 12/5/2019

- 18.3.9** Within ten (10) Calendar Days following execution of this LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) Calendar Days thereafter, each Party shall provide certification of all insurance required in this LGIA, executed by each insurer or by an authorized representative of each insurer.
- 18.3.10** In addition to the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program; provided that, such Party's self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. In the event that a Party is permitted to self-insure pursuant to this article, it shall certify to the other Party with a letter of self-insurance that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.
- 18.3.11** The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this LGIA.

Article 19. Assignment

19.1 Assignment.

This LGIA may be assigned by either Party only with the written consent of the other; provided that either Party may assign this LGIA without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this LGIA; and provided further that Interconnection Customer shall have the right to assign this LGIA, without the consent of Transmission Provider, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that Interconnection Customer will promptly notify Transmission Provider of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Provider of the date and particulars of any such exercise of assignment right(s), including providing the Transmission Provider with proof that it meets the requirements of Articles 11.5 and 18.3. Any attempted assignment that violates this article is void and ineffective. Any assignment under this LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

Article 20. Severability

- 20.1 Severability.** If any provision in this LGIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this LGIA; provided that if Interconnection Customer (or any

Proposed Effective Date: 12/5/2019

third party, but only if such third party is not acting at the direction of Transmission Provider) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1)

Article 21. Comparability

21.1 Comparability.

The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

Article 22. Confidentiality

22.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing, the basis for asserting that the information referred to in this Article 22 warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

22.1.1 Term.

During the term of this LGIA, and for a period of three (3) years after the expiration or termination of this LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

22.1.2 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the

Proposed Effective Date: 12/5/2019

Approved Effective Date:

receiving Party or Breach of this LGIA; or (6) is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

22.1.3 Release of Confidential Information.

Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this LGIA, unless such person has first been advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

22.1.4 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

22.1.5 No Warranties.

By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

22.1.6 Standard of Care.

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this LGIA or its regulatory requirements.

22.1.7 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

22.1.8 Termination of Agreement.

Upon termination of this LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the other Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.

22.1.9 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Article 22. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

22.1.10 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this LGIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party to this LGIA prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such

Proposed Effective Date: 12/5/2019

Approved Effective Date:

information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

- 22.1.11** Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this LGIA (“Confidential Information”) shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIA or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

Article 23. Environmental Releases

- 23.1** Each Party shall notify the other Party, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Party copies of any publicly available reports filed with any Governmental Authorities addressing such events.

Article 24. Information Requirements

24.1 Information Acquisition.

Transmission Provider and Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

24.2 Information Submission by Transmission Provider.

The initial information submission by Transmission Provider shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Transmission System information necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise agreed to by the Parties. On a monthly basis Transmission Provider shall provide Interconnection Customer a status report on the construction and installation of Transmission Provider's Interconnection Facilities and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

24.3 Updated Information Submission by Interconnection Customer.

The updated information submission by Interconnection Customer, including manufacturer information, shall occur no later than one-hundred eighty (180) Calendar Days prior to the Trial Operation. Interconnection Customer shall submit a completed copy of the Large Generating Facility data requirements contained in Appendix 1 to the Revised LGIP. It shall also include any additional information provided to Transmission Provider for the Definitive Interconnection System Impact Study and Interconnection Facilities Study. Information in this submission shall be the most current Large Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Transmission Provider standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information.

If Interconnection Customer's data is materially different from what was originally provided to Transmission Provider pursuant to the Interconnection Study Agreement between Transmission Provider and Interconnection Customer, then Transmission Provider will conduct appropriate studies to determine the impact on Transmission Provider Transmission System based on the actual data submitted pursuant to this Article 24.3. The Interconnection Customer shall not begin Trial Operation until such studies are completed.

24.4 Information Supplementation.

Prior to the Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Large

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to Transmission Provider for each individual generating unit in a station.

Subsequent to the Operation Date, Interconnection Customer shall provide Transmission Provider any information changes due to equipment replacement, repair, or adjustment. Transmission Provider shall provide Interconnection Customer any information changes due to equipment replacement, repair or adjustment in the directly connected substation or any adjacent Transmission Provider-owned substation that may affect Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

Article 25. Information Access and Audit Rights

25.1 Information Access.

Each Party (the "disclosing Party") shall make available to the other Party information that is in the possession of the disclosing Party and is necessary in order for the other Party to: (i) verify the costs incurred by the disclosing Party for which the other Party is responsible under this LGIA; and (ii) carry out its obligations and responsibilities under this LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this LGIA.

25.2 Reporting of Non-Force Majeure Events.

Each Party (the "notifying Party") shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this LGIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this LGIA.

25.3 Audit Rights.

Subject to the requirements of confidentiality under Article 22 of this LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit at its own expense the other Party's accounts and records pertaining to either Party's performance or either Party's satisfaction of obligations under this LGIA. Such audit rights shall include audits of the other Party's costs, calculation of invoiced amounts, Transmission Provider's efforts to allocate responsibility for the provision of reactive support to the Transmission System, Transmission Provider's efforts to allocate responsibility for interruption or reduction of generation on the Transmission System, and each Party's actions in an Emergency Condition. Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this

Proposed Effective Date: 12/5/2019

Approved Effective Date:

LGIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

25.4 Audit Rights Periods.

25.4.1 Audit Rights Period for Construction-Related Accounts and Records.

Accounts and records related to the design, engineering, procurement, and construction of Transmission Provider's Interconnection Facilities and Network Upgrades shall be subject to audit for a period of twenty-four months following Transmission Provider's issuance of a final invoice in accordance with Article 12.2.

25.4.2 Audit Rights Period for All Other Accounts and Records.

Accounts and records related to either Party's performance or satisfaction of all obligations under this LGIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four months after the event for which the audit is sought.

25.5 Audit Results.

If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party together with those records from the audit which support such determination.

Article 26. Subcontractors

26.1 General.

Nothing in this LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this LGIA in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

26.2 Responsibility of Principal.

The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this LGIA. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Provider be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this LGIA. Any applicable obligation imposed by this LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

26.3 No Limitation by Insurance.

Proposed Effective Date: 12/5/2019

The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

Article 27. Disputes

27.1 Submission.

In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with this LGIA or its performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

27.2 External Arbitration Procedures.

Any arbitration initiated under this LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail.

27.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of this LGIA and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

Proposed Effective Date: 12/5/2019

27.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one-half the cost of the single arbitrator jointly chosen by the Parties.

Article 28. Representations, Warranties, and Covenants

28.1 General.

Each Party makes the following representations, warranties and covenants:

28.1.1 Good Standing.

Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this LGIA.

28.1.2 Authority.

Such Party has the right, power and authority to enter into this LGIA, to become a Party hereto and to perform its obligations hereunder. This LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

28.1.3 No Conflict.

The execution, delivery and performance of this LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

28.1.4 Consent and Approval.

Such Party has sought or obtained, or, in accordance with this LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this LGIA, and it will provide to any Governmental Authority notice of any actions under this LGIA that are required by Applicable Laws and Regulations

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Article 29. Joint Operating Committee

29.1 Joint Operating Committee.

Except in the case of ISOs and RTOs, Transmission Provider shall constitute a Joint Operating Committee to coordinate operating and technical considerations of Interconnection Service. At least six (6) months prior to the expected Initial Synchronization Date, Interconnection Customer and Transmission Provider shall each appoint one representative and one alternate to the Joint Operating Committee. Each Interconnection Customer shall notify Transmission Provider of its appointment in writing. Such appointments may be changed at any time by similar notice. The Joint Operating Committee shall meet as necessary, but not less than once each calendar year, to carry out the duties set forth herein. The Joint Operating Committee shall hold a meeting at the request of either Party, at a time and place agreed upon by the representatives. The Joint Operating Committee shall perform all of its duties consistent with the provisions of this LGIA. Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. The duties of the Joint Operating Committee shall include the following:

- 29.1.1** Establish data requirements and operating record requirements.
- 29.1.2** Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.
- 29.1.3** Annually review the one (1) year forecast of maintenance and planned outage schedules of Transmission Provider's and Interconnection Customer's facilities at the Point of Interconnection.
- 29.1.4** Coordinate the scheduling of maintenance and planned outages on the Interconnection Facilities, the Large Generating Facility and other facilities that impact the normal operation of the interconnection of the Large Generating Facility to the Transmission System.
- 29.1.5** Ensure that information is being provided by each Party regarding equipment availability.
- 29.1.6** Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

Article 30. Miscellaneous

30.1 Binding Effect.

This LGIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

30.2 Conflicts.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

In the event of a conflict between the body of this LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this LGIA shall prevail and be deemed the final intent of the Parties.

30.3 Rules of Interpretation.

This LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this LGIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this LGIA or such Appendix to this LGIA, or such Section to the Revised LGIP or such Appendix to the Revised LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

30.4 Entire Agreement.

This LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this LGIA. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this LGIA.

30.5 No Third Party Beneficiaries.

This LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

30.6 Waiver.

The failure of a Party to this LGIA to insist, on any occasion, upon strict performance of any provision of this LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Any waiver at any time by either Party of its rights with respect to this LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this LGIA. Termination or Default of this LGIA for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer's legal rights to obtain an interconnection from Transmission Provider. Any waiver of this LGIA shall, if requested, be provided in writing.

30.7 Headings.

The descriptive headings of the various Articles of this LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this LGIA.

30.8 Multiple Counterparts.

This LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

30.9 Amendment.

The Parties may by mutual agreement amend this LGIA by a written instrument duly executed by the Parties.

30.10 Modification by the Parties.

The Parties may by mutual agreement amend the Appendices to this LGIA by a written instrument duly executed by the Parties. Such amendment shall become effective and a part of this LGIA upon satisfaction of all Applicable Laws and Regulations.

30.11 Reservation of Rights.

Transmission Provider shall have the right to make a unilateral filing with FERC to modify this LGIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this LGIA pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this LGIA shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

30.12 No Partnership.

This LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

IN WITNESS WHEREOF, the Parties have executed this LGIA in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Appendix A to LGIA

Interconnection Facilities, Network Upgrades and Distribution Upgrades

1. Interconnection Facilities:

(a) [insert Interconnection Customer's Interconnection Facilities]:

(b) [insert Transmission Provider's Interconnection Facilities]:

2. Network Upgrades:

(a) [insert Stand Alone Network Upgrades]:

(b) [insert Other Network Upgrades]:

3. Distribution Upgrades:

Appendix B to LGIA

LGIA Milestones

Appendix C to LGIA

Interconnection Details

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Appendix D to LGIA

Security Arrangements Details

Infrastructure security of Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day Transmission System reliability and operational security. FERC will expect all Transmission Providers, market participants, and Interconnection Customers interconnected to the Transmission System to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

Proposed Effective Date: 12/5/2019

Appendix E to LGIA
Commercial Operation Date

This Appendix E is a part of the LGIA between Transmission Provider and Interconnection Customer.

[Date]

[Transmission Provider Address]

Re: _____ Large Generating Facility

Dear: _____

On **[Date]** **[Interconnection Customer]** has completed Trial Operation of Unit No. _____. This letter confirms that **[Interconnection Customer]** commenced Commercial Operation of Unit No. _____ at the Large Generating Facility, effective as of **[Date plus one day]**.

Thank you.

[Signature]

[Interconnection Customer Representative]

Proposed Effective Date: 12/5/2019

Approved Effective Date:

Appendix F to LGIA

Addresses for Delivery of Notices and Billings

Notices:.

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Billings and Payments:

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Alternative Forms of Delivery of Notices (telephone, facsimile or email):

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Proposed Effective Date: 12/5/2019

APPENDIX G

INTERCONNECTION REQUIREMENTS FOR A WIND GENERATING PLANT

Appendix G sets forth requirements and provisions specific to a wind generating plant. All other requirements of this LGIA continue to apply to wind generating plant interconnections.

A. Technical Standards Applicable to a Wind Generating Plant

i. Low Voltage Ride-Through (LVRT) Capability

A wind generating plant shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

Transition Period LVRT Standard

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by Transmission Provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or “GSU”), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.

Proposed Effective Date: 12/5/2019

Approved Effective Date:

5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

Post-transition Period LVRT Standard

All wind generating plants subject to FERC Order No. 661 and not covered by the transition period described above must meet the following requirements:

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by Transmission Provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be nine (9) cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system. A wind generating plant shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero (0) volts, as measured at the high voltage side of the wind GSU.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

ii. Power Factor Design Criteria (Reactive Power)

The following reactive power requirements apply only to a newly interconnecting wind generating plant that has executed a Facilities Study Agreement as of the effective date of the Final Rule establishing the reactive power requirements for non-synchronous generators in Article 9.6.1 of this LGIA (Order No. 827).² A wind generating plant to

Proposed Effective Date: 12/5/2019

which this provision applies shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this LGIA, if Transmission Provider's System Impact Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by Transmission Provider, or a combination of the two. The Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the System Impact Study shows this to be required for system safety or reliability.

- [2] If identified in the System Impact Study as necessary to ensure safety or reliability, existing Generating Facilities being upgraded that require a new interconnection request are subject to this reactive power requirement.

iii. Supervisory Control and Data Acquisition (SCADA) Capability

The wind plant shall provide SCADA capability to transmit data and receive instructions from Transmission Provider to protect system reliability. Transmission Provider and the wind plant Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

Proposed Effective Date: 12/5/2019

APPENDIX 6.1to Revised LGIP

INTERCONNECTION PROCEDURES FOR A WIND GENERATING PLANT

Appendix G to the LGIA sets forth procedures specific to a wind generating plant. All other requirements of this Revised LGIP continue to apply to wind generating plant interconnections.

A. Special Procedures Applicable to Wind Generators

The wind plant Interconnection Customer, in completing the Interconnection Request required by section 3.4 of this Revised LGIP, may provide to Transmission Provider a set of preliminary electrical design specifications depicting the wind plant as a single equivalent generator. Upon satisfying these and other applicable Interconnection Request conditions, the wind plant may enter the Queue and receive the base case data as provided for in this Revised LGIP.

No later than six months after submitting an Interconnection Request completed in this manner, the wind plant Interconnection Customer must submit completed detailed electrical design specifications and other data (including collector system layout data) needed to allow Transmission Provider to complete the System Impact Study.

ATTACHMENT N

Standard Large Generator Interconnection Procedures – Revised (“Revised (LGIP)”)

Applicable to Generating Facilities that exceed 20 MWs connecting to the Transmission System

of

Public Service Company of Colorado

Note:- For further information regarding a large generation interconnection to the transmission system of any of the Xcel Energy Operating Companies, please consult the currently effective “”Interconnection Guidelines For Transmission Interconnected Producer-Owned Generation Greater than 20 MW”” available at the Xcel Energy Inc. website **at**

www.xcelenergy.com/docs/corpcomm/TransmissionInterconnectionGuidelines.pdf

TABLE OF CONTENTS

	<u>Page</u>
Section 1. Definitions	<u> </u>
Section 2. Scope and Application	<u> </u>
2.1 Application of ~~Revised LGIP. Standard Large Generator Interconnection Procedures~~	
2.2 Comparability	<u> </u>
2.3 Base Case Data	<u> </u>
2.4 No Applicability to Transmission Service	<u> </u>
Section 3. Interconnection Requests	<u> </u>
3.1 General	<u> </u>
3.2 Identification of Types of Interconnection Services	<u> </u>
3.2.1 Energy Resource Interconnection Service	<u> </u>
3.2.1.1 The Product	<u> </u>
3.2.1.2 The Study	<u> </u>
3.2.2 Network Resource Interconnection Service	<u> </u>
3.2.2.1 The Product	<u> </u>
3.2.2.2 The Study	<u> </u>
3.3 Utilization of Surplus Interconnection Service	<u> </u>
3.3.1 Surplus Interconnection Service Requests	<u> </u>
3.3.2 Process for Evaluating and Obtaining ~~Surplus~~ Interconnection Service Requests	<u> </u>
3.4 Valid Interconnection Request	<u> </u> <u>3.3.</u>
3.4.1 Initiating an Interconnection Request	<u> </u>
3.4.2 Acknowledgment of Interconnection Request	<u> </u>
3.4.3 Deficiencies in Interconnection Request	<u> </u>
3.4.4 Scoping Meeting	<u> </u>
3.5 OASIS Posting	<u> </u>
3.5.1 ~~OASIS Posting~~	<u> </u>
~~3.5.1.1 Definitive Study Phase 1 — Interconnection — Feasibility — Studies~~	<u> </u>
~~processing time~~	<u> </u>
~~3.5.1.2 Definitive — Interconnection System Impact Studies Processing Time~~	<u> </u>
~~3.5.1.3 Interconnection Facilities Studies Processing Time~~	<u> </u>
~~3.5.1.4 Interconnection Service Requests Withdrawn from Interconnection Queue~~	<u> </u>
3.5.2 ~~Requirement to Post Interconnection Study Metrics~~	<u> </u>
3.6 Coordination with Affected Systems	<u> </u>
3.7 Withdrawal	<u> </u>
3.7.1 ~~Withdrawal Penalty~~	<u> </u>
~~3.7.1.1 Calculation of the Withdrawal Penalty~~	<u> </u>
~~3.7.1.2 Distribution of the Withdrawal Penalty~~	<u> </u>
3.8 Identification of Contingent Facilities	<u> </u>
Section 4. Interconnection Request Evaluation Process	<u> </u>
4.1 Queue Position	<u> </u>

4.1	4.1.1	Assignment of Queue Position	
4.1.2		Higher Queue Position	
4.2		General Study Process	
4.2.1		Initiation of a Definitive 4.2—Clustering Interconnection System Impact Study Cluster	
4.2.2		Initiation of a Resource Solicitation Cluster	
4.2.3		Study Cost Allocation	
4.2.4		Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation	
4.3		Transferability of Queue Position	
4.4		Modifications	
	4.4.6	Technological Change Procedure	
	4.4.6.1	Technological Change Request	
	4.4.6.2	Technological Change Request Evaluation	
4.4.6.3		Transmission Provider Technological Advancement Study Process	

Section 5.	Transition Procedures	
5.1	Procedures for Transitioning Interconnection Requests Submitted Prior to the First- Ready, First-Served Revised LGIP—Effective Date of Standard Large Generator	
	5.1.1.1 Transitional Serial Projects	
	5.1.1.2 Combined System Impact and Interconnection Facilities Transitional Cluster Study Procedures	
5.1	Queue Position for Pending Requests	
5.2	New Transmission Provider	

Section 6.	Informational Interconnection Feasibility Study	
6.1	Informational Interconnection Feasibility Study Agreement	
6.2	Scope of Informational Interconnection Feasibility Study	
6.3	Informational Interconnection Feasibility Study Procedures	
6.4	Re-Study	

Section 7.	Interconnection System Impact Study Phase 1 through 3 of the Definitive Interconnection Study Process	
7.1	Definitive Interconnection System Impact Study Agreement	
7.2	Execution of Definitive Interconnection System Impact Study Agreement	
7.3	Scope of Definitive Interconnection System Impact Study	
7.4	Definitive Interconnection System Impact Study Procedures	
7.5	Meeting with Transmission Provider	
7.6	Re-Study	
7.7	Readiness Milestones and Site Control	
	7.7.1 Readiness Milestone 1 ("M1")	
	7.7.2 Readiness Milestone 2 ("M2")	
	7.7.3 Readiness Milestone 3 ("M3")	

~~7.7.4~~ 7.7.4 ~~Readiness Milestone 4 ("M4")~~.....
~~7.7.5~~ 7.7.5 ~~Security Requirements~~.....
~~7.7.7~~ 7.7.7 ~~Site Control~~.....

Section 8. ~~Interconnection Facilities Study~~.....

- ~~8.1~~ 8.1 ~~Interconnection Facilities Study Agreement~~.....
- ~~8.2~~ 8.2 ~~Scope of Interconnection Facilities Study~~.....
- ~~8.3~~ 8.3 ~~Interconnection Facilities Study Procedures~~.....
- ~~8.4~~ 8.4 ~~Meeting with Transmission Provider~~.....
- ~~8.5~~ 8.5 ~~Re-Study~~.....

Section 9. ~~Engineering & Procurement ("E&P")~~ Engineering & Procurement ("E&P") Agreement.....

Section 10. ~~Optional Interconnection Study~~

- ~~10.1~~ 10.1 ~~Optional Interconnection Study Agreement~~
- ~~10.2~~ 10.2 ~~Scope of Optional Interconnection Study~~
- ~~10.3~~ 10.3 ~~Optional Interconnection Study Procedures~~

~~Section 11.~~ Section 11. ~~Standard Large Generator Interconnection Agreement (LGIA)~~.....

~~10~~ 10

- ~~11.1~~ 11.1 ~~Tender~~.....
- ~~1011.2~~ 11.2 ~~Negotiation~~.....
- ~~1011.3~~ 11.3 ~~Execution and Filing~~.....
- ~~1011.4~~ 11.4 ~~Commencement of Interconnection Activities~~.....

Section ~~1112.~~ 112. ~~Construction of Transmission Provider's Interconnection Facilities and Network Upgrades~~.....

~~11~~ 11

- ~~12.1~~ 112.1 ~~Schedule~~.....
- ~~1112.2~~ 112.2 ~~Construction Sequencing~~.....
 - ~~1112.2.1~~ 112.2.1 ~~General~~.....
 - ~~1112.2.2~~ 112.2.2 ~~Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer~~.....
 - ~~1112.2.3~~ 112.2.3 ~~Advancing Construction of Network Upgrades that are Part of an Expansion Plan of the Transmission Provider~~.....
 - ~~1112.2.4~~ 112.2.4 ~~Amended~~ Definitive ~~Interconnection System Impact Study~~.....

Section ~~1213.~~ 123. ~~Miscellaneous~~.....

~~12~~ 12

- ~~13.1~~ 123.1 ~~Confidentiality~~.....
 - ~~1213.1.1~~ 123.1.1 ~~Scope~~.....
 - ~~1213.1.2~~ 123.1.2 ~~Release of Confidential Information~~.....
 - ~~1213.1.3~~ 123.1.3 ~~Rights~~.....
 - ~~1213.1.4~~ 123.1.4 ~~No Warranties~~.....
 - ~~1213.1.5~~ 123.1.5 ~~Standard of Care~~.....
 - ~~1213.1.6~~ 123.1.6 ~~Order of Disclosure~~.....
 - ~~1213.1.7~~ 123.1.7 ~~Remedies~~.....

- ~~1213~~.1.8 Disclosure to FERC, ~~or~~ its Staff, or a State.
- ~~1213~~.2 Delegation of Responsibility.
- ~~1213~~.3 Obligation for Study Costs.
- ~~1213~~.4 Third Parties Conducting Studies.
- ~~1213~~.5 Disputes.
 - ~~1213~~.5.1 Submission.
 - ~~1213~~.5.2 External Arbitration Procedures.
 - ~~1213~~.5.3 Arbitration Decisions.
 - ~~1213~~.5.4 Costs.
 - ~~1213~~.5.5 Non-Binding Dispute Resolution Procedures. ~~binding dispute resolution procedures~~
- ~~1213~~.6 Local Furnishing Bonds.
 - ~~1213~~.6.1 Transmission Providers That Own Facilities Financed by Local Furnishing Bonds.
 - ~~1213~~.6.2 Alternative Procedures for Requesting Interconnection Service.

Appendix A-1 – Overview and timeline of initiation of a DISIS Cluster: the DISIS Request Window, Customer Engagement Window, and Phase 1 of the DISIS

Appendix A-2 – Overview and Timeline of Definitive Interconnection Study Process, Including the DISIS Process.

Appendix 1 – Interconnection Request for a Large Generating Facility

Appendix 2 – Definitive Interconnection ~~Feasibility Study Agreement~~

~~Appendix 3 – Interconnection~~ System Impact Study Agreement

Appendix 3 – Interconnection Facilities Study Agreement

Appendix 4 – Transitional Serial Interconnection Facilities Study Agreement

Appendix 5.1– Transitional Cluster–~~Optional Interconnection~~ Study Agreement

Appendix 5.2 –Provisional Interconnection Study Agreement

Appendix 5.3 – Surplus Interconnection Study Agreement

Appendix 5.4 – Informational Interconnection Study Request

Appendix 5.5 – Informational Interconnection Study Agreement

Appendix 6 – Standard Large Generator Interconnection Agreement

Appendix 6.1 – Interconnection Procedures For A Wind Generating Plant

Section 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Transmission System to which the Generating Facility is directly interconnected.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday. If a requirement due date lands on a Saturday, Sunday or Federal Holiday, the requirement is due the next Business Day.

Cluster shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies.

Cluster Study shall mean an Interconnection Study evaluating one or more Interconnection Requests.

Clustering shall mean the process whereby a group of Interconnection Requests is studied together, instead of serially, for the purpose of conducting the Interconnection ~~Studies~~**System Impact Study**.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Contingent Facilities shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for Re-Studies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Control Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation of the interconnection. ~~-A Control Area must be certified by an Applicable~~ NERC Regional Reliability Entity. Control Area shall have the same meaning as Balancing Authority Area as defined by NERC. Council.

Customer Engagement Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Definitive Interconnection Study Process ("Definitive Interconnection Study") shall mean the complete definitive study process inclusive of the DISIS Request Window, Customer Engagement Window, Definitive Interconnection System Impact Study, and the Interconnection Facilities Study. Both the Resource Solicitation Cluster and the DISIS Cluster are processed under the Definitive Interconnection Study.

Definitive Interconnection System Impact Study ("DISIS") shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of the Transmission System and, if applicable, an Affected System.

Definitive Interconnection System Impact Study Agreement ("DISIS Agreement") shall mean the form of agreement contained in Appendix 2 of the Revised LGIP for conducting the Definitive Interconnection System Impact Study.

Definitive Interconnection System Impact Study Cluster ("DISIS Cluster") shall mean an engineering study that evaluates the impact of the proposed interconnection(s) on the safety and reliability of Transmission System and, if applicable, an Affected System.

DISIS Request Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. -The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. -Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) -that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) -that, in the case of a Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which the Transmission Provider's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's

Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or ~~non-firm~~~~nonfirm~~ capacity of the Transmission Provider's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Financial Security shall have the meaning set forth in Section 7.7.1 of the Revised LGIP.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. -A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. -Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or

power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Informational Interconnection Study shall mean an analysis based on assumptions specified by Interconnection Customer in the Informational Interconnection Study Agreement.

Informational Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.5 of the Revised LGIP for conducting the Informational Interconnection Study.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities (e.g. for generator interconnection).

Interconnection Facilities shall mean the Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Interconnection Facilities may be shared by more than one Generating Facility in a Cluster.

Interconnection Facilities Study shall mean a study conducted by the Transmission Provider or a third party consultant for the Interconnection Customer to determine a list of facilities

(including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Definitive Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Provider's Transmission System. ~~—The scope of the study is defined in Section 8 of the Revised LGIP~~Standard Large Generator Interconnection Procedures.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 34 of the ~~Revised LGIP~~Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

~~**Interconnection Feasibility Study** shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Transmission Provider's Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.~~

~~**Interconnection Feasibility Study Agreement** shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.~~

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the ~~Revised LGIP~~Standard Large Generator Interconnection Procedures, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Informational Interconnection ~~Feasibility~~ Study, the Definitive Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

~~**Interconnection Study Agreement** shall mean any of the following agreements: the Informational Interconnection Study Agreement, the Definitive Interconnection System Impact Study Agreement, or the Interconnection Facilities Study Agreement described in the Standard Large Generator Interconnection Procedures or Revised LGIP.~~

~~**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of Transmission Provider's Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on the Adverse System Impacts identified in the Interconnection Feasibility Study, or to study potential impacts, including but not~~

~~limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.~~

~~Interconnection System Impact Study Agreement shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.~~

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with a later ~~or equal Queue Position~~~~queue priority date~~.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

~~**OASIS** shall mean the Transmission Provider's Open Access Same-Time Information System. **Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.~~

~~**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5.1 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.~~

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Permissible Technological Advancement shall mean modification to equipment that (1) results in electrical performance that is equal to or better than the electrical performance expected prior to the technology change, (2) does not cause any reliability concerns, (3) does not degrade the electrical characteristics of the generating equipment (e.g., the ratings, impedances, efficiencies, capabilities, and performance of the equipment under steady-state and dynamic conditions) and (4) does not have a material impact on the cost or timing of any Interconnection Request with a later queue priority date, and is therefore not a Material Modification. A Permissible Technological Advancements is a change in equipment that may achieve cost or grid performance efficiencies that may include turbines, inverters, plant supervisory controls or other devices that may affect a generating facility's ability to provide ancillary services but does not include changes in generation technology type ~~of~~ fuel type.

~~**Phase ("Phase 1, Phase 2, Phase 3, or Phase 4")** shall mean a distinct part of the Definitive Study Process as described in Section 7.~~

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Provider's Transmission System.

~~**Provisional Interconnection Service** shall mean interconnection service~~**Interconnection Service** provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at

the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Interconnection Study shall mean an analysis based on assumptions specified in the Provisional Interconnection Study Agreement.

Provisional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.2 of the Standard Large Generator Interconnection Procedures for conducting the Provisional Interconnection Study.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or the Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes.

Queue shall mean a queue for valid Interconnection Requests for the Definitive Interconnection Study Process.

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Interconnection Study Process. The Queue Position that is established based upon the date and time ~~of receipt of the valid~~ Interconnection Customer satisfies all of Request by the requirements of Section 7.2 of this Attachment N to enter the Definitive Study Process. Transmission Provider.

Readiness Milestone(s) shall have the meaning set forth in Section 7.7 of the Revised LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Revised LGIP shall mean the Large Generator Interconnection Process as described in this Attachment N.

Resource Plan shall mean any process authorized or required by Applicable Laws and Regulations for, *inter alia*, the selection of Generating Facilities.

Resource Planning Entity shall mean any entity required to develop a Resource Plan or conduct a Resource Solicitation Process.

Resource Solicitation Cluster shall mean a Cluster Study associated with a Resource Plan or related process.

Resource Solicitation Process shall mean any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer and Transmission Provider conducted for the purpose of discussing the proposed

interconnection request, alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to ~~affect~~ impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection Facilities. Site Control may be demonstrated by documentation establishing: reasonably demonstrating: (1) ownership of, a leasehold interest in, or a right to develop a site ~~for the purpose of~~ sufficient size to construct and operate ~~constructing~~ the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities for such purpose; or (3) any other documentation that clearly demonstrates the right of the an exclusivity or other business relationship between Interconnection Customer to exclusively and the entity having the right to sell, lease or grant Interconnection Customer the right to possess or occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition. for such purpose.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. ~~Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.~~

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that ~~are~~ is included in the Transmission Provider's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized, the total amount of Interconnection Service at the Point of Interconnection would remain the same.

Surplus Interconnection Study shall mean an analysis based on assumptions specified by the Interconnection Customer in the Surplus Interconnection Study Agreement.

Surplus Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.3 of the Standard Large Generator Interconnection Procedures for conducting the Surplus Interconnection Study.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Provider's Transmission System or on other delivery systems or other generating systems to which the Transmission Provider's Transmission System is directly connected.

Tariff shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. —The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled, or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. —Transmission Provider's Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Transmission Provider's Interconnection Facilities may be shared by more than one Generating Facility in a given Study.

Transmission System shall mean the facilities owned, controlled or operated by the Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Withdrawal Penalty shall have the meaning set forth in Section 3.7.1 of the Revised LGIP.

Section 2. Scope and Application.

2.1 Application of Revised LGIP. ~~Standard Large Generator Interconnection Procedures.~~

Sections 2 through ~~1213~~ apply to processing an Interconnection Request pertaining to a Large Generating Facility. As provided in Attachment P to the Tariff, Small Generating Facilities that are not eligible for the fast track process will be processed in a single Queue with Large Generating Facilities. Additionally, Small Generating Facilities requesting NRIS shall be processed under this Revised LGIP.

2.2 Comparability.

Transmission Provider shall receive, process and analyze all Interconnection Requests in a timely manner as set forth in this Revised LGIP. Transmission Provider will use the same Reasonable Efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Generating Facilities are owned by Transmission Provider, its subsidiaries or Affiliates, or others.

2.3 Base Case Data.

Transmission Provider shall maintain base power flow, short circuit and stability databases, including all underlying assumptions, and contingency list on either its OASIS site or a password-protected website subject to confidentiality provisions in Revised LGIP Section ~~1213~~.1. In addition, Transmission Provider shall maintain network models and underlying assumptions on either its OASIS site or a password-protected website. Such network models and underlying assumptions should reasonably represent those used during the most recent Interconnection Study~~interconnection study~~ and be representative of current system conditions. If Transmission Provider posts this information on a password-protected website, a link to the information must be provided on Transmission Provider's OASIS site. Transmission Provider is permitted to require that Interconnection Customers, OASIS site users and password-protected website users sign a confidentiality agreement before the release of commercially sensitive information or Critical Energy Infrastructure Information in the Base Case data. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the applicable authority.

2.4 No Applicability to Transmission Service.

Nothing in this Revised LGIP shall constitute a request for transmission service or confer upon an Interconnection Customer any right to receive transmission service.

Section 3. Interconnection Requests.

3.1 General.

An Interconnection Customer shall submit to Transmission Provider an Interconnection Request in the form of Appendix 1 to this Revised LGIP, an application fee of \$5000, and a study~~refundable~~ deposit of:

a. \$75~~\$10~~,000 for requests of less than 50 MW, or

b. \$150,000 for requests of 50 MW and greater, but less than 200 MW, or

c. \$250,000 for requests of 200 MW and greater.

~~—~~Transmission Provider shall apply the study deposit toward the cost of the Definitive ~~an~~ Interconnection Feasibility Study Process. ~~—~~ Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. ~~—~~Interconnection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. ~~—~~An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Interconnection Requests. Interconnection Customers evaluating different options (such as different sizes, sites or voltages) are encouraged but not required to use the Informational Interconnection Study Process (please see Section 9) before entering the Definitive Interconnection Study Process.

At Interconnection Customer's option, Transmission Provider and Interconnection Customer will identify alternative Point(s) of Interconnection and configurations at the Scoping Meeting to evaluate in this process and attempt to eliminate alternatives in a reasonable fashion given resources and information available.

Interconnection Customer ~~shall~~will select the definitive Point(~~s~~) of Interconnection to be studied no later than the execution of the Definitive System Impact~~Interconnection Feasibility~~ Study Agreement. For purposes of clustering Interconnection Service requests, Transmission Provider may make reasonable changes to the requested Point(s) of Interconnection to facilitate efficient interconnection of Interconnection Customers at common points of interconnection. Transmission Provider shall notify Interconnection Customers in writing of any intended changes to the requested Point(s) of Interconnection and the Point(s) of Interconnection shall only change upon mutual agreement.

Interconnection Customer may request a level of Interconnection Service below the Generating Facility Capacity. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of Interconnection Facilities and Network Upgrades, but may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by the Interconnection Customer. If after the additional studies are complete, Transmission Provider determines that additional Network Upgrades are necessary, then Transmission Provider must: (1) specify which additional Network Upgrade costs are based on which studies; and (2) provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade costs

required for safety and reliability also will be borne by the Interconnection Customer. Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, LGIA.

3.2 Identification of Types of Interconnection Services.

At the time the Interconnection Request is submitted, Interconnection Customer must request either Energy Resource Interconnection Service or Network Resource Interconnection Service, as described below; ~~provided, however, any Interconnection Customer may designate only one type of requesting Network Resource Interconnection Service may also request that it be concurrently studied for each separate Interconnection Request in the Queue. The type of Energy Resource Interconnection Service must be finalized on submission of the executed Definitive System Impact, up to the point when an Interconnection Facility Study Agreement and may only be changed after the start of the Definitive Study Process only between Phase 2 and Phase 3 of the Definitive is executed. Interconnection Study Process and only if a Cluster must be re-studied in Phase 3 (See Section 7.4) and otherwise may not be changed. Customer may then elect to proceed with Network Resource Interconnection Service or to proceed under a lower level of interconnection service to the extent that only certain upgrades will be completed.~~

3.2.1 Energy Resource Interconnection Service.

3.2.1.1 The Product.

—Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. —Energy Resource Interconnection Service does not in and of itself convey any right to deliver electricity to any specific customer or Point of Delivery.

3.2.1.2 The Study.

—The study consists of short circuit/fault duty, steady state (thermal and voltage) and stability analyses. —The short circuit/fault duty analysis would identify direct Interconnection Facilities required and the Network Upgrades necessary to address short circuit issues associated with the Interconnection Facilities. —The stability and steady state studies would identify necessary upgrades to allow full output of the proposed Large Generating Facility and would also identify the maximum allowed output, at the time the study is performed, of the

interconnecting Large Generating Facility without requiring additional Network Upgrades.

3.2.2 Network Resource Interconnection Service.

3.2.2.1 The Product. ~~Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility:~~ (1) ~~in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market-based congestion management, in the same manner as Network Resources.~~ ~~Network Resource Interconnection Service~~ allows ~~Allows~~ Interconnection ~~Customer's~~ Customer's Large Generating Facility to be designated as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. If the Transmission Provider has not been notified pursuant to Section 29.2 of Part III of the Tariff that Interconnection Customer's proposed Generating Facility is to be designated as a Network Resource within Transmission Provider's Control Area, the Interconnection Customer must provide the point of delivery or the geographic location on PSCo's system at which Interconnection Customer intends to deliver output out of Transmission Provider's Control Area.

3.2.2.2 The Study. ~~The Interconnection Study for Network Resource Interconnection Service shall assure that Interconnection Customer's Large Generating Facility meets the requirements for Network Resource Interconnection Service and, as a general matter, that such Large Generating Facility's interconnection is also studied with Transmission Provider's Transmission System at peak load, under a variety of severely stressed conditions, to determine whether, with the Large Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on Transmission Provider's Transmission System, consistent with Transmission Provider's reliability criteria and procedures. This approach assumes that some portion of existing Network~~ Resources' output ~~Resources~~ is displaced by the output of Interconnection Customer's Large Generating Facility. ~~Network Resource Interconnection Service in and of itself does not convey any right to deliver electricity to~~

any specific customer or Point of Delivery. The Transmission Provider may also study the Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the Transmission Provider must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

3.3 Utilization of Surplus Interconnection Service.

Transmission Provider's process below allows an Interconnection Customer to utilize or transfer Surplus Interconnection Service at an existing Point of Interconnection. The original Interconnection Customer or one of its affiliates shall have priority to utilize Surplus Interconnection Service. If the existing Interconnection Customer or one of its affiliates does not exercise its priority, then that service may be made available to other potential Interconnection Customers.

3.3.1 Surplus Interconnection Service Requests.

Surplus Interconnection Service requests may be made by the existing Interconnection Customer whose Generating Facility is already interconnected or one of its affiliates. Surplus Interconnection Service requests also may be made by another Interconnection Customer. Section 3.3.2 provides a process for evaluating Interconnection Requests for Surplus Interconnection Service. Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary.

3.3.2 Process for Evaluating Surplus Interconnection Requests and Obtaining Surplus Interconnection Service.~~Requests~~

The following process will be used for evaluating and obtaining Surplus Interconnection Service.

An existing (original) Interconnection Customer whose Generating Facility is already interconnected may choose to, but is not required

to, make Surplus Interconnection Service available to potential Interconnection Customers. The original Interconnection Customer retains the ability to use, either for themselves, for an affiliate, or for sale to a third party of their choosing, any Surplus Interconnection Service. The original ~~Interconnection Customer~~ interconnection customer may (a) stipulate the amount of Surplus Interconnection Service ~~surplus interconnection service~~ that is available, (b) designate when that service is available, and (c) describe any other conditions under which Surplus Interconnection Service ~~surplus interconnection service~~ at the point of interconnection may be used.

If the original Interconnection Customer makes Surplus Interconnection Service available at its Point of Interconnection, Transmission Provider shall work with the original Interconnection Customer (and the requesting Interconnection Customer, if different) to evaluate that Surplus Interconnection Service. Transmission Provider may accept third-party studies demonstrating no adverse impact to the Transmission Provider's Transmission System, but may require its own or additional studies at its discretion. Transmission Provider will use available studies to the extent applicable. If a Generating Facility interconnected prior to the issuance of Order No. 2003 and does not have an existing Large Generator Interconnection Agreement, it shall be considered to have Interconnection Service up to its installed capacity for purposes of the offering of Surplus Interconnection Service.

The requesting Interconnection Customer shall execute a Surplus Interconnection Study Agreement to evaluate Surplus Interconnection Service in the form of Appendix 5.3, and the Interconnection Customer requesting Surplus Interconnection Service shall be responsible for the cost of such study. Transmission Provider shall study Surplus Interconnection Service outside of the Queue and shall make reasonable efforts to complete the study within sixty (60) days of executing the Surplus Interconnection Study Agreement including the study deposit and receiving data required to perform the study.

Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power,

short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary. Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring new Network Upgrades.

Transmission Provider, original Interconnection Customer, and ~~Surplus~~ Interconnection Customer shall develop a Surplus Interconnection Agreement and other agreements as necessary and file such agreements with the Commission. Such agreements shall, among other things, establish conditions such as the term of operation, the interconnection service limit, and the mode of operation for energy production (i.e., common or singular operation) and the roles and responsibilities of the parties for maintaining the operation of the facility within the parameters of the surplus interconnection service agreement.

Transmission Provider is not required to execute an ~~Interconnection Agreement~~ interconnection agreement for ~~Surplus Interconnection Service~~ surplus interconnection service if the agreements do not meet the definition set forth in their tariff or if the customer does not agree to the terms of such service, including any requirements that may be identified by the ~~Transmission Provider~~ transmission provider in the studies for ~~Surplus Interconnection Service~~ surplus interconnection service. If the ~~Surplus~~ Interconnection Customer disputes an issue in the ~~Interconnection Agreement~~ interconnection agreement for ~~Surplus Interconnection Service~~ surplus interconnection service, Transmission Provider must file the unexecuted ~~Surplus Interconnection Service Agreement~~ surplus interconnection service agreement with the Commission if requested to do so by the ~~Surplus~~ surplus Interconnection Customer.

3.4 Valid Interconnection Request.

3.4.1 Initiating an Interconnection Request.

~~An Interconnection Customer wishing to join the Definitive Interconnection Study Process shall submit its Interconnection Request to Transmission Provider within, and no later than the close of the DISIS Request Window.~~ To initiate an Interconnection Request, Interconnection Customer must submit all of the following:

- ~~(i) a.~~ The application fee and study-\$10,000 deposit described in Section 3.1:
- b. A, (ii) a completed application in the form of Appendix 1 to the Revised LGIP (including applicable technical information);

- c. ~~A, and (iii)~~ demonstration of Site Control as defined in Sections 1 and 7.7 of the Revised LGIP. Specifications for acceptable site size for the purposes of demonstrating a posting of an additional deposit of \$10,000. Such deposits shall be applied toward any Interconnection Studies pursuant to the Interconnection Request. If Interconnection Customer demonstrates Site Control are posted on Transmission Provider's OASIS website. Interconnection Customer may propose alternative specifications for site size to those posted on OASIS for Transmission Provider approval. In the event Transmission Provider and Interconnection Customer cannot reach agreement related to adequacy of site size, Transmission Provider will accept a Professional Engineer (licensed in the state of Colorado) stamped site plan drawing that depicts the proposed generation arrangement and specifies the maximum facility output for that arrangement;
- d. A Point of Interconnection;
- e. If the request is for NRIS and if Transmission Provider has not been notified pursuant to Section 29.2 of Part III of the Tariff that Interconnection Customer's proposed Generating Facility is to be designated as a Network Resource within Transmission Provider's Control Area, the point of delivery or the geographic location on Transmission Provider's system at which Interconnection Customer intends to deliver output out of Transmission Provider's Control Area;
- f. A Generating Facility size (MW) (and requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity);
- g. One of the following Readiness Milestone ("M1") options totaling the entire capacity of the Generating Facility (or requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity) or security equal to one times the study deposit described in Section ~~3.4.3.1~~ within the cure period specified in Section 3.4.3.1 in the form of an irrevocable letter of credit or cash in lieu of the Readiness Milestone. The security is refunded to the Interconnection Customer according to Section 7.7.5.
- i. Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale (1) of the constructed Generating Facility, or (2) of the Generating Facility's energy, or (3) of the Generating Facility's ancillary services if the Generating Facility is an

electric storage resource; where the term of sale is not less than five (5) years;

ii. Reasonable evidence that the project has been selected in a Resource Plan or Resource Solicitation Process; or

iii. Provisional Large Generator Interconnection Agreement filed with FERC that contains a commitment to move forward with constructing the Generating Facility and is not suspended; and

~~h. Security equal one times the study after submitting its Interconnection Request, the additional deposit described in Section 3.1 in the form of an irrevocable letter of credit or cash. The security is refunded to the Interconnection Customer according to Section 7.7.5 shall be refundable; otherwise, all such deposit(s), additional and initial, become non-refundable.~~

The expected In-Service Date of the new Large Generating Facility or increase in capacity of the existing Generating Facility shall be no more than the process window for the regional expansion planning period (or in the absence of a regional planning process, the process window for Transmission Provider's expansion planning period) not to exceed seven (7) years from the date the Interconnection Request is received by Transmission Provider, unless Interconnection Customer demonstrates that engineering, permitting and construction of the new Large Generating Facility or increase in capacity of the existing Generating Facility will take longer than the regional expansion planning period. ~~The In-Service Date may succeed the date the Interconnection Request is received by Transmission Provider by a period up to ten (10) years, or longer where Interconnection Customer and Transmission Provider agree, such agreement not to be unreasonably withheld.~~

3.4.2 Acknowledgment of Interconnection Request.

Transmission Provider shall acknowledge receipt of the Interconnection Request within five (5) Business Days of the closer receipt of the DISIS Request Window request and attach a copy of the received Interconnection Request to the acknowledgement.

3.4.3 Deficiencies in Interconnection Request.

An Interconnection Request will not be considered to be a valid request until all items in Section 3.4.1 have been received by Transmission Provider.

~~If an Interconnection Request fails to meet the requirements set forth in Section 3.4.1, Transmission Provider shall notify Interconnection~~

Customer within five (5) Business Days of ~~the close~~receipt of the ~~DISIS Initial Interconnection~~ Request Window of the reasons for such failure and that the Interconnection Request does not constitute a valid request. ~~Interconnection Customer shall provide Transmission Provider the additional requested information needed to constitute a valid request within ten (10) Business Days after receipt of such notice.~~ At any time, if Transmission Provider identifies issues with technical data provided by Interconnection Customer, Interconnection Customer and Transmission Provider shall work expeditiously and in good faith to remedy any data issues. Failure by Interconnection Customer to comply with this Section 3.4.3 shall be treated in accordance with Section 3.7.

Transmission Provider shall determine if the information contained in the Interconnection Request is adequately sufficient to start the Definitive System Impact Study by the close of the Customer Engagement Window.

3.4.4

Scoping Meeting.

Within ten (10) Business Days after ~~the close~~receipt of ~~the DISIS a valid Interconnection~~ Request Window, Transmission Provider shall host an open Scoping Meeting, for all Interconnection Requests received in that DISIS Request Window. If requested by establish a date agreeable to Interconnection Customer, Transmission Provider for the Scoping Meeting, and such date shall also hold individual customer specific Scoping Meetings, which must be requested no later than fifteen (15) business days after thirty (30) Calendar Days from receipt of the valid Interconnection Request, unless otherwise mutually agreed upon by the close of the DISIS Request Window. ~~Parties.~~

The purpose of the Scoping Meeting shall be to discuss alternative interconnection options;; to exchange information,; including any transmission data that would reasonably be expected to impact such interconnection options;; to analyze such information;; and to determine the potential feasible Points of Interconnection. Transmission Provider and Interconnection Customer will bring to the meeting such technical data, including, but not limited to: (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues as may be reasonably required to accomplish the purpose of the meeting. ~~Transmission Provider and Interconnection Customer will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer shall designate its Point of Interconnection, pursuant to Section 7.2.6.1, and one or more available alternative~~

~~Point(s) of Interconnection.~~ The duration of the meeting shall be sufficient to accomplish its purpose.

3.5 OASIS Posting.

3.5.1 OASIS Posting.

Transmission Provider will maintain on its OASIS a list of all Interconnection Requests. ~~The list will identify, for each Interconnection Request:~~ ~~–(i)–~~the maximum summer and winter megawatt electrical output; ~~(ii)–~~the location by county and state; ~~(iii)–~~the station or transmission line or lines where the interconnection will be made; ~~(iv)–~~the projected In-Service Date; ~~(v)–~~the status of the Interconnection Request, including Queue Position; ~~(vi)–~~the type of Interconnection Service being requested; ~~and (vii)–~~the availability of any studies related to the Interconnection Request; ~~(viii)–~~the date of the Interconnection Request; ~~(ix)–~~the type of Generating Facility to be constructed (combined cycle, base load or combustion turbine, and fuel type); and ~~(x)–~~for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed. Except in the case of an ~~Affiliate~~ affiliate, the list will not disclose the identity of Interconnection Customer until Interconnection Customer executes an LGIA or requests that Transmission Provider file an unexecuted LGIA with FERC. ~~Before holding a Scoping Meeting with its Affiliate,~~ Transmission Provider shall post on OASIS an advance notice of its intent to do so. Transmission Provider shall post to its OASIS site any deviations from the study timelines set forth herein. ~~Interconnection Study reports and Optional Interconnection Study reports shall be posted to Transmission Provider's OASIS site subsequent to the meeting between Interconnection Customer and Transmission Provider to discuss the applicable study results.~~ ~~Transmission Provider shall also post any known deviations in the Large Generating Facility's In-Service Date.~~

~~3.5.1~~ Transmission Provider will maintain on its OASIS or its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. For each calendar quarter, Transmission Providers must calculate and post the information detailed in sections 3.5.1.1 through 3.5.1.~~34~~.

3.5.1.1 Definitive Study Phase 1 Processing Time~~Interconnection Feasibility Studies processing time.~~

(A) Number of Interconnection Requests that had Phase 1~~Interconnection–Feasibility~~ Studies completed within Transmission Provider's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Phase 1~~Interconnection–Feasibility~~ Studies completed within

Transmission Provider's coordinated region during the reporting quarter that were completed more than ninety ~~(90forty-five—(45))~~ Calendar Days after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection Feasibility Study Agreement,

- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Feasibility Studies where such Interconnection Requests had executed Interconnection Feasibility Study Agreements received by Transmission Provider more than ninety (90) ~~forty-five—(45)~~ Calendar Days before the reporting quarter end,
- (D) Mean time (in days), Interconnection Feasibility Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the date when Transmission Provider received the executed Interconnection Feasibility Study Agreement to the date when Transmission Provider provided the completed Interconnection Feasibility Study to the Interconnection Customer,
- (E) Percentage of Interconnection Feasibility Studies exceeding ninety (90) ~~forty-five—(45)~~ Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.1.1(B) plus 3.5.1.1(C) divided by the sum of 3.5.1.1(A) plus 3.5.1.1(C)).

3.5.1.2 Definitive Interconnection System Impact Studies Processing Time.

- (A) Number of Interconnection Requests that had Definitive Interconnection System Impact Studies (Phase 2 and Phase 3) completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Definitive Interconnection Requests that had Interconnection System Impact Studies completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than one hundred fifty (150) ~~ninety—(90)~~ Calendar Days after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection System Impact Study Agreement,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing

incomplete Definitive System Impact Studies where such Interconnection Requests had executed Definitive Interconnection System Impact Study Agreements received by Transmission Provider more than one hundred fifty (150) ~~ninety (90)~~ Calendar Days before the reporting quarter end,

(D) ~~_____~~ Mean time (in days), Definitive Interconnection System Impact Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the date when Transmission Provider received the executed Interconnection System Impact Study Agreement to the date when Transmission Provider provided the completed Interconnection System Impact Study to the Interconnection Customer,

(E) ~~_____~~ Percentage of Interconnection System Impact Studies exceeding one hundred fifty (150) ~~ninety (90)~~ Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.1.2(B) plus 3.5.1.12(C) divided by the sum of 3.5.1.12(A) plus 3.5.1. 12(C)).

3.5.1.3- Interconnection Facilities Studies Processing Time.

(A) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than ninety (90) Calendar Days, ~~with no more than a +/- 20 percent cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if Interconnection Customer requests a +/- 10 percent cost estimate~~ after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection Facilities Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Service requests with ongoing incomplete Interconnection Facilities Studies where such Interconnection Requests had executed Interconnection Facilities Studies Agreement received by Transmission Provider

more than ninety (90) Calendar Days, ~~with no more than a +/- 20 percent cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if Interconnection Customer requests a +/- 10 percent cost estimate~~ before the reporting quarter end,

- (D) Mean time (in days), for Interconnection Facilities Studies completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the date when Transmission Provider received the executed Interconnection Facilities Study Agreement to the date when Transmission Provider provided the completed Interconnection Facilities Study to the Interconnection Customer,
- (E) Percentage of delayed Interconnection Facilities Studies this reporting quarter, calculated as the sum of 3.5.1.~~23~~(B) plus 3.5.1.~~23~~(C) divided by the sum of 3.5.1.~~23~~(A) plus 3.5.1.~~23~~(C)).

3.5.1.4

Interconnection Service Requests Withdrawn from Interconnection Queue.

- (A) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter,
- (B) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of any interconnection studies or execution of any interconnection study agreements,
- (C) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of an Interconnection System Impact Study,
- (D) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of an Interconnection Facilities Study,
- (E) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection

queue after execution of a generator interconnection agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement,

- (F) Mean time (in days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when Transmission Provider received the request to withdraw from the queue.

3.5.2 Requirement to Post Interconnection Study Metrics.

Transmission Provider is required to post on OASIS or its website the measures in paragraph 3.5.1.1(A) through paragraph 3.5.1.~~34~~(F) for each calendar quarter within 30 days of the end of the calendar quarter. Transmission Provider will keep the quarterly measures posted on OASIS or its website for three calendar years with the first required report to be in the first quarter of 2020. If Transmission Provider retains this information on its website, a link to the information must be provided on Transmission Provider's OASIS site.

3.5.3 Reporting Requirement for Late Studies.

In the event that any of the values calculated in paragraphs 3.5.1.1(E), ~~3.5.1.2(E)~~ or 3.5.1.~~23~~(E) exceeds 25 percent for two consecutive calendar quarters, Transmission Provider will have to comply with the measures below for the next four consecutive calendar quarters and must continue reporting this information until Transmission Provider reports four consecutive calendar quarters without the values calculated in 3.5.1.1(E), ~~3.5.1.2(E)~~ or 3.5.1.~~23~~(E) exceeding 25 percent for two consecutive calendar quarters:

- (i) Transmission Provider must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline (i.e., ~~45, 90, 150~~ or ~~90180~~ days) for completion (excluding any allowance for Reasonable Efforts). Transmission Provider must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the Commission within 45 days of the end of the calendar quarter.
- (ii) Transmission Provider shall aggregate the total number of employee-hours and third party consultant hours expended towards interconnection studies within its coordinated region that quarter and post on OASIS or its website. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. This information is to be posted within 30 days of the end of the calendar quarter.

3.6 Coordination with Affected Systems.

Transmission Provider will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in this Revised LGIP. Transmission Provider will include such Affected System Operators in all meetings held with Interconnection Customer as required by this Revised LGIP.— Interconnection Customer will cooperate with Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. —A Transmission Provider which may be an Affected System shall cooperate with Transmission Provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems. It is the responsibility of the Affected System Owner to provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to (i) complete any interconnection studies and (ii) construct any necessary interconnection facilities and network upgrades needed to reliably interconnect at the requested service level.

3.7 Withdrawal.

Interconnection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to Transmission Provider. —In addition, if Interconnection Customer fails to adhere to all requirements of this Revised LGIP, except as provided in Section ~~1213~~.5 (Disputes), Transmission Provider shall deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. —Upon receipt of such written notice, Interconnection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify Transmission Provider of its intent to pursue Dispute Resolution.

Withdrawal shall result in the loss of Interconnection Customer's Queue Position. If ~~an~~ Interconnection Customer disputes the withdrawal and loss of its Queue Position, then during Dispute Resolution, Interconnection Customer's Interconnection Request is eliminated from the ~~Queuequeue~~ until such time that the outcome of Dispute Resolution would restore its Queue Position.— An Interconnection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to Transmission Provider all costs that Transmission Provider prudently incurs with respect to that Interconnection Request prior to Transmission Provider's receipt of notice described above. Interconnection Customer must pay all monies due to Transmission Provider before it is allowed to obtain any Interconnection Study data or results.

In the case of a withdrawal, Transmission Provider shall: (i) ~~update the OASIS Queue Position posting;~~ (ii) impose the Withdrawal Penalty described in Section 3.7.1, (iii), refund any security after settling the final invoice (see Section 7.7.5),

and ~~(iv) ii)~~ refund to Interconnection Customer any of the refundable portion of Interconnection Customer's study deposit ~~or study payments~~ that exceeds the share of the costs that Transmission Provider has incurred, including interest calculated in accordance with section 35.19a(a)(2) of FERC's regulations. ~~In the event of such withdrawal, Transmission Provider, subject to the confidentiality provisions of Section 1213.1, shall provide, at Interconnection Customer's request, all information that Transmission Provider developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.~~

3.7.1 Withdrawal Penalty.

Interconnection Customers shall be subject to a Withdrawal Penalty if they withdraw their request from the Queue or the Generating Facility does not otherwise reach Commercial Operation unless (1) the withdrawal does not negatively affect the timing or cost of equal or lower queued projects; (2) the cost responsibility identified for that Interconnection Customer in the current study report associated with new upgrades to the Transmission Provider's System increased by more than twenty-five percent (25%) compared to the costs identified in the previous report; or (3) if the customer withdraws after the Phase 4 report is published and before providing M5, and the cost responsibility for that Interconnection Customer identified in the Interconnection Facilities Study report (the Phase 4 report) increases by more than one hundred percent (100%) compared to the Phase 2 report.

3.7.1.1 Calculation of the Withdrawal Penalty.

If the Interconnection Customer provided a demonstration of readiness, that Interconnection Customer's Withdrawal Penalty shall be equal to the higher of the study deposit or one (1) times of its actual allocated cost of the Definitive Interconnection Study Process.

If the Interconnection Customer did not provide a demonstration of readiness, that Interconnection Customer's Withdrawal Penalty shall be dependent on the Phase in which the Interconnection Customer withdraws and shall be calculated as follows:

1. If the Interconnection Customer withdraws in Phase 1 (after M1, but before M2), the Withdrawal Penalty shall be the higher of the study deposit or two (2) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at one (1) million dollars.
2. If the Interconnection Customer withdraws in Phase 2 (after M2, but before M3), the Withdrawal Penalty shall be the higher of the study deposit or three (3)

times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at one and one half (1.5) million dollars.

3. If the Interconnection Customer withdraws in Phase 3 (after M3, but before M4), the study cost obligation shall be the higher of the study deposit or five (5) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at two (2) million dollars.
4. If the Interconnection Customer withdraws in Phase 4 (after M4, but before M5), the Withdrawal Penalty shall be the higher of the study deposit or seven (7) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at two and a half (2.5) million dollars.

5.—The Withdrawal Penalty for any customer that has executed an LGIA is the higher of the study deposit or nine (9) times its actual allocated cost of the Definitive Interconnection Study Process.

3.7.1.2 Distribution of the Withdrawal Penalty.

Any Withdrawal Penalty revenues shall be used to fund generation interconnection studies. Withdrawal Penalty revenues shall first be applied, in the form of a bill credit, to not-yet-invoiced study costs for other Interconnection Customers in the same cluster, and to the extent that such studies are fully credited, shall be applied to study costs of future clusters in Queue order. Withdrawn Interconnection Customers shall not receive a bill credit associated with Withdrawal Penalties. Distribution of Withdrawal Penalty revenues to a specific study shall not exceed the total actual study costs. Allocation of Withdrawal Penalty revenues within a cluster to a specific customer shall be comparable to the allocation of study costs described in Section 4.2.3. Specifically, the Withdrawal Penalty revenue distribution to each customer in a specific cluster, shall be (1) fifty percent (50%) on a per capita basis based on number of Interconnection Requests in the applicable Cluster; and (2) fifty percent (50%) to Interconnection Customers on a pro-rata basis based on requested megawatts included in the applicable Cluster. Distribution of Withdrawal Penalty revenue associated with Readiness Milestone 5 shall not be distributed to the remaining customers in that cluster until all customers in that cluster have reached Commercial Operation and thereafter shall be distributed as described above. Transmission Provider

shall not change the distribution of Withdrawal Penalty revenue without authorization by the Commission. Transmission Provider shall post the Withdrawal Penalty balance on its OASIS site.

3.8 Identification of Contingent Facilities.

Contingent Facilities shall be identified in the Interconnection System Impact Study report including in any subsequent restudies, in the Interconnection Facilities Study report including in any subsequent restudies, and then included in the Interconnection Customer's Large Generator Interconnection Agreement. Transmission Provider shall also provide, upon request of the Interconnection Customer, the estimated interconnection facility and/or network upgrade costs and estimated in-service completion date of each identified Contingent Facility when this information is readily available and not commercially sensitive.

Any unbuilt Interconnection Facility and/or Network Upgrade included in the study model that is necessary as determined through technical studies such as power flow, short circuit and/or stability analysis to accommodate the Interconnection Request, will be identified as a Contingent Facility. Network Upgrades will include both Network Upgrades planned by the Transmission Provider or Affected Systems in the Base Case as well as those Network Upgrades identified for higher queued Interconnection Requests.

Additionally, all new Interconnection Facilities and/or Network Upgrades identified by Transmission Provider and Affected Systems as required for the current Interconnection Request are Contingent Facilities.

Section 4. Interconnection Request Evaluation Process.

4.1 Queue Position.

4.1.1 Assignment of Queue Position

4.1 General.

Transmission Provider shall assign a Queue Position as follows: the Queue Position within the Queue shall be assigned based upon the date and time of receipt of all items the valid Interconnection Request; provided that, if the sole reason an Interconnection Request is not valid is the lack of required pursuant information on the application form, and Interconnection Customer provides such information in accordance with Section 3.4.3, then Transmission Provider shall assign Interconnection Customer a Queue Position based on the date the application form was originally filed. Moving a Point of Interconnection shall result in a lowering of Queue Position if it is deemed a Material Modification under Section 4.4.3.

The Queue Position of each Interconnection Request will be used to the provisions of Section 3.4. There is no queue for Informational determine the order of performing the Interconnection Studies.

4.1.2 Higher Queue Position

~~and determination of cost responsibility for the facilities necessary to accommodate the Interconnection Request.~~ A higher Queue Position assigned to an queued Interconnection Request is one that has been placed ~~"earlier"~~ in the ~~Queue~~ in relation to another Interconnection Request that is assigned a lower queued.

~~Transmission Provider may allocate the cost of the common upgrades for clustered Interconnection Requests without regard to Queue Position.~~

4.2 Clustering.

~~4.2.1 At Transmission Provider's option, Interconnection Requests may be studied serially or in clusters for the purpose of the Interconnection System Impact Study.~~

~~Clustering shall be implemented on the basis of Queue Position. All requests studied in a single If Transmission Provider elects to study Interconnection Requests using Clustering, all Interconnection Requests received within a period not to exceed one hundred and eighty (180) Calendar Days, hereinafter referred to as the "Queue Cluster shall be considered equally queued but Clusters initiated earlier in time shall be considered to have a higher Queue Position than clusters initiated later. The Queue Position of Window" shall be studied together without regard to the nature of the underlying Interconnection Service, whether Energy Resource Interconnection Service or Network Resource Interconnection Service. The deadline for completing all Interconnection System Impact Studies for which an Interconnection Request shall have no bearing on the allocation of the cost of the common upgrades identified in the applicable System Impact Study Agreement has been executed during a Queue Cluster Study (such costs will be allocated among Interconnection Requests Window shall be in accordance with Section 4.2.4). Moving a Point of Interconnection shall result in a loss of Queue Position if it is deemed a Material Modification under Section 4.4.37.4, for all Interconnection Requests assigned to the same Queue Cluster Window. Transmission Provider may study an Interconnection Request separately to the extent warranted by Good Utility Practice based upon the electrical remoteness of the proposed Large Generating Facility.~~

4.2 General Study Process. Clustering Interconnection System Impact Studies

The diagram attached as Appendix A-1 provides an overview and timeline of initiation of a Definitive Interconnection Study: the DISIS Request Window, Customer Engagement Window, and Phase 1 of the DISIS.

Cluster Studies performed within the Definitive Interconnection Study Process shall be conducted in such a manner to ensure the efficient implementation of the

applicable regional transmission expansion plan in light of the Transmission System's capabilities at the time of each study.

4.2.1 Initiation of a Definitive Interconnection System Impact Study Cluster.

Transmission Provider shall accept Interconnection Requests during a forty five (45) Calendar Day period, hereinafter referred to as the "DISIS Request Window." A DISIS Request Window shall open annually on February 1st and close on March 15th or the following Business Day if March 15th falls on a weekend or NERC recognized holiday. A second DISIS Request Window shall open annually on August 1st and close on September 15th (or the following Business Day if September 15th falls on a Saturday or Sunday).

If one or more valid requests are received, for seventy-five (75) Calendar Days following the close of the DISIS Request Window (the "Customer Engagement Window"), Transmission Provider shall work with applicable Interconnection Customers to build models, verify data, hold stakeholder meetings (including Scoping Meetings, as appropriate), work with requestors to cure any deficiencies in the Interconnection Request, and generally prepare for the start of the Definitive
~~The Queue Cluster Window shall have a fixed time interval based on fixed annual opening and closing dates. Any changes to the established Queue Cluster Window interval and opening or closing dates shall be announced with a posting on Transmission Provider's OASIS beginning at least one hundred and eighty (180) Calendar Days in advance of the change and continuing thereafter through the end date of the first Queue Cluster Window that is to be modified.~~

~~4.2.2~~ If multiple Interconnection Requests are filed by an eligible entity
Interconnection System Impact Study. Notwithstanding the preceding sentence and upon written consent of all Interconnection Requests for a specific Cluster, Transmission Provider may shorten the "Customer Engagement Window" in order to start the Definitive Interconnection System Impact Study earlier. Within the first ten (10) Business Days following the close of the DISIS Request Window, Transmission Provider shall post on its OASIS site a list of Interconnection Requests for that Cluster. The list shall identify, for each Interconnection Request: (i) the requested amount of Interconnection Service; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the type of Interconnection Service (vi) cluster being requested; and (vi) the type of Generating Facility to be constructed including fuel type such as wind, natural gas, coal, or solar.

At the end of the Customer Engagement Window, all Interconnection Requests deemed sufficient that have an executed DISIS Agreement

shall be included in that DISIS Cluster. Any Interconnection Requests not deemed sufficient or undergoing Dispute Resolution at the close of the Customer Engagement Window shall not be included in that DISIS Cluster. Immediately following the Customer Engagement Window, Transmission Provider shall initiate the Definitive Interconnection System Impact Study described in more detail in Section 7.

4.2.2 Initiation of a Resource Solicitation Cluster.

At any time, and upon request of a Resource Planning Entity, Transmission Provider may initiate the study of a Resource Solicitation Cluster. The Resource Solicitation Cluster shall respect Queue Position and shall be studied as its own Cluster. Within ten (10) Business Days of receipt of a request to perform a Resource Solicitation Cluster that includes valid Interconnection Requests as described in Section 3.4, Transmission Provider and Resource Planning Entity shall meet to determine a mutually agreeable scope of study and timeframe to initiate the Resource Solicitation Cluster. The timeline shall indicate the close of the Customer Engagement Window for that Resource Solicitation Cluster. Thereafter the Definitive Interconnection System Impact Study shall proceed as described in Section 7.

In order to initiate Transmission Provider's study of Interconnection Requests made in connection with a Resource Solicitation Process, Resource Planning Entity must: (a) act as the authorized representative for ~~all those~~ Interconnection ~~Requests submitted~~ Customer(s) proposing either a Large or Small Generating Facility to meet some portion of the Resource Solicitation Cluster; (b) submit all Interconnection Requests arising from the ~~eligible entity's~~ request for additional generating resources in a Resource Solicitation Process at the same time to ensure an equal Queue Position for all Generating Facilities included in the Resource Solicitation Cluster; (c) cooperate with, Transmission Provider in conducting the studies; and (d) request a reasonable number of different ~~may cluster~~ combinations of such Interconnection Requests to meet Resource Planning Entity's identified need and assumptions in the Resource Solicitation Process. ~~for purposes of conducting the Interconnection Feasibility Study(ies) and Interconnection System Impact Study(ies) of such Large Generating Facilities.~~ Such studies in connection with a Resource Solicitation Process shall be implemented based upon Queue Position (relative to higher or lower queued clusters) and shall consider Resource Planning Entity's needs and assumptions ~~the eligible entity's identified need~~ in the Resource Solicitation Process.

The Resource Planning Entity ~~An Interconnection Customer~~ may submit ~~to the authorized representative~~ for inclusion in the Resource Solicitation Process an Interconnection Request for a Generating

Facility that already has a higher Queue Position pursuant to Section 4.1.1. ~~A Generating Facility—An Interconnection Customer~~ that initially ~~is associated with~~reserves a Queue Position ~~for a Generating Facility~~ through the Resource Solicitation Process may also reserve a lower Queue Position separate from the Resource Solicitation Process pursuant to Section 4.1.1.— In either case, ~~the~~ Interconnection Customer must meet all requirements associated with maintaining each Queue Position for the Generating Facility. In the event a Generating Facility has multiple Queue Positions, it shall not be double counted in the study models.

A Generating Facility in the Resource Solicitation Process is subject to study according to the Queue Position ~~of~~in the Resource Solicitation Cluster process. A Generating Facility that is not a part of the Resource Solicitation Process is also subject to study according to its Queue Position. ~~pursuant to Section 4.1.~~ All studies must be ~~performed~~done in accordance with the provisions of the Revised LGIP, and may not be delayed as a result of the Resource Solicitation Process.

~~In order to facilitate Transmission Provider's study of Interconnection Requests made in connection with a Resource Solicitation Process, the eligible entity must: a) act as the authorized representative for all Interconnection Requests submitted, b) submit all Interconnection Requests arising from the Resource Solicitation Process at the same time to ensure simultaneous Queue Positions for all such Interconnection Requests, c) cooperate with Transmission Provider in conducting the studies, and d) request that studies be conducted of a reasonable number of different combinations of such Interconnection Requests to meet the eligible entity's identified need in the Resource Solicitation Process.~~

After Transmission Provider completes the Definitive Interconnection System Impact Studies ~~for~~of the requested combinations, the results will be provided (Phase 1 Reports, Phase 2 Reports, Phase 3 Reports, etc.; as applicable under Section 7.4) to the Resource Planning Entity~~to the eligible entity~~ for use in the Resource Solicitation Process.— The results will be posted on Transmission Provider's OASIS consistent with the posting of other study results.

~~After receipt of these studies,~~ the Phase 2 Report, Resource Planning Entity~~eligible entity~~ must select one of the studied combinations prior to the commencement~~start~~ of any Interconnection Facilities~~Facility~~ Study associated with the Resource Solicitation Process.— Prior to the completion of the Interconnection Facilities Study of all of the components of the selected combination, Resource Planning Entity~~the eligible entity~~ may replace components, subject to any necessary Re-Study pursuant to Sections ~~6.4,~~ 7.6 or 8.5. ~~While~~

conducting the Definitive Interconnection ~~Facilities~~ Study ~~Process, (ies)~~. Transmission Provider may suspend further action on the Interconnection Requests in the Resource Solicitation Process that are not included in the selected combination. Once a Generating Facility is rejected in the Resource Solicitation Process, ~~the~~ Generating Facility shall lose the Queue Position it held as part of the Resource Solicitation Process. If a Generating Facility is selected by ~~Resource Planning Entity~~ the eligible entity at the conclusion of the Resource Solicitation Process, the Generating Facility may no longer maintain more than one Queue Position.

4.2.3 Study Cost Allocation. ~~For purposes of this section 4.2.2, "eligible entity" means any entity subject to or conducting a Resource Solicitation Process, and "Resource Solicitation Process" means any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources by an entity interconnected to the Transmission System of Transmission Provider.~~

~~Transmission Provider shall determine each Interconnection Customer's share of the DISIS costs of a Cluster Study by allocating: (1) fifty percent (50%) of the applicable study costs to Interconnection Customers on a per capita basis based on number of Interconnection Requests included in the applicable Cluster; and (2) fifty percent (50%) of the applicable study costs to Interconnection Customers on a pro-rata basis based on requested megawatts included in the applicable Cluster. For instance, the cost of a cluster study consisting of a 100 MW request and a 900 MW request would be allocated 30% to the 100 MW request and 70% to the 900 MW request. The Interconnection Facilities Study portion of the Definitive Interconnection Study Process is an individual study and costs for each Interconnection Facilities Study is directly assigned to the Interconnection Customer associated with such study.~~

4.2.4 Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation.

~~For Transmission Provider's Interconnection Facilities and Network Upgrades identified in Cluster Studies, Transmission Provider shall calculate each Interconnection Customer's share of costs in the following manner:~~

- ~~a) Station equipment Network Upgrades, including all switching stations, shall be allocated based on the number of Generating Facilities interconnecting at an individual station on a per capita basis (i.e. on a per Interconnection Request basis). If multiple Interconnection Customers are connecting to the Transmission Provider's System through a single Interconnection Customer's Interconnection Facility (i.e. sharing the Interconnection~~

Customer's Interconnection Facility connecting to the Transmission Provider's Interconnection Facility(ies)), those Interconnection Customers shall be considered one Interconnection Customer for the per capita calculation described in the preceding sentence. Shared Transmission Provider's Interconnection Facilities shall be allocated based on the number of Generating Facilities sharing that Transmission Provider's Interconnection Facility on a per capita basis.

b) All Network Upgrades other than those identified in Section 4.2.4.a will be allocated based on the proportional impact of each individual Generating Facility in the Cluster Studies on such Network Upgrades. The proportional impact of such Network Upgrades shall be calculated as follows. All transmission lines and transformers identified as Network Upgrades shall be allocated using distribution factor analysis. Voltage support related Network Upgrades shall be allocated using a voltage impact analysis which will identify each Generating Facility's contribution to the voltage violation. Network Upgrades associated with upgrading existing breakers not physically located at the substation to which the Generating Facility is interconnecting or associated with a new transmission facility shall be allocated based on short circuit analysis.

c) Costs of Transmission Provider's Interconnection Facilities are directly assigned to the Interconnection Customer(s) using such facilities.

Interconnection Customer funding of Network Upgrades are eligible for credits as provided in Section 11.4 of the LGIA.

4.3 Transferability of Queue Position.

An Interconnection Customer may transfer its Queue Position to another entity only if such entity acquires the specific Generating Facility identified in the Interconnection Request and the Point of Interconnection does not change.

4.4 Modifications.

Interconnection Customer shall submit to Transmission Provider, in writing, modifications to any information provided in the Interconnection Request. Interconnection Customer shall retain its Queue Position if the modifications are in accordance with Sections 4.4.1, 4.4.2, ~~or~~ 4.4.5, or are determined not to be Material Modifications pursuant to Section 4.4.3.

Notwithstanding the above, during the course of the Interconnection Studies, either Interconnection Customer or Transmission Provider may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. Subject to the forgoing sentence,

and provided, however, they do not result in a material modification, to~~To~~ the extent the identified changes are acceptable to Transmission Provider, ~~and~~ Interconnection Customer and potentially impacted Interconnection Customers in the same Cluster, such acceptance not to be unreasonably withheld, Transmission Provider shall modify the Point of Interconnection and/or configuration in accordance with such changes and proceed with any re-studies necessary to do so in accordance with Section ~~6.4, Section~~ 7.6 and Section 8.5 as applicable and Interconnection Customer shall retain its Queue Position.

4.4.1 No later than forty (40) Calendar Days after the close of the DISIS Request Window and prior~~Prior~~ to the return of the executed Definitive Interconnection System Impact Study Agreement to Transmission Provider, the modifications permitted under this Section shall include specifically: (a) ~~a decrease of up to sixty~~a decrease of up to sixty percent ~~(60%)~~ of electrical output (MW) of the proposed project; through either (1) ~~a decrease in plant size~~ or (2) ~~a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment;~~ (b) ~~modifying the technical parameters associated with the Large Generating Facility technology or the Large Generating Facility step-up transformer impedance characteristics;~~ and (c) ~~modifying the interconnection configuration. For plant increases, the incremental increase in plant output will go to the end of the Queue~~ for the purposes of cost allocation and study analysis.

4.4.2- Prior to the return of the executed Interconnection ~~Facilities~~Facility Study Agreement to Transmission Provider, the modifications permitted under this Section shall include specifically: (a) ~~fifteen additional 15~~ percent ~~(15%)~~ decrease of electrical output of the proposed project through either (1) ~~a decrease in in~~ plant size (MW) or (2) ~~a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment;~~ (b) ~~Large Generating Facility technical parameters associated with modifications to Large Generating Facility technology and transformer impedances; provided, however, the incremental costs associated with those modifications are the responsibility of the requesting Interconnection Customer; and (c) a Permissible Technological Advancement for the Large Generating Facility after the submission of the Interconnection Request. Section 4.4.6 specifies a separate technological change procedure including the requisite information and process that will be followed to assess whether the Interconnection Customer's proposed technological advancement under Section 4.4.2(c) is a Material Modification. Section 1 contains a definition of Permissible Technological Advancement.~~

4.4.3 Prior to making any modification other than those specifically permitted by Sections 4.4.1, 4.4.2, and 4.4.5, Interconnection

Customer may first request that Transmission Provider evaluate whether such modification is a Material Modification. In response to Interconnection Customer's request, Transmission Provider shall evaluate the proposed modifications prior to making them and inform Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Any change to the Point of Interconnection, except those deemed acceptable under Sections 4.4.1, ~~6.1, 7.2~~ or so allowed elsewhere, shall constitute a Material Modification. Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

4.4.4 Upon receipt of Interconnection Customer's request for modification permitted under this Section 4.4, Transmission Provider shall commence and perform any necessary additional studies as soon as practicable, but in no event shall Transmission Provider commence such studies later than thirty (30) Calendar Days after receiving notice of the modification of Interconnection Customer's request. ~~Any additional studies resulting from such modification shall be performed~~~~done~~ at Interconnection Customer's cost.

4.4.5 Extensions of less than three (3) cumulative years in the Commercial Operation Date of the ~~Large~~ Generating Facility to which the Interconnection Request relates are not material and should be handled through construction sequencing. The initial requested Commercial Operation Date used for this calculation is determined from the date proposed in the initial Interconnection Request (Revised LGIP Appendix 1 Section 4.d). Such cumulative extensions are inclusive of extensions requested after execution by Interconnection Customer of the LGIA. Interconnection Customer extending its Commercial Operation Date shall be required to provide funding of Interconnection Facilities or Network Upgrades if lower or equal queued projects are dependent on such upgrades for meeting their Commercial Operation Date that occurs between the initial and the extended Commercial Operation Date of the Generating Facility in question.

4.4.6 Technological Change Procedure.
The technological change procedure included in this Section 4.4.4 will be followed to assess whether Interconnection Customer's proposed modification is a Material Modification.

4.4.6.1 Technological Change Request.

If an Interconnection Customer seeks to incorporate a technological advancement into its existing Interconnection Request, it must submit a Technological Change Request (TCR) as described below to the Transmission Provider in

writing any time prior to the return of the signed Interconnection Facilities Study Agreement.

The Interconnection Customer's initial TCR must include a description of the proposed advancement and may include a technical analysis of the advancement. The analysis should contain engineering evidence and reasoning that clearly demonstrates the proposed change aligns with the definition of a Permissible Technological Advancement. Accordingly, a TCR should demonstrate that the proposed incorporation of the technological advancement would result in electrical performance that is equal to or better than the electrical performance expected prior to the technology change and would not cause any reliability concerns (i.e., would not materially impact the transmission system with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response).

4.4.6.2 Technological Change Request Evaluation.

The Transmission Provider will assess the Interconnection Customer's initial TCR and make a determination based on an evaluation of analysis provided by the Interconnection Customer that the request either: (1) meets the definition of a Permissible Technological Advancement, or (2) may fail to meet the definition of a Permissible Technological Advancement.

If the proposed technology is determined to meet the definition of a Permissible Technological Advancement, then no additional study is necessary and the proposed advancement is considered a Permissible Technological Advancement. The TCR is then approved and incorporated into the Interconnection Request. Once the Permissible Technological Advancement is approved and incorporated into the Interconnection Request; a new TCR would be required for the Interconnection Customer to revert back to the original equipment or to make other additional modifications to equipment.

If the Transmission ~~Provider~~provider is unable to determine if the requested modification meets the definition of Permissible Technological Advancement from the information provided by the Interconnection Customer, then additional studies may be required to assess the impact(s) of the technological advancement.

Transmission Provider shall notify Interconnection Customer within ten (10) Business Days after the Interconnection

Customer submits the initial TCR if the request is accepted or if additional studies are required, what additional information is required to complete the additional study. Such additional information is dependent on the specific TCR and may include information such as: updated technical data called for in Appendix 1, Attachment A; type and specifications of equipment being replaced; make and model of new equipment; specifications of new equipment; dynamic, steady-state and performance characteristics of the new equipment; and efficiencies, impedances, and ratings of the equipment.

4.4.6.3- Transmission Provider Technological Advancement Study Process.

Should assessment of the initial TCR result in the need for additional studies, the Interconnection Customer shall update its TCR with any additional information required to conduct the study and submit the updated TCR along with a deposit of \$10,000, so that the Transmission Provider may complete studies to evaluate whether or not the technological advancement is permissible. Once the deposit is received along with any data required to conduct the studies, Transmission Provider shall complete the studies as soon as practical but no later than thirty (30) Calendar Days after the receipt of the completed TCR and deposit.

Transmission Provider shall evaluate the TCR by (1) representing the new equipment in the study models, (2) rerunning any completed studies and (3) comparing the new study results with the study results prior to the change.

Transmission Provider will produce a report of the study findings that will state if the technological advancement is permissible. If the proposed technology fails to meet the definition of a Permissible Technological Advancement then the TCR is deemed to be a Material Modification. In such cases, the study report shall provide an explanation regarding why the technological advancement is a Material Modification. The Interconnection Customer can choose to abandon the request and retain its queue position or choose to proceed with the request and reenter the queue with a new queue position.

If the study determines that the proposed technology meets the definition of a Permissible Technological Advancement the modification is approved and will be incorporated into the Interconnection Request. Feasibility or System Impact Study

reports may be updated if appropriate. Once the Permissible Technological Advancement is approved and incorporated into the Interconnection Request; a new TCR would be required for the Interconnection Customer to revert back to the original equipment or make additional modifications to equipment.

Transmission Provider shall either refund any overage or charge for any shortage for costs of the study that exceed the deposit amount. The studies associated with the TCR shall be billed separately from other Interconnection Studies.

Section 5. Transition Procedures.

5.1 Procedures for ~~Transitioning~~ Interconnection Requests Submitted Prior to the First-Ready, First-Served Revised LGIP. Effective Date of Standard Large Generator Interconnection Procedures

5.1 ~~Queue Position for Pending Requests.~~

5.1.1 ~~An~~Any Interconnection Customer assigned a Queue Position prior to September 27, 2019, ~~the effective date of this LGIP~~ shall retain that Queue Position subject to the requirements in Sections -

5.1.1.1 ~~If an Interconnection Study Agreement has not been executed as of the effective date of this LGIP, then such Interconnection Study, and any subsequent Interconnection Studies, shall be processed in accordance with this LGIP.~~

5.1.1.2. ~~An~~If an Interconnection Study Agreement has been executed prior to the effective date of this LGIP, such Interconnection Study shall be completed in accordance with the terms of such agreement. With respect to any remaining studies for which an Interconnection Customer has not signed an Interconnection Study Agreement prior to the effective date of the LGIP, Transmission Provider must offer Interconnection Customer the option of either continuing under Transmission Provider's existing interconnection study process or going forward with the completion of the necessary Interconnection Studies (for which it does not have a signed Interconnection Studies Agreement) in accordance with this LGIP.

5.1.1.3 ~~If an LGIA has been submitted to FERC for approval before the effective date of the LGIP, then the LGIA would be grandfathered.~~

5.1.2 Transition Period.

~~To the extent necessary, Transmission Provider and Interconnection Customers with an outstanding request (i.e., an Interconnection Request for which an LGIA has not been submitted to FERC for approval as of the effective date of this LGIP) shall transition to this LGIP within a reasonable period of time not to exceed sixty (60) Calendar Days. The use of the term "outstanding request" herein shall mean any Interconnection Request, on the effective date of this LGIP: (i) that fails to meet these requirements shall have been submitted but not yet accepted by Transmission Provider; (ii) where the related interconnection agreement has not yet been submitted to FERC for approval in executed or unexecuted form, (iii) where the relevant Interconnection Study Agreements have not yet been executed, or (iv) where any of the relevant Interconnection Studies are in process but not yet completed. Any Interconnection Customer with an outstanding request as of the effective date of this LGIP may request a reasonable extension of any deadline, otherwise applicable, if necessary to avoid undue hardship or prejudice to its Interconnection Request deemed withdrawn pursuant to Section 3.7. Any unused deposit amounts of withdrawn Interconnection Requests shall be returned pursuant to Section 3.7. If an Interconnection Customer elects to continue with a Transitional Serial Interconnection Facilities Study or a Transitional Cluster Study as described below, Transmission Provider shall retain the current study deposits, and Interconnection Customer shall be responsible for the entire cost of all studies pursuant to Sections 4.2.3 and 12.3. A reasonable extension shall be granted by Transmission Provider to the extent consistent with the intent and process provided for under this LGIP.~~

5.1.1.1 Transitional Serial Projects.

~~An Interconnection Customer that has a) a final System Impact Study Report that identifies facilities required to feasibly interconnect and b) an Interconnection Facilities Study Agreement that was executed prior to September 27, 2019, may opt to continue with the Interconnection Facilities Study process if the Interconnection Customer: (1) meets each of the following requirements that demonstrate readiness; and (2) executes a Transitional Serial Interconnection Facilities Study Agreement in the form of Appendix 4 to the Revised LGIP within thirty (30) Calendar Days of the Effective Date of this Revised LGIP. All of the following are required:~~

- a) A deposit on the Transmission Provider's Interconnection Facilities and Network Upgrades identified in the System Impact Study Report. The deposit shall be equal to one hundred percent (100%) of the costs identified for Transmission Provider's Interconnection Facilities and Network Upgrades in the System Impact Study Report and will be reconciled to actual costs after the associated facilities are in-service. If the Interconnection Customer does not withdraw, the deposit shall be reconciled with and applied towards future construction costs described in the LGIA. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, the deposit is fully refundable once the final invoice for study costs and Withdrawal Penalty is settled. The deposit shall be in the form of an irrevocable letter of credit upon which the Transmission Provider may draw or cash where cash deposits will be treated according to Section 7.7.5.
- b) Exclusive Site Control for the entire Generating Facility and any Interconnection Customer's Interconnection Facilities.
- c) Interconnection Customer shall provide one following:
 - i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years, or
 - ii. Reasonable evidence that the Generating Facility is included in an approved Resource Plan or Resource Solicitation Process, or
 - iii. An executed Provisional Large Generator Interconnection Agreement filed with FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

All LGIA negotiations shall be completed and the LGIA executed (or filed unexecuted) within sixty (60) Calendar Days of the publication of the final Interconnection Facilities Study Report or the Interconnection Request shall be deemed withdrawn pursuant to Section 3.7 unless extended by mutual agreement of Transmission Provider and

Interconnection Customer. A change in the Commercial Operation Date shall not delay the construction of facilities if such delay negatively affects lower or equal queued projects. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, a Withdrawal Penalty equal to nine (9) times the Interconnection customer's total study cost is imposed.

5.1.1.2 Combined System Impact and Interconnection Facilities Transitional Cluster Study.

An Interconnection Customer with an assigned Queue Position prior to September 27, 2019, may opt to enter the combined system impact and interconnection facilities transitional cluster study ("Transitional Cluster Study") if the Interconnection Customer: (1) meets each of the following requirements that demonstrate readiness; and (2) executes a Transitional Cluster Study Agreement in the form of Appendix 5.1 to the Revised LGIP within thirty (30) Calendar Days of the Effective Date of this Revised LGIP. All Interconnection Requests that enter the Transitional Cluster Study shall be considered to have an equal Queue Position, and identified upgrade costs shall be allocated according to Section 4.2.4 of the Revised LGIP. The Transitional Cluster Study costs shall be allocated according to the method described in Section 4.2.3. Interconnection Customer may make a one-time extension to its requested Commercial Operation date upon entry into the Transitional Cluster Study and such an extension shall not be past 2023.

All of the following are required:

- a) Choice of requesting either ERIS or NRIS
- b) A deposit on the Transmission Provider's Interconnection Facilities and Network Upgrades expected to be identified in the Transitional Cluster Study. The deposit shall be equal to five million dollars (\$5,000,000) and be in the form of an irrevocable letter of credit upon which the Transmission Provider may draw or cash where cash deposits will be treated according to Section 7.7.5. If the Interconnection Customer does not withdraw, the deposit shall be reconciled with and applied towards future construction costs described in the LGIA. Any amounts in excess of the actual construction costs shall be returned to the customer. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation,

the deposit is fully refundable once the final invoice for study costs and Withdrawal Penalty is settled.

c) Exclusive Site Control for the entire Generating Facility.

d) Interconnection Customer shall provide one following:

- i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years, or
- ii. Reasonable evidence that the Generating Facility is included in an approved Resource Plan or Resource Solicitation Process, or
- iii. An executed Provisional Large Generator Interconnection Agreement filed with FERC that is not in suspension with 1) a commitment to construct the facility, 2) a Commercial Operation Date no later than 2023 and 3) a security deposit in addition to the five million dollars identified in 5.1.1.2.a where the total security deposit represents a reasonable estimation of the potential costs that could be ultimately allocated to the project in the transitional cluster study.

After the Transitional Cluster Study report is published, the remaining process shall proceed according to Section 10 of this Revised LGIP. All LGIA negotiations shall be completed and the LGIA executed (or filed unexecuted) within sixty (60) Calendar Days of the tender of the draft LGIA or the Interconnection Request is deemed withdrawn unless extended by mutual agreement of Transmission Provider and Interconnection Customer. A change in the Commercial Operation Date shall not delay the construction of Transmission Provider's Interconnection Facilities or Network Upgrades if such delay negatively affects lower or equal queued projects.

If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, a Withdrawal Penalty equal to ~~ten~~nine (109) times the Interconnection customer's total study cost is imposed.

5.2 New Transmission Provider.

If Transmission Provider transfers control of its Transmission System to a successor Transmission Provider during the period when an Interconnection Request is pending, the original Transmission Provider shall transfer to the successor Transmission Provider any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by this Revised LGIP shall be paid by or refunded to the Interconnection Customer, as appropriate. ~~The original Transmission Provider shall coordinate with the successor Transmission Provider to complete any Interconnection Study, as appropriate, that the original Transmission Provider has begun but has not completed.~~

If original Transmission Provider has tendered a draft LGIA to Interconnection Customer, but Interconnection Customer has not either executed the LGIA or requested the filing of an unexecuted LGIA with FERC, unless otherwise provided, Interconnection Customer must complete negotiations with the successor Transmission Provider.

Section 6. Informational Interconnection ~~Feasibility~~ Study.

6.1 Informational Interconnection ~~Feasibility~~ Study Agreement.

~~At any time, a customer may request, and Transmission Provider (either itself or through a consultant) shall perform a reasonable number~~Simultaneously with the acknowledgement of Informational—valid Interconnection Studies. Provisional~~Request Transmission Provider shall provide to Interconnection Service maybe requested based on the results of the Informational~~Customer an Interconnection Study. Feasibility Study Agreement in the form of Appendix 2. The Interconnection Customer Feasibility Study Agreement shall submit a separate Informational~~specify that Interconnection Request~~Customer is responsible for each site and may submit multiple Informational the actual cost of the Interconnection Requests Feasibility Study. Within five (5) Business Days following the Scoping Meeting Interconnection Customer shall specify for a single site. Interconnection Customer must submit a deposit with each Informational inclusion in the attachment to the Interconnection Request even when more than one request is submitted for a single site. An Informational Feasibility Study Agreement the Point(s) of Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Informational and any reasonable alternative Point(s) of Interconnection Requests. The request shall use the form in Appendix 5.4 of the Revised LGIP and shall describe the assumptions that Interconnection Customer wishes Transmission Provider to study within the scope described in Section 6.2 of the Revised LGIP below.— Within five (5) Business Days after following Transmission Provider's receipt of a request for an Informational Interconnection Study~~such designation, Transmission Provider shall provide~~tender to Interconnection Customer an Informational the Interconnection Feasibility Study Agreement in the form~~signed by Transmission Provider, which includes a good faith estimate of Appendix 5.5.~~

~~The Informational~~~~the cost for completing the Interconnection Feasibility Study.~~
~~Interconnection Customer shall execute and deliver to Transmission Provider the~~
~~Interconnection Feasibility Study Agreement shall: (i) include~~~~along with a~~
~~\$10,000 deposit no later than thirty (30) Calendar Days after its receipt.~~

~~On or before the scope~~~~return of work for the Informational~~~~executed~~
~~Interconnection Study (ii) specify Feasibility Study Agreement to Transmission~~
~~Provider, Interconnection Customer shall provide the technical data that~~
~~Interconnection Customer must provide, (iii) specify the Informational called for in~~
~~Appendix 1, Attachment A.~~

~~If the Interconnection Study case and assumptions, and (iv) identify the~~
~~Transmission Provider's estimate of the cost of the Informational Feasibility Study~~
~~uncovers any unexpected result(s) not contemplated during the Scoping Meeting,~~
~~a substitute Point of Interconnection Study. To the extent known by Transmission~~
~~Provider, such estimate shall include any costs expected to be incurred by any~~
~~Affected System whose participation is necessary to complete the Informational~~
~~identified by either Interconnection Study. Notwithstanding the above, Customer~~
~~or Transmission Provider shall, and acceptable to the other, such acceptance not~~
~~to be required as a result~~~~unreasonably withheld, will be substituted for the~~
~~designated Point of an Informational Interconnection Study request to conduct~~
~~any additional specified above without loss of Queue Position, and Re-studies~~
~~shall be completed pursuant to Section 6.4 as applicable. For the purpose of this~~
~~Section 6.1, if Transmission Provider and Interconnection Studies with respect to~~
~~any other~~

~~Customer cannot agree on the substituted Point of Interconnection Request.~~

~~, then Interconnection Customer shall execute the Informational~~~~may direct that~~
~~one of the alternatives as specified in the Interconnection Feasibility Study~~
~~Agreement within ten (10) Business Days of receipt of an agreed upon scope of~~
~~work and deliver, as specified pursuant to Section 3.4.4, shall be the~~
~~Informational substitute.~~

~~If Interconnection Study Agreement, the technical data, and a \$10,000 deposit to~~
~~Transmission Provider Customer and Transmission Provider agree to forgo the~~
~~Interconnection Feasibility Study, Transmission Provider will initiate an~~
~~Interconnection System Impact Study under Section 7 of this LGIP and apply the~~
~~\$10,000 deposit towards the Interconnection System Impact Study.~~

6.2 **Scope of Informational Interconnection Study.**

~~—The intent of the Informational Interconnection Study is to aid~~
~~Interconnection —Customer in its business decisions related to~~
~~interconnection of generation —facilities prior to entering the Definitive~~
~~Interconnection Process. The —Informational Interconnection Study~~
~~shall consist of analysis based on the —assumptions and scope of work~~
~~specified by Interconnection Customer in the —Informational Interconnection~~
~~Study Agreement. The Informational Interconnection Study shall identify the~~

~~potential Transmission Provider's —Interconnection Facilities and the Network Upgrades, and the estimated cost —thereof, that may be required to provide transmission service or Interconnection —Service based upon the results and assumptions of the Informational —Interconnection Study. The Informational Interconnection Study shall be —performed solely for informational purposes. Transmission Provider shall use —Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. —Transmission Provider shall utilize existing studies to the extent practicable in —conducting the Informational Interconnection~~**Feasibility** Study.

6.3 Informational ~~The Interconnection Feasibility Study shall preliminarily evaluate the feasibility of the proposed interconnection to the Transmission System.~~

~~The Interconnection Feasibility Study will consider the Base Case as well as all generating facilities (and with respect to (iii), any identified Network Upgrades) that, on the date the Interconnection Feasibility Study is commenced: (i) are directly interconnected to the Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System; and (iv) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC. The Interconnection Feasibility Study will consist of a power flow and short circuit analysis. The Interconnection Feasibility Study will provide a list of facilities and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.~~

6.3 —Interconnection Feasibility Study Procedures.

~~The executed Informational~~**Transmission Provider shall utilize existing studies to the extent practicable when it performs the study. Transmission Provider shall use Reasonable Efforts to complete the Interconnection Feasibility Study no later than forty-five (45) Calendar Days after Transmission Provider receives the fully executed Interconnection Feasibility Study Agreement. —At the request of Interconnection Customer or at any time Transmission Provider determines that it will not meet the required time frame for completing the Interconnection Feasibility Study Agreement, the deposit, and technical and other data called for therein must be provided to ,—Transmission Provider within ten (10) Business Days of**shall notify Interconnection Customer receipt as to the schedule status of the Informational Interconnection Study Agreement. Transmission Provider shall use Reasonable Efforts to complete the Informational Interconnection Study within a mutually agreed upon time period specified within the Informational Interconnection Study Agreement. Feasibility Study. If Transmission Provider is unable to complete the Informational Interconnection—Feasibility Study within such that time period, it shall notify Interconnection Customer and provide an estimated completion date and with an explanation of the reasons why additional time is required. —Any difference between the study payment and the actual cost****

of the study shall be paid to Transmission Provider or refunded to Interconnection Customer, as appropriate. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation, ~~workpapers~~ and ~~work papers~~ relevant power flow, short circuit and stability databases or data developed in ~~for~~ the preparation of the Informational Interconnection ~~Feasibility~~ Study, subject to confidentiality arrangements consistent with Section ~~1213~~.1.

Section 7. Phase 1 through 3 of the Definitive Interconnection Study Process.

~~Transmission Provider shall study the Interconnection Request at the level of service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns.~~

6.3.1 Meeting with Transmission Provider.

~~Within ten (10) Business Days of providing an Interconnection Feasibility Study report to Interconnection Customer, Transmission Provider and Interconnection Customer shall meet to discuss the results of the Interconnection Feasibility Study.~~

6.4 Re-Study.

~~If Re-Study of the Interconnection Feasibility Study is required due to a higher queued project dropping out of the queue or a modification of a higher queued project subject to Section 4.4, or re-designation of the Point of Interconnection pursuant to Section 6.1 Transmission Provider shall notify Interconnection Customer in writing. Such Re-Study shall take not longer than forty-five (45) Calendar Days from the date of the notice. Any cost of Re-Study shall be borne by the Interconnection Customer being re-studied.~~

Section 7. Interconnection System Impact Study

7.1 Definitive Interconnection System Impact Study Agreement.

Unless otherwise agreed, pursuant to the Scoping Meeting provided for in Section 3.4.4, within thirty (30) Calendar Days ~~acknowledgements~~ simultaneously with the delivery of a valid ~~the~~ Interconnection Request indicating that a Definitive Feasibility Study to Interconnection System Impact Study is to be performed ~~Customer~~, Transmission Provider shall provide to Interconnection Customer a DISIS an Interconnection System Impact Study Agreement in the form of Appendix ~~23~~ to this Revised LGIP. ~~The DISIS Interconnection System Impact Study Agreement shall provide that Interconnection Customer shall compensate Transmission Provider for the actual cost of the DISIS. At least seven (7) Calendar Days before the close of a Customer Engagement Window~~ Interconnection System Impact Study. Within three (3) Business Days following the Interconnection Feasibility Study results meeting, Transmission Provider shall provide to Interconnection Customer a non-binding updated good faith estimate of the cost and timeframe for completing the Definitive Interconnection System Impact Study.

7.2 Execution of **Definitive** Interconnection System Impact Study Agreement.

Interconnection Customer shall execute the ~~DISIS~~Interconnection System Impact Study Agreement and deliver the executed ~~DISIS~~Interconnection System Impact Study Agreement to Transmission Provider no later than ~~thirty (30) Calendar Days after its receipt along with demonstration of Site Control, and a \$50,000 deposit.~~

~~If Interconnection Customer does not provide all such technical data when it delivers the closeInterconnection System Impact Study Agreement, Transmission Provider shall notify Interconnection Customer of the Customer Engagement Windowdeficiency within five (5) Business Days of the receipt of the executed Interconnection System Impact Study Agreement and Interconnection Customer shall cure the deficiency within ten (10) Business Days of receipt of the notice, provided, however, such deficiency does not include failure to deliver the executed Interconnection System Impact Study Agreement or deposit.~~

~~If the Interconnection System Impact Study uncovers any unexpected result(s) not contemplated during the Scoping Meeting and the Interconnection Feasibility Study, a substitute Point of Interconnection identified by either Interconnection Customer or Transmission Provider, and acceptable to the other, such acceptance not to be unreasonably withheld, will be substituted for the designated Point of Interconnection specified above without loss of Queue Position, and restudies shall be completed pursuant to Section 7.6 as applicable. For the purpose of this Section 7.2, if Transmission Provider and Interconnection Customer cannot agree on the substituted Point of Interconnection, then Interconnection Customer may direct that one of the alternatives as specified in the Interconnection Feasibility Study Agreement, as specified pursuant to Section 3.4.4, shall be the substitute.~~

7.3 Scope of **Definitive** Interconnection System Impact Study.

The Definitive Interconnection System Impact Study shall evaluate the impact of the proposed interconnection on the reliability of the Transmission System. The Definitive Interconnection System Impact Study will consider the Base Case as well as all generating facilities (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued ~~requests~~interconnection) that, on the date the ~~DISIS Request Window closes~~Interconnection System Impact Study is commenced: (i) are existing and directly interconnected to the Transmission System; (ii) are existing and interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System; and (iv) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC. Generating facilities with pending higher or equal queued NRIS requests, or requests associated with Firm Transmission Service shall generally be modeled at full output while existing generation may be re-dispatched to accommodate new requests in the model. Higher queued ERS requests or in-service ERS generators without associated Firm Transmission Service may be dispatched at zero in some study models. If the total requests for NRIS in a Cluster exceeds or otherwise cannot be sunk to

~~the Network Load projected in the Base Case, such exceedance shall be assumed to be delivered outside of the Transmission System. In-service generation in the study model may be re-dispatched in the DISIS, have no Queue Position but generally will not be studied at less than its minimum operating limit unless the generation owner agrees the Generating Facility should be modeled as if retired. Existing generation dispatch will be used, for instance, to maintain reliability and stress the system as appropriate.~~

~~As discussed in more detail in Section 7.4 below, the Definitive Interconnection System Impact Study is a phased study where the first phase (Phase 1) consists of a power flow and voltage analysis have executed an LGIA or requested that is followed by a phase (Phase 2) that consists of a an unexecuted LGIA be filed with FERC.~~

~~The Interconnection System Impact Study will consist of a short circuit analysis and, a stability analysis. Any DISIS re-studies (Phase 3) shall consist of a, and a power flow/voltage analysis, a short circuit analysis, and/or a stability analysis as needed.~~ The Definitive Interconnection System Impact Study report will state the assumptions upon which it is based; state the results of the analyses; and provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. ~~For purposes of determining necessary Interconnection Facilities and Network Upgrades, the~~ Definitive Interconnection System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. The Definitive Interconnection System Impact Study will provide a list of facilities that are required as a result of the Interconnection Request and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.

7.4 Definitive Interconnection System Impact Study Procedures.

Transmission Provider shall coordinate the Definitive Interconnection System Impact Study with any Affected System that is affected by the Interconnection Request pursuant to Section 3.6 above. ~~Transmission Provider shall utilize existing studies to the extent practicable when it performs the DISIS. Interconnection Requests for DISIS may be submitted only within the DISIS Request Window and Transmission Provider shall initiate the Definitive Interconnection Study Process pursuant to Section 4.2.1study. Transmission Provider shall use Reasonable Efforts to complete the Interconnection System Impact Study within ninety (90) Calendar Days after the receipt of the Interconnection System Impact Study Agreement or notification to proceed, study payment, and technical data. If Transmission Provider uses Clustering, Transmission Provider shall use Reasonable Efforts to deliver a completed Interconnection System Impact Study within ninety (90) Calendar Days after the close of the Queue Cluster Window.~~

The diagrams attached as Appendix A-2 provides an overview and timeline of the Definitive Interconnection Study Process, including the Phases and milestones associated with the Definitive Interconnection System Impact Study.

- a. The DISIS Cluster shall consist of all eligible Interconnection Requests that have executed a DISIS Agreement and have provided all required information before the close of the Customer Engagement Window. Transmission Provider shall use Reasonable Efforts to complete the first phase (Phase 1) consisting of a power flow and voltage analysis within ninety (90) Calendar Days. The Phase 1 Report shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades that are expected to be required as a result of the Interconnection Request(s) and a non-binding good-faith indicative level estimate of cost responsibility and a non-binding good-faith estimated time to construct. Transmission Provider shall hold an open stakeholder meeting ("Phase 1 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 1 results on OASIS.
- b. Within twenty (20) Calendar Days of the Phase 1 Report Meeting, all Interconnection Customers are required to provide Readiness Milestone 2 ("M2") and continued evidence of Site Control as described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.
- c. Interconnection Customers whose M2 and Site Control are accepted by Transmission Provider shall continue in to the second phase ("Phase 2") of the Definitive Interconnection System Impact Study. Phase 2 consists of an updated power flow/voltage analysis (if necessary), stability analysis and short circuit analysis for the Interconnection Customers remaining in the DISIS Cluster. Transmission Provider shall use Reasonable Efforts to complete the Phase 2 analysis within one hundred fifty (150) Calendar Days. The results of this analysis shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades expected to be required to reliably interconnect the Generating Facilities in that DISIS Cluster at the requested Interconnection Service level and shall provide non-binding estimates for required upgrades. The Phase 2 Report shall identify each Interconnection Customer's estimated allocated costs for Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades. Transmission Provider shall hold an open stakeholder meeting ("Phase 2 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 2 results on OASIS.
- d. Within twenty (20) Calendar Days of the Phase 2 Report Meeting, each Interconnection Customer is required to provide Readiness Milestone 3 ("M3") and additional evidence of Site Control described in Section 7.7.7. Milestones for the Definitive Interconnection Study Process are described in

Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.

- i. If all Interconnection Customers in the Cluster provide M3 and no Interconnection Customers withdraw from the Queue at this stage, the Definitive Interconnection Study Process advances to the Interconnection Facilities Study (Section 7.4.g). Transmission Provider shall electronically notify Interconnection Customers in the Cluster that Phase 3 is not required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.
- ii. If one or more Interconnection Customer withdraws from the Cluster, Transmission Provider shall determine if a full system impact re-study is necessary. If Transmission Provider determines a re-study is not necessary and Phase 3 is not required, Transmission Provider shall provide an updated Phase 2 Report within thirty (30) Calendar Days of such determination and the Definitive Interconnection Study Process advances to the Interconnection Facilities Study (Section 7.4.g). When the updated Phase 2 report is issued, Transmission Provider shall electronically notify Interconnection Customers in the Cluster that Phase 3 is not required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.
- iii. If one or more Interconnection Customers withdraws from the Cluster and Transmission Provider determines a full system impact re-study is necessary, Transmission Provider will continue with System Impact re-studies ("Phase 3") as described in Section 7.4.e below, until Transmission Provider determines that no further re-studies are required. If a customer withdraws after Section 7.4.d.i or Section 7.4.d.ii or during the Interconnection Facilities Study and Transmission Provider determines system impact level studies are necessary, the Cluster shall be restudied under the terms of Phase 3. Transmission Provider shall electronically notify Interconnection Customers in the Cluster and post on OASIS that a re-study is required. Interconnection Customers that have elected NRIS may make a onetime change between Phase 2 and Phase 3 (before the re-study starts) to ERIS if they notify Transmission Provider of such change in election within five (5) Business Days of the Transmission Provider's notification the first re-study is required.
- e. Interconnection Customers whose M3 and additional evidence of Site Control is accepted by Transmission Provider shall continue with the third phase ("Phase 3") of the Definitive Interconnection System Impact Study. Phase 3 may consist of updated power flow/voltage analysis, stability analysis, and/or short circuit analysis if necessary for the Interconnection Customers remaining in the Cluster. Transmission Provider shall use Reasonable Efforts to complete the Phase 3 analysis within one hundred fifty (150) Calendar

Days. The results of this analysis shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades expected to be required to reliably interconnect the Generating Facilities in that Cluster at the requested Interconnection Service level and shall provide non-binding estimates for required upgrades. The Phase 3 Report shall identify each Interconnection Customer's estimated allocated costs for Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades. Transmission Provider shall hold an open stakeholder meeting ("Phase 3 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 3 results on OASIS. If additional re-studies are required before moving to Phase 4 below, within twenty (20) Calendar Days of the Phase 3 Report Meeting (or Phase 3 Updated Report Meeting), all Interconnection Customers are required to provide an updated Readiness Milestone 3 ("M3"). Readiness Milestones for the Definitive Interconnection Study Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7. Transmission Provider shall electronically notify Interconnection Customers in the Cluster when no further re-studies are required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.

- f. Within twenty (20) Calendar Days of the notice that no System Impact re-studies are needed, each Interconnection Customer is required to provide Readiness Milestone 4 ("M4"), Site Control requirements described in Section 7.7.7, and an executed Interconnection Facilities Agreement in the form of Appendix 3 (completed and including all required data identified therein). Readiness Milestones for the Definitive Interconnection System Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security *in lieu* of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.
- g. Twenty (20) Calendar Days after the notice that no further Re-Studies are needed, Transmission Provider shall proceed with the Interconnection Facilities Study phase ("Phase 4") of the Definitive Study Process, described in detail in Section 8 below. An additional study deposit is not required for Phase 4.

At the request of Interconnection Customer or at any time Transmission Provider determines that it will not meet the ~~indicated timeframe~~required time frame for completing the ~~DISIS Interconnection System Impact Study~~, Transmission Provider shall notify Interconnection Customer(s) as to the schedule status of the ~~DISIS Cluster Interconnection System Impact Study~~. If Transmission Provider is unable to complete the ~~DISIS Interconnection System Impact Study~~ within the time period, it shall notify Interconnection

Customer(s) and provide an estimated completion date with an explanation of the reasons why additional time is required.

-Upon request, Transmission Provider shall provide Interconnection Customer all supporting documentation, workpapers, work—papers and relevant pre-Interconnection Request and post-Interconnection Request power flow, short circuit and stability databases for the DISISInterconnection System Impact Study, subject to confidentiality arrangements consistent with Section 1213.1.

7.5 Meeting with Transmission Provider.

Within ten (10) Business Days of furnishing a DISIS study providing an Interconnection System Impact Study report to Interconnection Customer and posting the report on OASIS, Transmission Provider and Interconnection Customer shall convene an open meeting meet to discuss the study results. Transmission Provider shall, upon request, also make itself available to meet with individual Interconnection Customers after the study report is provided. —of the Interconnection System Impact Study.

7.6 Re-Study.

If Re-Study of the Definitive Interconnection System Impact Study other than the re-study described above in 7.4.e is required due to a higher or equal priority queued project dropping out of the Queuequeue, or a modification of a higher queued project subject to Section 4.4, or re-designation of the Point of Interconnection pursuant to Section 7.2 Transmission Provider shall notify Interconnection Customer(s) in writing. The Transmission Provider shall make Reasonable Efforts to ensure such ~~Such~~ Re-Study shall take no longer than one hundred fifty (150sixty (60)) Calendar Days from the date of notice. Any cost of Re-Study shall be borne by Interconnection Customer(s) being re-studied.

7.7 Readiness Milestones and Site Control.

Readiness Milestones are required throughout the Definitive Interconnection Study Process to demonstrate readiness. A customer that does not sufficiently demonstrate readiness by providing a Readiness Milestones is subject to withdrawal as described in Section 3.7 which may include additional penalties.

There are three Readiness Milestone options that demonstrate readiness through the study process (i.e. for Readiness Milestones 1 (M1) through Readiness Milestones 4 (M4).

7.7.1 Readiness Milestone 1 (“M1”).

M1 is satisfied by any one of the three options below (also described in 3.4.1.f) at Interconnection Customer’s option. M1 may also be satisfied by providing additional security described in Section 7.7.5 below in lieu of providing one of the three options to demonstrate readiness.

- a) Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i)

the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.

- b) Reasonable evidence the project has been selected in a Resource Plan or Resource Solicitation Process; or
- c) Provisional Large Generator Interconnection Agreement accepted for filing at FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

7.7.2 Readiness Milestone 2 ("M2").

M2 is satisfied by any one of the three options below at Interconnection Customer's option. M2 may also be satisfied by providing additional security as described in Section 7.7.5 in lieu of providing one of the three options to demonstrate readiness.

- a) Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.
- b) Reasonable evidence that the project has been selected in a Resource Plan or Resource Solicitation Process; or
- c) Provisional Large Generator Interconnection Agreement accepted for filing at FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

7.7.3 Readiness Milestone 3 ("M3").

M3 is satisfied by any one of the three options below at Interconnection Customer's option. M3 may also be satisfied by providing additional security described in Section 7.7.5 in lieu of providing one of the three options to demonstrate readiness.

- a) Executed contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.

- b) Reasonable evidence that the project has been selected in an approved Resource Plan or Resource Solicitation Process; or
- c) An unsuspended Provisional Large Generator Interconnection Agreement accepted for filing by FERC with reasonable evidence that the Generating Facility and Interconnection Facilities have commenced design and engineering.

7.7.4 Readiness Milestone 4 (“M4”).

M4 is satisfied by any one of the three options below at Interconnection Customer’s option. M4 may also be satisfied by providing additional security as described in Section 7.7.5 below in lieu of providing one of the three options to demonstrate readiness.

- a) Executed contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility’s energy, or (iii) the Generating Facility’s ancillary services and capacity if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;
- b) Reasonable evidence that the project has been selected in an approved Resource Plan or Resource Solicitation Process; or
- c) An unsuspended Provisional Large Generator Interconnection Agreement accepted for filing by FERC with reasonable evidence that the Generating Facility and Interconnection Facilities have commenced construction.

7.7.5 Security Requirements.

A table showing the security required in each milestone is provided in Appendix A-2. The security amount is dependent on if the customer provided a Readiness Milestone and the study phase the customer is entering. All security described below shall be in the form of an irrevocable letter of credit upon which Transmission Provider may draw or cash. If cash is provided as security, it shall be held in an interest bearing account. The security is refunded to the Interconnection Customer upon withdrawal, LGIA termination, or Commercial Operation after any final invoice is settled. If cash is provided as security, it shall be refunded plus interest, where the interest is calculated using the interest rate of the account in which it was held. Security may be drawn upon if costs under this LGIP including the LGIA remain unpaid as per this Revised LGIP and the attached LGIA. ~~being re-studied.~~

As part of a valid interconnection request all Interconnection Customers must provide security equal to the study deposit amount ~~described in Section 3.1~~ as described in Section 3.4.1.h. The security

provided in Section 3.1.4.h will be applied towards the amount of security required for M5.

An Interconnection Customer may opt to provide security *in lieu* of providing Readiness Milestones 1 through 4, as described above in Sections 7.7.1, 7.7.2, 7.7.3, and 7.7.4. The security provided is applied towards the security amount required for each successive milestone if the Interconnection Customer does not withdraw from the queue. For example, the security provided for M2 is applied to the amount of security required for M3.

In lieu of providing a demonstration of readiness for Milestones 1 through 4, the amount of security required is a multiple of the study deposit described in Section 3.1 and is in addition to the security required for all Interconnection Customers under Sections 3.4.1.h. The additional amount of security required for each milestone for Interconnection Customers that do not provide a demonstration of readiness is:

M1 = 1 times the study deposit amount

M2 = 2 times the study deposit amount

M3 = 4 times the study deposit amount

M4 = 6 times the study deposit amount

For clarity, the total (i.e. inclusive of the security required under Section 3.4.1.h) amount of security required for each milestone for Interconnection Customers that do not provide a demonstration of readiness is:

M1 = 2 times the study deposit amount

M2 = 3 times the study deposit amount

M3 = 5 times the study deposit amount

M4 = 7 times the study deposit amount

All Interconnection Customers are required to provide security in order to satisfy Readiness Milestone 5 (M5) when the LGIA is executed as described in Section 10.3. The amount of security required for M5 is equal to nine (9) times the Interconnection Customer's share of the Definitive Interconnection Study Process study costs. If this amount is not known, the study deposit amount shall be used as an estimate of study cost until such amounts are known. If initially estimated, M5 shall be updated when the final invoice for actual study costs is issued. As this M5 amount is the total security required to satisfy

Readiness Milestone 5, any security provided pursuant to Sections 3.4.1.h, 7.7.5.a, 7.7.5.b, 7.7.1, 7.7.2, 7.7.3, and 7.7.4 shall be applied towards the Readiness Milestone 5 amount when the LGIA is executed. The Interconnection Customer shall only be responsible to provide the incremental amount of security to the Transmission Provider and any excess security provided shall be refunded to the Interconnection Customer. Transmission Provider shall refund all security provided under this section to the Interconnection Customer upon achieving Commercial Operation.

7.7.7 Site Control.

In addition to the above Readiness Milestones, Site Control is required to determine increased readiness through the Definitive Interconnection Study Process. Additional information on Site Control is posted on Transmission Provider's OASIS.

- a) Before entering Phase 1 (concurrent with M1) demonstration of 50% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- b) Before entering Phase 2 (concurrent with M2): continued demonstration of 50% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- c) Before entering Phase 3 (concurrent with M3): demonstration of 60% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- d) Before entering Phase 4 (concurrent with M4): demonstration of 75% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- e) Before executing an LGIA (concurrent with M5): demonstration of 90% Site Control and 50% Site Control of Interconnection Customer's Interconnection Facilities is required.

Section 8. Interconnection Facilities Study.

8.1 Interconnection Facilities Study Agreement.

Simultaneously with the ~~noticed delivery of the Interconnection System Impact Study~~ to Interconnection Customer(s) that Phase 3 is complete or not required, Transmission Provider shall provide to Interconnection Customer an Interconnection Facilities Study Agreement in the form of Appendix 3 to this Revised LGIP. Within five (5) Business Days following the open DISIS results (Phase 2 or Phase 3) meeting, Transmission Provider shall provide to Interconnection Customer a non-binding good faith estimate of the cost and timeframe for completing the Interconnection Facilities Study.~~4 to this LGIP.~~ The

Interconnection Facilities Study Agreement shall provide that Interconnection Customer shall compensate Transmission Provider for the actual cost of the Interconnection Facilities Study. ~~Within three (3) Business Days following the Interconnection System Impact Study results meeting, Transmission Provider shall provide to Interconnection Customer a non-binding good faith estimate of the cost and timeframe for completing the Interconnection Facilities Study.~~ Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to Transmission Provider within twenty (20)~~thirty (30)~~ Calendar Days after its receipt, together with the required technical data, Readiness Milestone 4 and the Site Control requirements described in Section 7.7.7. greater of \$100,000 or ~~Interconnection Customers that do not provide~~ Customer's portion of the Readiness Milestone (or additional security in lieu of estimated monthly cost of conducting the Readiness Milestone) and provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7. Interconnection Facilities Study.

~~**8.1.1** Transmission Provider shall invoice Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. Interconnection Customer shall pay invoiced amounts within thirty (30) Calendar Days of receipt of invoice. Transmission Provider shall continue to hold the amounts on deposit until settlement of the final invoice.~~

8.2 Scope of Interconnection Facilities Study.

The Interconnection Facilities Study shall specify and provide a non-binding estimate of the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the final Phase 2 or Phase 3 Report (as appropriate)~~Interconnection System Impact Study~~ in accordance with Good Utility Practice to physically and electrically connect the Interconnection ~~Facilities~~Facility to the Transmission System.— The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: ~~the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Transmission Provider's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities.~~

~~The Interconnection Facilities Study will also identify any potential control equipment for requests for Interconnection Service that are lower than the Generating Facility Capacity.~~

8.3 Interconnection Facilities Study Procedures.

a. Transmission Provider shall coordinate the Interconnection Facilities Study with any Affected System pursuant to Section 3.6 above. Transmission Provider shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. Transmission Provider shall use Reasonable Efforts to complete the

study and issue a draft Interconnection Facilities Study report to Interconnection Customer within ninety (90) Calendar Days after acceptance of the Interconnection Facilities Agreement and Readiness Milestone 4~~the following number of days after receipt of an executed Interconnection Facilities Study Agreement: ninety (90) Calendar Days, with no more than a +/- 20 percent cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if Interconnection Customer requests a +/- 10 percent cost estimate.~~

b. ~~At the request of Interconnection Customer or at any time Transmission Provider determines that it will not meet the required time frame for completing the Interconnection Facilities Study,~~ Transmission Provider shall notify Interconnection Customer as to the schedule status of the Interconnection Facilities Study. ~~— If Transmission Provider is unable to complete the Interconnection Facilities Study and issue a draft Interconnection Facilities Study report within the time~~ identified~~required~~, it ~~shall~~ shall notify Interconnection Customer and provide an estimated ~~completion date and an explanation of the reasons why additional time is required.~~

c. Interconnection Customer may, within thirty (30) Calendar Days after receipt of the draft Interconnection Facilities Study report, provide written comments to Transmission Provider, which Transmission Provider shall ~~consider~~include in completing the final Interconnection Facilities Study report. ~~— Transmission Provider shall issue the final Interconnection Facilities Study report within fifteen (15) Business Days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. Transmission Provider may reasonably extend such fifteen~~ (15) Business Day-day period upon notice to Interconnection Customer if Interconnection Customer's comments require Transmission Provider to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Study report~~Report~~. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation, workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section ~~1213~~1.

8.4 Meeting with Transmission Provider.

Within ten (10) Business Days of providing a draft Interconnection Facilities Study report to Interconnection Customer, Transmission Provider and Interconnection Customer shall meet to discuss the results of the Interconnection Facilities Study.

8.5 Re-Study.

If Re-Study of the Interconnection Facilities Study is required due to a higher or equal priority queued project dropping out of the Queue~~queue~~ or a modification

of a higher queued project pursuant to Section 4.4, Transmission Provider shall so notify Interconnection Customer in writing. The Transmission Provider shall make Reasonable Efforts to ensure such ~~Such~~ Re-Study shall take no longer than sixty (60) Calendar Days from the date of notice. Re-Studies that require rerunning the system impact study analysis may take longer than sixty days. Any cost of Re-Study shall be borne by the Interconnection Customer (s) being re-studied.

Section 9. Engineering & Procurement ~~("E&P")~~ ("E&P") Agreement.

Prior to executing an LGIA, an Interconnection Customer may, in order to advance the implementation of its interconnection, request and Transmission Provider shall offer the Interconnection Customer, an E&P Agreement that authorizes Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, Transmission Provider shall not be obligated to offer an E&P Agreement if Interconnection Customer is in Dispute Resolution as a result of an allegation that Interconnection Customer has failed to meet any Readiness Milestones ~~milestones~~ or comply with any prerequisites specified in other parts of the Revised LGIP. ~~-~~ The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Queue Position or In-Service Date. ~~-~~ The E&P Agreement shall provide for Interconnection Customer to pay the cost of all activities authorized by Interconnection Customer and to make advance payments or provide other satisfactory security for such costs.

Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. ~~-~~ If Interconnection Customer withdraws its application for interconnection or either Party ~~-~~ terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Interconnection Customer shall be obligated to pay the associated cancellation costs. ~~-~~ To the extent that the equipment cannot be reasonably canceled, Transmission Provider may elect: (i) ~~-~~ to take title to the equipment, in which event Transmission Provider shall refund Interconnection Customer any amounts paid by Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) ~~-~~ to transfer title to and deliver such equipment to Interconnection Customer, in which event Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

Section 10. ~~Optional Interconnection Study~~

~~10.1—Optional Interconnection Study Agreement.~~

~~On or after the date when Interconnection Customer receives Interconnection System Impact Study results, Interconnection Customer may request, and Transmission Provider shall perform a reasonable number of Optional Studies. The request shall describe the assumptions that Interconnection Customer wishes Transmission Provider to study within the scope described in Section~~

~~10.2. Within five (5) Business Days after receipt of a request for an Optional Interconnection Study, Transmission Provider shall provide to Interconnection Customer an Optional Interconnection Study Agreement in the form of Appendix 5.1.~~

~~The Optional Interconnection Study Agreement shall: (i) specify the technical data that Interconnection Customer must provide for each phase of the Optional Interconnection Study, (ii) specify Interconnection Customer's assumptions as to which Interconnection Requests with earlier queue priority dates will be excluded from the Optional Interconnection Study case and assumptions as to the type of interconnection service for Interconnection Requests remaining in the Optional Interconnection Study case, and (iii) Transmission Provider's estimate of the cost of the Optional Interconnection Study. To the extent known by Transmission Provider, such estimate shall include any costs expected to be incurred by any Affected System whose participation is necessary to complete the Optional Interconnection Study. Notwithstanding the above, Transmission Provider shall not be required as a result of an Optional Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request.~~

~~Interconnection Customer shall execute the Optional Interconnection Study Agreement within ten (10) Business Days of receipt and deliver the Optional Interconnection Study Agreement, the technical data and a \$10,000 deposit to Transmission Provider.~~

~~10.2—Scope of Optional Interconnection Study.~~

~~The Optional Interconnection Study will consist of a sensitivity analysis based on the assumptions specified by Interconnection Customer in the Optional Interconnection Study Agreement. The Optional Interconnection Study will also identify Transmission Provider's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the results of the Optional Interconnection Study. The Optional Interconnection Study shall be performed solely for informational purposes. Transmission Provider shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. Transmission Provider shall utilize existing studies to the extent practicable in conducting the Optional Interconnection Study.~~

~~10.3—Optional Interconnection Study Procedures.~~

~~The executed Optional Interconnection Study Agreement, the prepayment, and technical and other data called for therein must be provided to Transmission Provider within ten (10) Business Days of Interconnection Customer receipt of the Optional Interconnection Study Agreement. Transmission Provider shall use Reasonable Efforts to complete the Optional Interconnection Study within a mutually agreed upon time period specified within the Optional Interconnection Study Agreement. If Transmission Provider is unable to complete the Optional Interconnection Study within such time period, it shall notify Interconnection~~

~~Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Any difference between the study payment and the actual cost of the study shall be paid to Transmission Provider or refunded to Interconnection Customer, as appropriate. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation and work papers and databases or data developed in the preparation of the Optional Interconnection Study, subject to confidentiality arrangements consistent with Section 13.1.~~

~~Section 11.~~ Standard Large Generator Interconnection Agreement (LGIA).

1011.1 Tender.

Interconnection Customer shall tender comments on the draft Interconnection Facilities Study Report within thirty (30) Calendar Days of receipt of the report. Within thirty (30) Calendar Days after the comments are submitted or after the Interconnection Customer notifies Transmission Provider that it will provide no comments, Transmission Provider shall tender a draft LGIA, together with draft appendices. The draft LGIA shall be in the form of Transmission Provider's FERC-approved standard form LGIA, which is in Appendix 6. Interconnection Customer shall ~~execute and~~ return the completed draft appendices and execute the LGIA within thirty (30) Calendar Days unless the sixty (60) Calendar Day negotiation period under Section 10.2 has commenced.

1011.2 Negotiation.

Notwithstanding Section 1011.1, at the request of Interconnection Customer, Transmission Provider shall begin negotiations with Interconnection Customer concerning the appendices to the LGIA at any time after Interconnection Customer executes the Interconnection Facilities Study Agreement. Transmission Provider and Interconnection Customer shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender of the final Interconnection Facilities Study Report. ~~If~~ Interconnection Customer determines that negotiations are at an impasse, Interconnection Customer may request termination of the negotiations at any time after tender of the draft LGIA pursuant to Section 1011.1 and request submission of the unexecuted LGIA with FERC or initiate Dispute Resolution procedures pursuant to Section 1213.5. ~~If~~ Interconnection Customer requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Interconnection Request. Unless otherwise agreed by the Parties, if Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute

Resolution procedures pursuant to Section 1213.5 within sixty (60) Calendar Days of tender of draft LGIA, it shall be deemed to have withdrawn its Interconnection Request. ~~Transmission Provider shall provide to Interconnection Customer a final LGIA within fifteen (15) Business Days after the completion of the negotiation process.~~

1011.3 Execution and Filing.

Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer shall (a) provide ~~Transmission Provider (A)~~ reasonable evidence that continued Site Control as defined in Section 7.7.7 and (b) post Readiness Milestone 5 (or (B) posting of \$250,000, non-refundable additional security equal to nine (9) times that Interconnection Customer's share of the Definitive Interconnection Study Process study, which shall be applied toward future construction costs. If the actual study costs are not known at the At the same time, study costs shall be estimated as the study deposit described in Section 3.1, and the M5 amount shall be updated when the study costs are known. If the Interconnection Customer does not reach Commercial Operation, upon payment of any final invoice, including any Withdrawal Penalty, Readiness Milestone 5 shall be refunded to the Interconnection Customer, including any accumulated interest, if applicable. If the Interconnection Customer reaches Commercial Operation, Readiness Milestone 5 is refunded to the Interconnection Customer including any accumulated interest, if applicable. Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer also shall provide reasonable evidence that one or more of the following milestones in the development of the Large Generating Facility, at Interconnection Customer election, has been achieved: ~~-(i)-the execution of a contract for the supply or transportation of fuel to the Large Generating Facility (not available for wind or solar resources); (ii)-the execution of a contract for the supply of cooling water to the Large Generating Facility (not available for wind or solar resources); (iii)-execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Large Generating Facility; (iv)-execution of a contract (or comparable evidence) for the sale of electric energy or capacity from the Large Generating Facility; or (v)-application for an air, water, or land use permit.~~

Interconnection Customer shall either: ~~(i)-execute two originals of the tendered LGIA and return them to Transmission Provider; or (ii)-request in writing that Transmission Provider file with FERC an LGIA in unexecuted form.- As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of the tendered LGIA (if it does not conform with a FERC-approved standard form of interconnection agreement) or the request to file an unexecuted LGIA, Transmission Provider shall file the LGIA with FERC, together with its explanation of any matters as to which Interconnection Customer and Transmission Provider disagree and support for the costs that Transmission Provider proposes to charge to Interconnection Customer under the LGIA. -An unexecuted LGIA should contain terms and conditions deemed appropriate by Transmission Provider for the Interconnection Request. -If the Parties agree to proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted LGIA, they may proceed pending FERC action.~~

1011.4 Commencement of Interconnection Activities.

If Interconnection Customer executes the final LGIA, Transmission Provider and Interconnection Customer shall perform their respective obligations in accordance with the terms of the LGIA, subject to modification by FERC. ~~-Upon~~

submission of an unexecuted LGIA, Interconnection Customer and Transmission Provider shall promptly comply with the unexecuted LGIA, subject to modification by FERC.

Section ~~1112~~. Construction of Transmission Provider's Interconnection Facilities and Network Upgrades.

~~1112~~.1 Schedule.

Transmission Provider and Interconnection Customer shall negotiate in good faith concerning a schedule for the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades.

~~1112~~.2 Construction Sequencing.

~~1112~~.2.1 General.

In general, the In-Service Date of an Interconnection Customers seeking interconnection to the Transmission System will determine the sequence of construction of Network Upgrades. Construction Sequencing may also apply to shared Transmission Provider's Interconnection Facilities in a similar manner as described below for Network Upgrades.

~~1112~~.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: ~~-(i)-~~were assumed in the Interconnection Studies for such Interconnection Customer, ~~(ii)-~~are necessary to support such In-Service Date, and ~~(iii)-~~would otherwise not be completed, pursuant to a contractual obligation of an entity other than Interconnection Customer that is seeking interconnection to the Transmission System, in time to support such In-Service Date. ~~—~~Upon such request, Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Provider: ~~(i)-~~ any associated expediting costs; and ~~(ii)-~~ the cost of such Network Upgrades.

Transmission Provider will refund to Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the LGIA. ~~—~~Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that Transmission Provider has not refunded to Interconnection Customer. ~~—~~Payment by that entity shall be due on the date that it would have been due had there been no request for advance construction. ~~—~~Transmission Provider shall forward to

Interconnection Customer the amount paid by the entity with a contractual obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to Interconnection Customer. Transmission Provider then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the LGIA.

1112.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of the Transmission Provider.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: ~~-(i)-~~are necessary to support such In-Service Date; and (ii) ~~-~~would otherwise not be completed, pursuant to an expansion plan of Transmission Provider, in time to support such In-Service Date. ~~-~~Upon such request, Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Provider any associated expediting costs. Interconnection Customer shall be entitled to transmission credits, if any, for any expediting costs paid.

1112.2.4 Amended Definitive Interconnection System Impact Study.

~~A Definitive~~A Interconnection System Impact Study ~~may~~will be amended to determine the facilities necessary to support the requested In-Service Date. ~~-~~ This amended study will include those transmission and Large Generating Facilities that are expected to be in service on or before the requested In-Service Date.

Section 1213. Miscellaneous.

1213.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of an LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing ~~;~~ the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. ~~-~~Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

1213.1.1 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) ~~is~~ generally available to the public other than as a result of a disclosure by the receiving Party; (2) ~~was~~ in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) ~~was~~ supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) ~~was~~ independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) ~~is~~, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the LGIA; or (6) ~~is~~ required, in accordance with Section 1213.1.6, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the LGIA

~~LGIA.~~ Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

1213.1.2 Release of Confidential Information.

Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 1213.1 and has agreed to comply with such provisions. ~~Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section~~ 1213.1.

1213.1.3 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. ~~The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.~~

1213.1.4 No Warranties.

By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. ~~In~~

addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

1213.1.5 Standard of Care.

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. -Each Party may use Confidential Information solely to fulfill its obligations to the other Party under these procedures or its regulatory requirements.

1213.1.6 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of the LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

1213.1.7 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Section 1213.1.— Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Section 1213.1, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. -Such remedy shall not be deemed an exclusive remedy for the Breach of this Section 1213.1, but shall be in addition to all other remedies available at law or in equity.— The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. -No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 1213.1.

1213.1.8 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Section ~~1213~~.1 to the contrary, and pursuant to 18 CFR ~~Section~~ 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to the Revised LGIP, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. -In providing the information to FERC or its staff, the Party must, consistent with 18 CFR ~~Section~~ 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. -Parties are prohibited from notifying the other Party prior to the release of the Confidential Information to FERC or its staff. -The Party shall notify the other Party to the LGIA when ~~it~~ is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR ~~Section~~ 388.112.- Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations.

1213.1.9 Subject to the exception in Section ~~1213~~.1.8, any information that a Party claims is competitively sensitive, commercial or financial information (~~“(“Confidential Information”)~~) shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) ~~required~~ by law; (ii) ~~reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute;~~ (iii) ~~otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld;~~ -or (iv) ~~necessary to fulfill its obligations under this~~ Revised LGIP or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a ~~subregional~~~~sub—regional~~, regional or national reliability organization or planning group.- The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. -Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

1213.1.10 This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a Breach of this provision).

13.1.11 Transmission Provider shall, at Interconnection Customer's election, destroy, in a confidential manner, or return the Confidential Information provided at the time of Confidential Information is no longer needed.

1213.2 **Delegation of Responsibility.**

Transmission Provider may use the services of subcontractors as it deems appropriate to perform its obligations under this Revised LGIP. Transmission Provider shall remain primarily liable to Interconnection Customer for the performance of such subcontractors and compliance with its obligations of this Revised LGIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and no other purpose.

1213.3 **Obligation for Study Costs and Withdrawal Penalty.**

Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Studies and the Withdrawal Penalty, as applicable. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded, except as otherwise provided herein, ~~to Interconnection Customer or offset against the cost of any future Interconnection Studies associated with the applicable Interconnection Request prior to beginning of any such future Interconnection Studies.~~ Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study as well as the Withdrawal Penalty, if applicable. Interconnection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice ~~therefor.~~ Transmission Provider shall not be obligated to perform or continue to perform any studies unless Interconnection Customer has paid all undisputed amounts in compliance herewith. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided under this Revised LGIP to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

1213.4 **Third Parties Conducting Studies.**

If (i) ~~at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study,~~ (ii) Interconnection Customer receives notice pursuant to Sections ~~6.3,~~ 7.4 or 8.3 that Transmission Provider will not complete an Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) ~~Interconnection Customer receives neither the Interconnection Study nor a notice under Sections 6.3,~~ 7.4 or 8.3 within the applicable timeframe for such Interconnection Study, then Interconnection Customer may require Transmission Provider to utilize a

third party consultant reasonably acceptable to Interconnection Customer and Transmission Provider to perform such Interconnection Study under the direction of Transmission Provider. -At other times, Transmission Provider may also utilize a third party consultant to perform such Interconnection Study, either in response to a general request of Interconnection Customer, or on its own volition.

In all cases, use of a third party consultant shall be in accord with Article 26 of the LGIA (Subcontractors) and limited to situations where Transmission Provider determines that doing so will help maintain or accelerate the study process for Interconnection Customer's pending Interconnection Request and not interfere with Transmission Provider's progress on Interconnection Studies for other pending Interconnection Requests. -In cases where Interconnection Customer requests use of a third party consultant to perform such Interconnection Study, Interconnection Customer and Transmission Provider shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. -Transmission Provider shall convey all ~~workpapers~~~~work papers~~, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as soon as practicable upon Interconnection Customer's request subject to the confidentiality provision in Section ~~1213.1~~.- In any case, such third party contract may be entered into with either Interconnection Customer or Transmission Provider at Transmission Provider's discretion. -In the case of ~~clause (iii), above,~~ Interconnection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such third party study. -Such third party consultant shall be required to comply with this Revised LGIP, Article 26 of the LGIA (Subcontractors), and the relevant Tariff procedures and protocols as would apply if Transmission Provider were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes. Transmission Provider shall cooperate with such third party consultant and Interconnection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

1213.5 Disputes.

1213.5.1 Submission.

In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with the LGIA, the Revised LGIP, or their performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. -In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and

resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

1213.5.2 External Arbitration Procedures.

Any arbitration initiated under these procedures shall be conducted before a single neutral arbitrator appointed by the Parties. ~~If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel.~~ In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Section ~~1213~~, the terms of this Section ~~1213~~ shall prevail.

1213.5.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons ~~therefore.~~ ~~therefor.~~ The arbitrator(s) shall be authorized only to interpret and apply the provisions of the LGIA and Revised LGIP and shall have no power to modify or change any provision of the LGIA and Revised LGIP in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. ~~The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.~~

1213.5.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: ~~(1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one-half of the cost of the third arbitrator chosen; or (2) one-half the cost of the single arbitrator jointly chosen by the Parties.~~

1213.5.5 Non-Binding Dispute Resolution Procedures~~binding dispute resolution procedures.~~

If a Party has submitted a Notice of Dispute pursuant to Section 12section 13.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue the Section 12section 13.5 arbitration process, a Party may request that Transmission Provider engage in Non-binding Dispute Resolution pursuant to this section by providing written notice to Transmission Provider ("Request for Non-binding Dispute Resolution"). ~~Conversely, either Party may file a Request for Non-binding Dispute Resolution pursuant to this section without first seeking mutual agreement to pursue the~~ Section 12section 13.5 arbitration process. ~~The process in~~ Section 12section 13.5.5 shall serve as an alternative to, and not a replacement of, the Section 12section 13.5 arbitration process. ~~Pursuant to this process,~~ a Transmission Provider must within thirty (30) Calendar Days of receipt of the Request for Non-binding Dispute Resolution appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with either Party. ~~Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. This decision-maker shall be authorized only to interpret and apply the provisions of the Revised LGIP and LGIA and shall have no power to modify or change any provision of the Revised LGIP and LGIA in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in the non-binding dispute resolution process in future dispute resolution processes, including in~~ Section 12a section 13.5 arbitration, or in a Federal Power Act Sectionsection 206 complaint. ~~Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute.~~

1213.6 Local Furnishing Bonds.

1213.6.1 Transmission Providers That Own Facilities Financed by Local Furnishing Bonds.

This provision is applicable only to a Transmission Provider that has financed facilities for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code ("local furnishing bonds"). Notwithstanding any other provision of this LGIA and Revised LGIP, Transmission Provider shall not be required to provide Interconnection Service to Interconnection Customer pursuant to this LGIA and Revised LGIP if the provision of such Transmission Service would jeopardize the tax-exempt status of

any local furnishing bond(s) used to finance Transmission Provider's facilities that would be used in providing such Interconnection Service.

1213.6.2 Alternative Procedures for Requesting Interconnection Service.

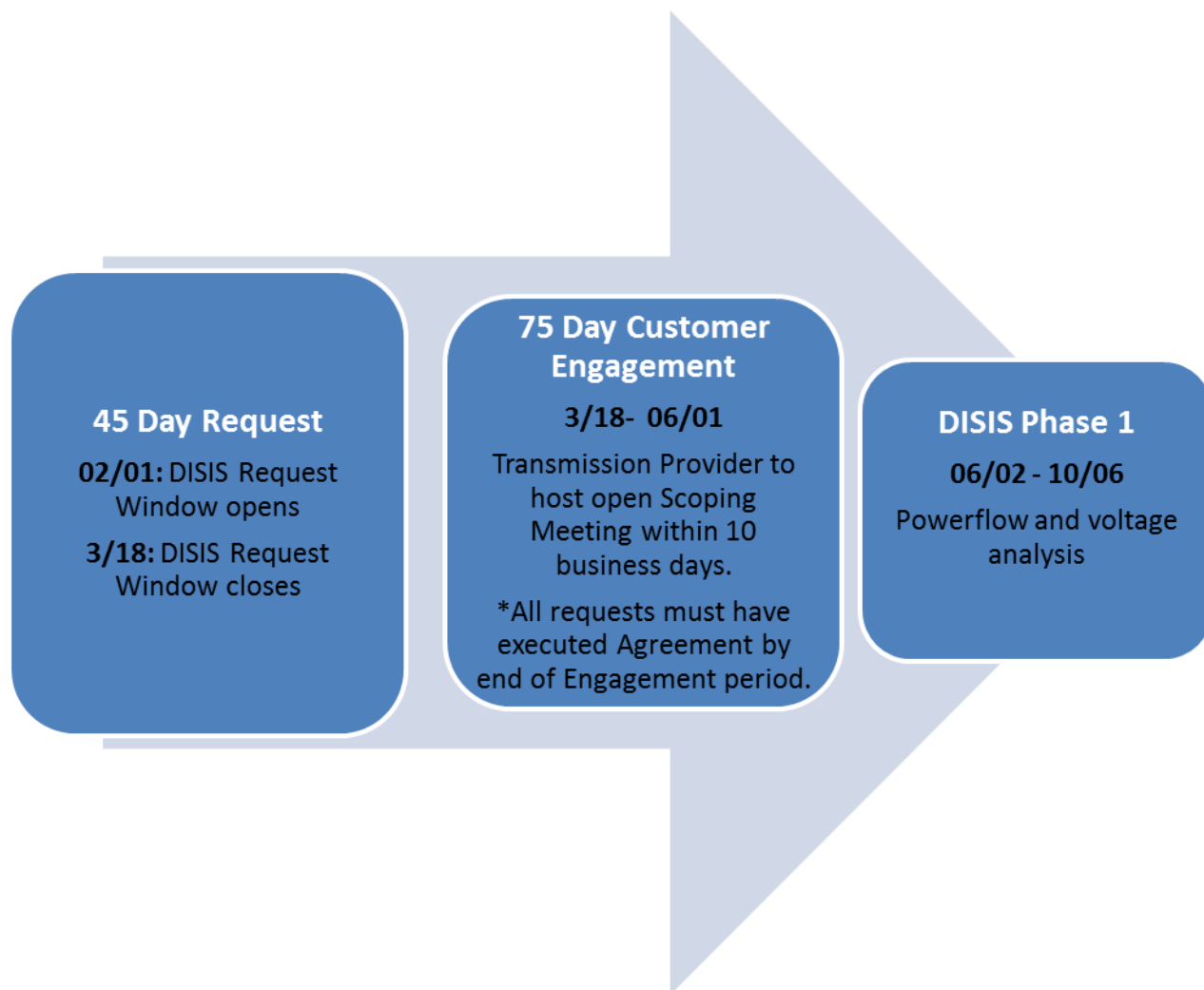
If Transmission Provider determines that the provision of Interconnection Service requested by Interconnection Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance its facilities that would be used in providing such Interconnection Service, it shall advise ~~the~~ Interconnection Customer within thirty (30) Calendar Days of receipt of the Interconnection Request.

Interconnection Customer thereafter may renew its request for interconnection using the process specified in Article 5.2(ii) of the Transmission Provider's Tariff.

|

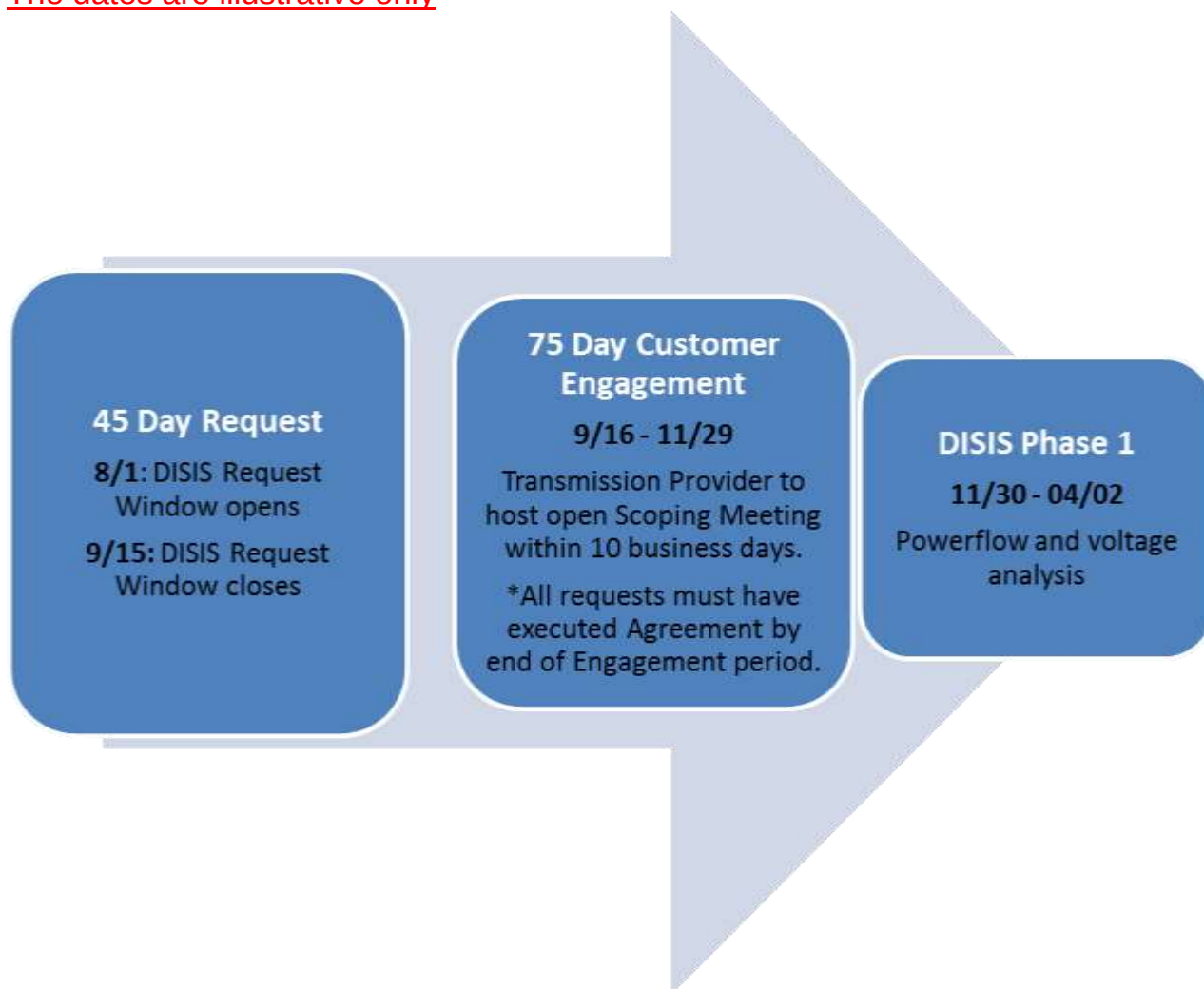
Timeline: Appendix A-1 – Start of the Spring DISIS Cluster

The dates are illustrative only

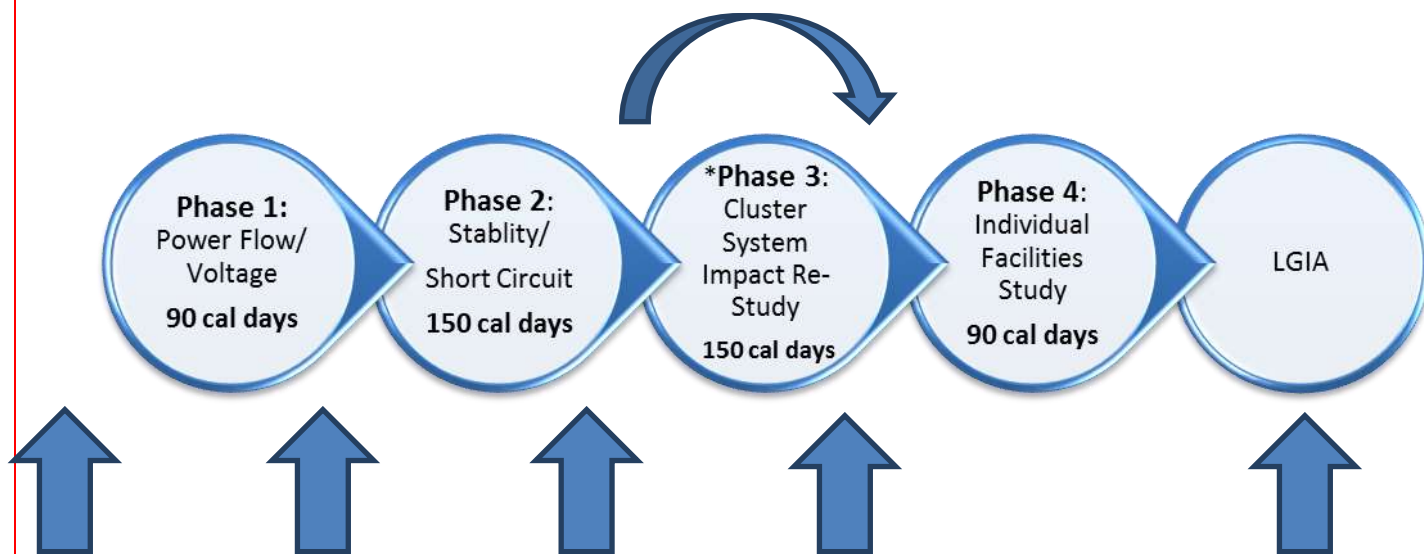


Timeline: Appendix A-1 – Start of the Fall DISIS Cluster

The dates are illustrative only



Timeline: Appendix A-2



M1 **M2** **M3** **M4** **M5**

<u>Milestone</u>	<u>Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness IS Provided</u>	<u>Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness IS NOT Provided</u>	<u>Demonstration of Site Control for All Fuel Types</u>	<u>Site Control of ICI's</u>
<u>M1</u>	<u>1x</u>	<u>2x</u>	<u>50%</u>	<u>0%</u>
<u>M2</u>	<u>1x</u>	<u>3x</u>	<u>50%</u>	<u>0%</u>
<u>M3</u>	<u>1x</u>	<u>5x</u>	<u>60%</u>	<u>0%</u>
<u>M4</u>	<u>1x</u>	<u>7x</u>	<u>75%</u>	<u>0%</u>
<u>M5</u>	<u>9x</u>	<u>9x</u>	<u>90%</u>	<u>50%</u>

Phase 1: Power Flow/Voltage: Within 90 calendar days

- Transmission Provider to perform Power Flow and Voltage Analysis.
- Transmission Provider to complete Phase 1 report within 90 calendar days and post results on OASIS.
- Transmission Provider to hold open Stakeholder Meeting within 10 business days of publishing DISIS Phase 1 results on OASIS.
- Interconnection Customer demonstrate M2 Readiness within 20 business days following open Stakeholder Meeting

Phase 2: Stability/Short Circuit: Within 150 calendar days

- Transmission Provider to complete Phase 2 analysis within 150 calendar and post results on OASIS.
- Transmission Provider to hold Phase 2 Report Meeting within 10 business days of publishing report results on OASIS.
- Interconnection Customer to demonstrate M3 (if Re-Study is necessary) or M4 Readiness within 20 business days of Report Meeting.

****Phase 3: Iterative Cluster System Impact Re-Study: Within 150 calendar days**

****May not be necessary****

- If a Re-Study is needed, Transmission Provider perform Phase 3 Re-Study within 150 calendar days and post Re-Study results on OASIS.
- Transmission Provider to hold open Interconnection Customer Report Meeting within 10 business days of publishing Re-Study results on OASIS.
- Interconnection Customer to demonstrate M4 Readiness if no further System Impact Re-Studies are necessary within 20 business days of Report Meeting.

Phase 4: Individual Facilities Study: Within 90 calendar days

- Transmission Provider to complete Facilities Study, complete and submit draft Facilities Study Report to Interconnection Customer and post results of Study on OASIS within 90 calendar days from start of Phase 4.
- Transmission Provider to hold open Interconnection Customer Report Meeting within 10 business days of end of Phase 4.
- Interconnection Customer to provide written comments of Facilities Study Report to Transmission Provider within 30 days of receipt of draft Facilities Study Report.
- Transmission Provider to issue Final Facilities Study Report to Customer within 15 business days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments.

Phase 5: LGIA:

- Transmission Provider to provide Interconnection Customer with draft LGIA within 30 calendar days of receipt of Interconnection Customer's Facilities Study comments.
- Interconnection Customer to execute and return completed draft appendices within 30 calendar days of receipt of draft LGIA.
- Deadline for LGIA negotiations to be completed within 60 calendar days of after tender of the final Interconnection Facilities Study Report.
- Deadline for filing or executing LGIA is within 60 calendar days of after tender the draft LGIA provided to Interconnection Customer.
- Interconnection Customer to satisfy Readiness Milestone 5 within 15 business days of receiving final LGIA

APPENDIX 1 to Revised LGIP

**INTERCONNECTION REQUEST FOR A
LARGE GENERATING FACILITY**

1. The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility with Transmission Provider's Transmission System pursuant to a Tariff.
2. This Interconnection Request is for (check one):
☐ A proposed new Large Generating Facility.
☐ An increase in the generating capacity or a Material Modification of an existing Generating Facility.
☐ A Generating Facility proposed for inclusion in a resource solicitation process.
3. The type of interconnection service requested (check one):
☐ Energy Resource Interconnection Service
☐ Network Resource Interconnection Service

~~4. ☐ Check here only if Interconnection Customer requesting Network Resource Interconnection Service also seeks to have its Generating Facility studied for Energy Resource Interconnection Service~~

~~5.~~ Interconnection Customer provides the following information:

- a. Address or location of the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;
- b. Maximum summer at degrees C and winter at degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
- c. General description of the equipment configuration;
- d. Commercial Operation Date (Day, Month, and Year);
- e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;
- f. Approximate location of the proposed Point of Interconnection (optional);
~~and~~
- g. Interconnection Customer Data (set forth in Attachment A)
- h. Primary frequency response operating range for electric storage resources.
- i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity).

~~5.~~ ~~Interconnection Customer provides applicable study6.~~ ~~Applicable~~ deposit amount as specified in the Revised LGIP.

\$75,000 for requests of less than 50 MW; or

\$150,000 for requests of 50 MW and Greater, but less than 200 MW; or
\$250,000 for requests of 200 MW and greater

6. Interconnection Customer provides Readiness Milestone 1 (M1) as specified in the Revised LGIP.

M1 is satisfied by any one of the three options below (also described in 3.4.1.f of the Revised LGIP) at Interconnection Customer's option. M1 may also be satisfied by providing additional security described in Section 7.7.5 in lieu of providing one of the three options to demonstrate readiness.

- i. Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;
- ii. Reasonable evidence the project has been selected in a Resource Plan or Resource Solicitation Process; or
- iii. Provisional Large Generator Interconnection Agreement accepted for filing with FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

7. Interconnection Customer provides security equal to one times the study deposit described in Section 3.1 of the Revised LGIP in the form of an irrevocable letter of credit or cash.

8. If requesting NRIS: Interconnection Customer provides the expected point of delivery to deliver within the Transmission Provider's Control Area or to an adjoining Control Area if the Generating Facility is not designated a Network Resource pursuant to Section 30.2 of the Tariff.

9. Interconnection Customer provides —Evidence of Site Control as specified in the Revised LGIP and Transmission Provider's business practices posted on OASIS. ~~LGIP (check one)~~

10 — Is attached to this Interconnection Request
— Will be provided at a later date in accordance with this LGIP

8. This Interconnection Request shall be submitted to the representative indicated below:

[To be completed by Transmission Provider]

| 9. Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

| ~~1210~~. This Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

| Name (type or print): - _____

Title: _____

Date: _____

**Attachment A to Appendix 1
 Interconnection Request**

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____ °F _____ Voltage _____
 Power Factor _____
 Speed (RPM) _____ Connection (e.g. Wye) _____
 Short Circuit Ratio _____ Frequency, Hertz _____
 Stator Amperes at Rated kVA _____ Field Volts _____
 Max Turbine MW _____ °F _____

Primary frequency response operating range for electric storage resources.

Minimum State of Charge: _____
Maximum State of Charge: _____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/kVA
 Moment-of-Inertia, WR^2 = _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

DIRECT AXIS QUADRATURE AXIS

Synchronous – saturated	X_{dv} _____	X_{qv} _____
Synchronous – unsaturated	X_{di} _____	X_{qi} _____
Transient – saturated	X'_{dv} _____	X'_{qv} _____
Transient – unsaturated	X'_{di} _____	X'_{qi} _____
Subtransient – saturated	X''_{dv} _____	X''_{qv} _____
Subtransient – unsaturated	X''_{di} _____	X''_{qi} _____
Negative Sequence – saturated	X_{2v} _____	
Negative Sequence – unsaturated	X_{2i} _____	
Zero Sequence – saturated	X_{0v} _____	
Zero Sequence – unsaturated	X_{0i} _____	
Leakage Reactance	X_{lm} _____	

Open Circuit	T'_{do} _____	T'_{qo} _____
Three-Phase Short Circuit Transient	T'_{d3} _____	T'_q _____
Line to Line Short Circuit Transient	T'_{d1} _____	
Short Circuit Subtransient	T'''_{d} _____	T'''_{q} _____
Open Circuit Subtransient	T'_{d2} _____	
Line to Neutral Short Circuit Transient	T'''_{do} _____	T'''_{qo} _____

FIELD TIME CONSTANT DATA (SEC)
ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T_{a3} _____
Line to Line Short Circuit	T_{a2} _____
Line to Neutral Short Circuit	T_{a1} _____

NOTE: If requested information is not applicable, indicate by marking "N/A."

MW CAPABILITY AND PLANT CONFIGURATION
LARGE GENERATING FACILITY DATA

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R_1 _____
Negative	R_2 _____
Zero	R_0 _____

Rotor Short Time Thermal Capacity $I_2^2 t =$ _____
 Field Current at Rated kVA, Armature Voltage and PF = _____ amps
 Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps
 Three Phase Armature Winding Capacitance = _____ microfarad
 Field Winding Resistance = _____ ohms _____ °C
 Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves.
Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

<u>Capacity</u>	<u>Self-cooled/</u>
	<u>Maximum Nameplate</u>
	<u>/</u> _____ <u>kVA</u>

Voltage Ratio(Generator Side/System side/Tertiary)

_____/_____/_____ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))

_____/_____/_____

Fixed Taps Available _____

Present Tap Setting _____

If more than one transformer stage is used to deliver the output from the proposed Generating Facility to the Transmission System, please provide the information above for each transformer or transformer type.

~~Designate normal and emergency Hydrogen Pressure operating range for multiple curves.~~

~~GENERATOR STEP-UP TRANSFORMER DATA RATINGS~~

~~Capacity _____ Self-cooled/
Maximum Nameplate
_____/_____ kVA~~

~~Voltage Ratio(Generator Side/System side/Tertiary)
_____/_____/_____ kV~~

~~Winding Connections (Low V/High V/Tertiary V (Delta or Wye))
_____/_____/_____~~

~~Fixed Taps Available _____~~

~~Present Tap Setting _____~~

IMPEDANCE

Positive
 Z_1 (on self-cooled kVA rating) _____ % _____ X/R

Zero
 Z_0 (on self-cooled kVA rating) _____ % _____ X/R

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND AND OTHER NON-SYNCHRONOUS GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

Elevation: _____ Single Phase _____ Three Phase _____

Inverter manufacturer, model name, number, and version:

List of adjustable setpoints for the protective equipment or software:

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

Project Information: Site Control and Adequacy

Total acres required to construct the Generating Facility: _____

Total acres under site control for the Generating Facility at the time of application:

Is Site Control required for Interconnection Facilities, i.e. transmission gen-tie or substation, to interconnect the Generating Facility? Y N

If yes, how many miles of gen-tie right-of-way are required? _____

What is the total number of acres required to build the gen-tie? _____

How many miles of gen-tie right-of-way are under Site Control at the time of this application?

List any local, state, or federal government permits required to construct the Generating Facility and any applicable Interconnection Facilities, i.e. transmission gen-tie:

INDUCTION GENERATORS

- (*) Field Volts: _____
- (*) Field Amperes: _____
- (*) Motoring Power (kW): _____
- (*) Neutral Grounding Resistor (If Applicable): _____
- (*) I_2^2t or K (Heating Time Constant): _____
- (*) Rotor Resistance: _____
- (*) Stator Resistance: _____
- (*) Stator Reactance: _____
- (*) Rotor Reactance: _____
- (*) Magnetizing Reactance: _____
- (*) Short Circuit Reactance: _____
- (*) Exciting Current: _____
- (*) Temperature Rise: _____
- (*) Frame Size: _____
- (*) Design Letter: _____
- (*) Reactive Power Required In Vars (No Load): - _____
- (*) Reactive Power Required In Vars (Full Load): _____
- (*) Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Interconnection Request to determine if the information designated by (*) is required.

APPENDIX 2 to Revised LGIP
DEFINITIVE INTERCONNECTION SYSTEM IMPACT~~FEASIBILITY~~ STUDY AGREEMENT

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, (~~"Interconnection Customer,"~~) and _____ a _____ existing under the laws of the State of _____, (~~"Transmission Provider,"~~) ~~Interconnection Customer and~~ Transmission Provider each may be referred to as a ~~"Party,"~~ or collectively as the ~~"Parties."~~

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a Definitive~~an~~ Interconnection System Impact~~Feasibility~~ Study to assess the impact~~feasibility~~ of interconnecting the ~~proposed~~ Large Generating Facility to the Transmission System, and of any Affected Systems; and

~~**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:~~

~~1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved~~

~~**WHEREAS**, Interconnection Customer commits to provide certain Readiness Milestones through the Definitive Interconnection Study process as described in Section 7.7 of the Revised LGIP.
LGIP.~~

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.

2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a Definitive~~an~~ Interconnection System Impact~~Feasibility~~ Study consistent with Sections 7.3 and 7.4~~Section 6.0~~ of this Revised LGIP in accordance with the Tariff.

- 3.0 The scope of the Definitive Interconnection ~~System Impact~~Feasibility Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Definitive Interconnection ~~System Impact~~Feasibility Study shall be based ~~upon~~on the technical information provided by Interconnection Customer in the Interconnection Request, ~~subject to any modifications in accordance with Section 4.4 of the Revised LGIP, as may be modified as the result of the Scoping Meeting.~~ Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Definitive Interconnection ~~System Impact~~Feasibility Study. ~~If Interconnection Customer modifies its and as designated in accordance with Section 3.4.4 of the LGIP. If, after the designation of the Point of Interconnection, pursuant to Section 3.4.4 of the LGIP, Interconnection Customer modifies its~~ Interconnection Request, ~~or the technical information provided therein is modified pursuant to Section 4.4,~~ the time to complete the Definitive Interconnection ~~System Impact~~Feasibility Study may be extended.

5.0 The Definitive Interconnection System Impact~~Feasibility~~ Study report (Phase 2 or Phase 3 Report) shall provide the following information, as appropriate:

~~_____ information:~~

~~_____ preliminary~~ identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

- ~~preliminary~~ identification of any thermal overload or voltage limit violations resulting from the interconnection;

- ~~identification of any instability or inadequately damped response to system disturbances resulting from the interconnection; and~~

- ~~description and non-binding, good faith estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.~~

~~_____ preliminary description and non-bonding estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit and power flow issues.~~

6.0 Interconnection Customer shall provide ~~the~~ a deposit as specified in Section 3.1 of the Revised LGIP ~~of \$10,000~~ for the performance of the Definitive Interconnection System Impact Study and the Interconnection Facilities Study. Transmission Provider's good faith estimate for the time of completion of the Definitive Interconnection System Impact Study (Phase 2) is [insert date]. ~~Interconnection Feasibility Study.~~

Upon receipt of the Interconnection Facilities Study results (Phase 4 Results), or withdrawal of the Interconnection Request, ~~Feasibility Study~~ Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Definitive Interconnection System Impact Study, and the Withdrawal Penalty, as applicable, allocated according to Sections 4.2.3 and 8.1 of the Revised LGIP and the cost of the individual Interconnection Facilities ~~Interconnection Feasibility~~ Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate, except as otherwise provided herein. As provided in Section 12.3 of the Revised LGIP, Interconnection Customer has thirty (30) Calendar Days of receipt of an invoice from Transmission Provider to pay any undisputed costs. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security. -

7.0 Miscellaneous. The Definitive Interconnection System Impact Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A to Appendix 2
Definitive Interconnection System Impact Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE
DEFINITIVE INTERCONNECTION SYSTEM IMPACT STUDY

The Definitive Interconnection System Impact Study shall be based upon the information set forth in the Interconnection Request(s) and results of applicable prior studies, subject to any modifications in accordance with Section 4.4 of the Revised LGIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and Transmission Provider]

APPENDIX 3 to Revised LGIP
INTERCONNECTION FACILITIES STUDY AGREEMENT

THIS AGREEMENT is made and entered into this _____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____ a _____ existing under the laws of the State of _____, (“Transmission Provider “). Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System;

WHEREAS, Transmission Provider has completed a Definitive Interconnection System Impact Study (the “System Impact Study”) and provided the results of said study to Interconnection Customer; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Definitive Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Interconnection Facilities Study consistent with Section 8 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection Facilities Study report (i) shall provide a description of, estimated cost of, schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short

circuit, instability, and power flow issues identified in the Definitive Interconnection System Impact Study.

5.0 Interconnection Customer shall meet the requirements specified under Section 8.1 of the Revised LGIP prior to the performance of the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A.

6.0 Interconnection Customer shall have provided the deposit as specified in Section 3.1 of the Revised LGIP for the performance of the Definitive Interconnection System Impact Study and the Interconnection Facilities Study.

Upon receipt of the Interconnection Facilities Study results (Phase 4 Results), Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Definitive Interconnection System Impact Study which includes costs allocated according to Sections 4.2.3 and 8.1 of the Revised LGIP, and the cost of the individual Interconnection Facilities Study, and the withdraw penalty calculated pursuant to 3.7.1.1, if applicable.-

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate, except as otherwise provided herein. As provided in Section 12.3 of the Revised LGIP, Interconnection Customer has thirty (30) Calendar Days of receipt of an invoice from Transmission Provider to pay any undisputed costs. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

7.0 Miscellaneous. -The Interconnection ~~Facilities~~Feasibility Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. -All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

~~IN WITNESS WHEREOF~~, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

~~[Insert name of Transmission Provider or Transmission Owner, if applicable]~~

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

~~[Insert name of Interconnection Customer]~~

By: _____

Title: _____

Date: _____

~~Attachment A to Appendix 2~~

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A to Appendix 3

**Interconnection Facilities Feasibility
Study Agreement**

**DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER
WITH THE INTERCONNECTION FACILITIES STUDY AGREEMENT**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing Transmission Provider station. Number of generation connections:

On the one line diagram indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one line diagram indicate the location of auxiliary power. (Minimum load on CT/PT)
Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?

Yes No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes No (Please indicate on one line diagram).

What type of control system or PLC will be located at Interconnection Customer's Large Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

Bus length from generation to interconnection station:

Line length from interconnection station to Transmission Provider's transmission line.

Tower number observed in the field. (Painted on tower leg)*

Number of third party easements required for transmission lines*:

* To be completed in coordination with Transmission Provider.

Is the Large Generating Facility in Transmission Provider's service area?

Yes No Local provider: _____

Please provide proposed schedule dates:

Begin Construction _____ Date: _____

Generator step-up transformer
receives back feed power _____ Date: _____

Generation Testing _____ Date: _____

Commercial Operation _____ Date: _____

~~**ASSUMPTIONS USED IN CONDUCTING THE
INTERCONNECTION FEASIBILITY STUDY**~~

~~_____ The Interconnection Feasibility Study will be based upon the information set forth in the
Interconnection Request and agreed upon in the Scoping Meeting held on _____.~~

~~Designation of Point of Interconnection and configuration to be studied.~~

~~Designation of alternative Point(s) of Interconnection and configuration.~~

~~_____ [Above assumptions to be completed by Interconnection Customer and other
assumptions to be provided by Interconnection Customer and Transmission Provider]~~

APPENDIX 43 to Revised LGIP

Transitional Serial Interconnection Facilities Study Agreement
INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

THIS AGREEMENT is made and entered into this _____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, (~~("Interconnection Customer,")~~) and _____ a _____ existing under the laws of the State of _____, (~~("Transmission Provider,")~~). ~~Interconnection Customer and Transmission Provider~~ each may be referred to as a ~~"Party,"~~ or collectively as the ~~"Parties."~~

RECITALS

WHEREAS, ~~Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and~~

WHEREAS, ~~Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and~~

WHEREAS, ~~Interconnection Customer has requested Transmission Provider to continue processing its Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System; and~~

WHEREAS, ~~Interconnection Customer has executed and Transmission Provider has accepted an Interconnection Facilities Study Agreement prior to September 27, 2019; and~~

WHEREAS, ~~Interconnection Customer has provided certain requirements described in Section 5.1.1.1 of the Revised LGIP including a deposit on Transmission Provider's Interconnection Facilities and Network Upgrades.~~

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed an Interconnection Facilities Study consistent with Section 8 of this Revised LGIP in accordance with the Tariff.

3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A to this Agreement which shall be the same assumptions as the previous Interconnection Facilities Study Agreement.

4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost of (consistent with Attachment A), schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the most recently published System Impact Study.

5.0 Interconnection Customer has met certain requirements described in Section 5.1.1.1 of the Revised LGIP. The time for completion of the Interconnection Facilities Study is specified in Attachment A.

6.0 Interconnection Customer shall have previously provided the deposit of one hundred thousand dollars (\$100,000.00) for the performance of the Interconnection Facilities Study.

Upon receipt of the Interconnection Facilities Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

7.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A to Appendix 4
Transitional Serial Interconnection Facilities Study Agreement

ASSUMPTIONS USED IN CONDUCTING THE
TRANSITIONAL SERIAL INTERCONNECTION FACILITIES STUDY

[Assumptions to be completed by Interconnection Customer and Transmission Provider]

APPENDIX 5.1 to Revised LGIP
Transitional Cluster Study Agreement

THIS AGREEMENT is made and entered into this _____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____ a _____ existing under the laws of the State of _____, (“Transmission Provider”). **Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”**

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

~~**WHEREAS**, Transmission Provider has completed an Interconnection Feasibility Study (the “Feasibility Study”) and provided the results of said study to Interconnection Customer (This recital to be omitted if Transmission Provider does not require the Interconnection Feasibility Study.); and~~

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a “Transitional Cluster Study,” which is a combined system an Interconnection System Impact Study to assess the impact and interconnection facility Cluster Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to physically and electrically connect of interconnecting the Large Generating Facility to the Transmission System; and of any Affected Systems;

~~**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:~~

~~1.0 — When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider’s FERC-approved~~

~~**WHEREAS**, Interconnection Customer has provided certain requirements described in Section 5.1.1.2 of the Revised LGIP including a deposit of five million dollars (\$5,000,000) on expected Transmission Provider’s Interconnection Facilities and Network Upgrades; and~~

~~**WHEREAS**, Interconnection Customer has a valid Queue Position as of September 27, 2019; and~~

~~**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:~~

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.

2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a combined system impact and interconnection facility Cluster Studyan Interconnection System Impact Study consistent with Section 7.0 of this LGIP in accordance with the Tariff.

3.0 The ~~Transitional Clusterscope of the Interconnection System Impact~~ Study shall be ~~subject to the assumptions set forth in Attachment A to this Agreement.~~

~~4.0~~ ~~The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study and the technical information provided by Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the LGIP.~~ Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Transitional Cluster Study and Interconnection Customer shall provide such data as quickly as reasonable. ~~Interconnection Customer System Impact Study.~~ ~~If Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the Interconnection System Impact Study may be extended.~~

45.0 The ~~Transitional Cluster~~Interconnection System Impact Study report shall provide the following information:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
- identification of any thermal overload or voltage limit violations resulting from the interconnection;
- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection and

~~— description and non-binding, good faith estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.~~

- shall provide a description, estimated cost of, schedule for required facilities to interconnect the Large Generating Facility to the Transmission

System and (ii) shall address the short circuit, instability, and power flow issues identified in the most recently published System Impact Study.

5.0 Interconnection Customer has met certain requirements described in Section 5.1.1.2 of the Revised LGIP.

- 6.0 Interconnection Customer shall have previously provided a ~~provide a~~ deposit of \$50,000 for the performance of ~~the Interconnection System Impact Study. Transmission Provider's good faith estimate for the time of completion of the Interconnection~~ Studies. System Impact Study is [insert date].

Upon receipt of the Transitional Cluster~~Interconnection System Impact~~ Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Transitional Cluster~~Interconnection System Impact~~ Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. —The Interconnection Facilities~~System—Impact~~ Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. ~~All of these provisions, to the extent practicable, shall be consistent with the provisions of the~~ Revised LGIP and the LGIA.

~~IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their
duly authorized officers or agents on the day and year first above written.~~

~~[Insert name of Transmission Provider or Transmission Owner, if applicable]~~

By: _____ By: _____

Title: _____ Title: _____

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

~~Attachment A~~

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

**Attachment A to Appendix 5.1.3
Transitional Cluster Interconnection System Impact
Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
~~INTERCONNECTION SYSTEM IMPACT STUDY~~**

**TRANSITIONAL CLUSTER STUDY (A COMBINED SYSTEM IMPACT AND
INTERCONNECTION FACILITIES STUDY)**

[Assumptions]

~~The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study, subject to any modifications in accordance with Section 4.4 of the LGIP, and the following assumptions:~~

~~Designation of Point of Interconnection and configuration to be studied.~~

~~Designation of alternative Point(s) of Interconnection and configuration.~~

~~[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and Transmission Provider]~~

APPENDIX ~~4 to LGIP~~
~~INTERCONNECTION FACILITIES STUDY AGREEMENT~~

~~THIS AGREEMENT~~ is made and entered into this _____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

~~RECITALS~~

~~WHEREAS~~, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

~~WHEREAS~~, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System;

~~WHEREAS~~, Transmission Provider has completed an Interconnection System Impact Study (the "System Impact Study") and provided the results of said study to Interconnection Customer; and

~~WHEREAS~~, Interconnection Customer has requested Transmission Provider to perform an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System.

~~NOW, THEREFORE~~, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- ~~1.0~~ — When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved LGIP.
- ~~2.0~~ — Interconnection Customer elects and Transmission Provider shall cause an Interconnection Facilities Study consistent with Section 8.0 of this LGIP to be performed in accordance with the Tariff.
- ~~3.0~~ — The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A and the data provided in Attachment B to this Agreement.
- ~~4.0~~ — The Interconnection Facilities Study report (i) shall provide a description, estimated cost of (consistent with Attachment A), schedule for required facilities to interconnect the Large Generating Facility to the Transmission

~~System and (ii) shall address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.~~

~~5.0 Interconnection Customer shall provide a deposit of \$100,000 for the performance of the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A.~~

~~Transmission Provider shall invoice Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. Interconnection Customer shall pay invoiced amounts within thirty (30) Calendar Days of receipt of invoice. Transmission Provider shall continue to hold the amounts on deposit until settlement of the final invoice.~~

~~6.0 Miscellaneous. The Interconnection Facility Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the LGIP and the LGIA.~~

~~**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.~~

~~**[Insert name of Transmission Provider or Transmission Owner, if applicable]**~~

~~By: _____ By: _____~~

~~Title: _____ Title: _____~~

~~Date: _____ Date: _____~~

~~**[Insert name of Interconnection Customer]**~~

~~By: _____~~

~~Title: _____~~

~~Date: _____~~

**Attachment A To Appendix 4
Interconnection Facilities
Study Agreement**

**~~INTERCONNECTION CUSTOMER SCHEDULE ELECTION FOR CONDUCTING THE
INTERCONNECTION FACILITIES STUDY~~**

~~Transmission Provider shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to Interconnection Customer within the following number of days after of receipt of an executed copy of this Interconnection Facilities Study Agreement:~~

- ~~— ninety (90) Calendar Days with no more than a +/- 20 percent cost estimate contained in the report, or~~
- ~~— one hundred eighty (180) Calendar Days with no more than a +/- 10 percent cost estimate contained in the report.~~

**Attachment B to Appendix 4
Interconnection Facilities
Study Agreement**

**DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER
WITH THE INTERCONNECTION FACILITIES STUDY AGREEMENT**

~~Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.~~

~~One set of metering is required for each generation connection to the new ring bus or existing Transmission Provider station. Number of generation connections:~~

~~On the one line diagram indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)~~

~~On the one line diagram indicate the location of auxiliary power. (Minimum load on CT/PT)
Amps~~

~~Will an alternate source of auxiliary power be available during CT/PT maintenance?
_____ Yes _____ No~~

~~Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? _____ Yes _____ No (Please indicate on one line diagram).~~

~~What type of control system or PLC will be located at Interconnection Customer's Large Generating Facility?~~

~~What protocol does the control system or PLC use?~~

~~Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.~~

~~Physical dimensions of the proposed interconnection station:~~

~~Bus length from generation to interconnection station:~~

~~Line length from interconnection station to Transmission Provider's transmission line.~~

~~Tower number observed in the field. (Painted on tower leg)* _____~~

~~Number of third party easements required for transmission lines*:~~

~~_____~~

~~* To be completed in coordination with Transmission Provider.~~

~~Is the Large Generating Facility in the Transmission Provider's service area?~~

~~_____ Yes _____ No _____ Local provider: _____~~

~~Please provide proposed schedule dates:~~

~~Begin Construction _____ Date: _____~~

~~Generator step-up transformer
receives back feed power _____ Date: _____~~

~~Generation Testing _____ Date: _____~~

~~Commercial Operation _____ Date: _____~~

APPENDIX 5.1 to LGIP
OPTIONAL INTERCONNECTION STUDY AGREEMENT

~~THIS AGREEMENT~~ is made and entered into this ____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

~~WHEREAS~~, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

~~WHEREAS~~, Interconnection Customer is proposing to establish an interconnection with the Transmission System; and

~~WHEREAS~~, Interconnection Customer has submitted to Transmission Provider an Interconnection Request; and

~~WHEREAS~~, on or after the date when Interconnection Customer receives the Interconnection System Impact Study results, Interconnection Customer has further requested that Transmission Provider prepare an Optional Interconnection Study;

~~NOW, THEREFORE~~, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- ~~1.0~~ — When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved LGIP.
- ~~2.0~~ — Interconnection Customer elects and Transmission Provider shall cause an Optional Interconnection Study consistent with Section 10.0 of this LGIP to be performed in accordance with the Tariff.
- ~~3.0~~ — The scope of the Optional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- ~~4.0~~ — The Optional Interconnection Study shall be performed solely for informational purposes.
- ~~5.0~~ — The Optional Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by Interconnection Customer in Attachment A to this Agreement. The Optional Interconnection Study will identify Transmission Provider's Interconnection Facilities and the Network

~~Upgrades, and the estimated cost thereof that may be required to provide transmission service or interconnection service based upon the assumptions specified by Interconnection Customer in Attachment A.~~

~~6.0 Interconnection Customer shall provide a deposit of \$10,000 for the performance of the Optional Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Optional Interconnection Study is [insert date].~~

~~Upon receipt of the Optional Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Optional Study.~~

~~Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.~~

~~7.0 Miscellaneous. The Optional Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the LGIP and the LGIA.~~

~~**IN-WITNESS WHEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.~~

~~**[Insert name of Transmission Provider or Transmission Owner, if applicable]**~~

~~By: _____ By: _____~~

~~Title: _____ Title: _____~~

~~Date: _____ Date: _____~~

~~**[Insert name of Interconnection Customer]**~~

~~By: _____~~

~~Title: _____~~

~~Date: _____~~

Attachment A
Appendix 5.1
Optional Interconnection
Study Agreement

~~ASSUMPTIONS USED IN CONDUCTING~~
~~THE OPTIONAL INTERCONNECTION STUDY~~

~~[To be completed by Interconnection Customer consistent with Section 10 of the~~
~~LGP.]~~

~~APPENDIX 5.2~~ to REVISED LGIP
PROVISIONAL INTERCONNECTION STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer is proposing to establish a provisional interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to Transmission Provider an Interconnection Request; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause a Provisional Interconnection Study in order to provide the service described in Article 5.9.2.
- 3.0 3.0 The Provisional Interconnection Study will determine if stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects with Provisional Interconnection Service. Transmission Provider shall determine any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of the new, modified and/or expanded Generating Facility.
- 4.0 4.0 The Provisional Interconnection Study shall determine the initial maximum permissible output of the Generating Facility.
- 5.0 The scope of the Provisional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.

- 6.0 Interconnection Customer shall provide a deposit of \$10,000 for the performance of the Provisional Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Provisional Interconnection Service Study is [insert date].

Upon receipt of the Provisional Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Provisional Interconnection Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Provisional Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A
Appendix 5.2
Provisional Interconnection
Study Agreement

**ASSUMPTIONS USED IN CONDUCTING
THE PROVISIONAL INTERCONNECTION STUDY**

[To be completed by Transmission Provider~~Interconnection Customer~~ consistent with
Article~~Section~~ 5.9.2 of the

LGIA.]

**APPENDIX 5.3 to REVISED LGIP
SURPLUS INTERCONNECTION STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this ____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is requesting to utilize Surplus Interconnection Service as described in Section 3.3 of the Revised LGIP; and

WHEREAS, Interconnection Customer is proposing to utilize an existing interconnection with the Transmission System; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Surplus Interconnection Study consistent with Section 3.3 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Surplus Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability,

and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades. Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring new Network Upgrades.

- 5.0 Interconnection Customer shall provide a deposit of \$10,000 for the performance of the Surplus Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Surplus Interconnection Study is [insert date].

Upon receipt of the Surplus Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Surplus Interconnection Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Surplus Interconnection Study shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A
Appendix 5.3
Surplus Interconnection
Study Agreement

**ASSUMPTIONS USED IN CONDUCTING
THE SURPLUS INTERCONNECTION STUDY**

[To be completed by Interconnection Customer and Transmission Provider consistent with
Section 3.3 of the Revised

LGIP.]

APPENDIX 5.46 to Revised LGIP
INFORMATIONAL INTERCONNECTION STUDY REQUEST

1. The undersigned Interconnection Customer submits this request to evaluate the interconnection of its Generating Facility with Transmission Provider's Transmission System pursuant to the Tariff.
2. The type of interconnection service to be evaluated (check one):
Energy Resource Interconnection Service
Network Resource Interconnection Service
3. Interconnection Customer provides the following information:
 - a. Address or location of the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;
 - b. Maximum summer at _____ degrees C and winter at _____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
 - c. General description of the equipment configuration;
 - d. Commercial Operation Date to be studied (Day, Month, and Year);
 - e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;
 - f. Approximate location of the proposed Point of Interconnection;
 - g. Interconnection Customer Data (set forth in Attachment A)
 - h. Primary frequency response operating range for electric storage resources.
 - i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity); and
 - j. A Scope of Work including any additional information that may be reasonably required.
4. \$10,000 study deposit amount as specified in the Revised LGIP.
5. For study purposes, the point of delivery to deliver within the Control Area or to adjoining Control Area if the Generating Facility is not designated a Network Resource pursuant to Section 30.2 of the Tariff.
6. This Informational Interconnection Study Request shall be submitted to the representative indicated below:

[To be completed by Transmission Provider]
7. Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

8. This Interconnection Request is submitted by:

Name of Interconnection Customer:

By (signature):

Name (type or print):

Title:

Date:

Attachment A to Appendix 5.4
Informational Interconnection Study Request

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____	°F _____	Voltage _____
Power Factor _____		
Speed (RPM) _____	Connection (e.g. Wye) _____	
Short Circuit Ratio _____	Frequency, Hertz _____	
Stator Amperes at Rated kVA _____		Field Volts _____
Max Turbine MW _____	°F _____	

Primary frequency response operating range for electric storage resources.

Minimum State of Charge: _____
 Maximum State of Charge: _____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/kVA
 Moment-of-Inertia, WR^2 = _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

DIRECT AXIS QUADRATURE AXIS

<u>Synchronous – saturated</u>	<u>X_{dv}</u> _____	<u>X_{qv}</u> _____
<u>Synchronous – unsaturated</u>	<u>X_{dj}</u> _____	<u>X_{gj}</u> _____
<u>Transient – saturated</u>	<u>X'_{dv}</u> _____	<u>X'_{qv}</u> _____
<u>Transient – unsaturated</u>	<u>X'_{dj}</u> _____	<u>X'_{gj}</u> _____
<u>Subtransient – saturated</u>	<u>X''_{dv}</u> _____	<u>X''_{qv}</u> _____
<u>Subtransient – unsaturated</u>	<u>X''_{dj}</u> _____	<u>X''_{gj}</u> _____
<u>Negative Sequence – saturated</u>	<u>X_{2v}</u> _____	
<u>Negative Sequence – unsaturated</u>	<u>X_{2j}</u> _____	
<u>Zero Sequence – saturated</u>	<u>X_{0v}</u> _____	
<u>Zero Sequence – unsaturated</u>	<u>X_{0j}</u> _____	
<u>Leakage Reactance</u>	<u>X_{lm}</u> _____	

<u>Open Circuit</u>	<u>T'_{do}</u>	<u>T'_{qo}</u>
<u>Three-Phase Short Circuit Transient</u>	<u>T'_{d3}</u>	<u>T'_g</u>
<u>Line to Line Short Circuit Transient</u>	<u>T'_{d1}</u>	
<u>Short Circuit Subtransient</u>	<u>T''_d</u>	<u>T''_g</u>
<u>Open Circuit Subtransient</u>	<u>T'_{d2}</u>	
<u>Line to Neutral Short Circuit Transient</u>	<u>T''_{do}</u>	<u>T''_{qo}</u>

FIELD TIME CONSTANT DATA (SEC)
ARMATURE TIME CONSTANT DATA (SEC)

<u>Three Phase Short Circuit</u>	<u>T_{a3}</u>
<u>Line to Line Short Circuit</u>	<u>T_{a2}</u>
<u>Line to Neutral Short Circuit</u>	<u>T_{a1}</u>

NOTE: If requested information is not applicable, indicate by marking "N/A."

MW CAPABILITY AND PLANT CONFIGURATION
LARGE GENERATING FACILITY DATA

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

<u>Positive</u>	<u>R₁</u>
<u>Negative</u>	<u>R₂</u>
<u>Zero</u>	<u>R₀</u>

Rotor Short Time Thermal Capacity I₂²t =
Field Current at Rated kVA, Armature Voltage and PF = amps
Field Current at Rated kVA and Armature Voltage, 0 PF = amps
Three Phase Armature Winding Capacitance = microfarad
Field Winding Resistance = ohms °C
Armature Winding Resistance (Per Phase) = ohms °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves.
Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

<u>Capacity</u>	<u>Self-cooled/</u>
	<u>Maximum Nameplate</u>
	<u>/</u> <u>kVA</u>

Voltage Ratio(Generator Side/System side/Tertiary)

_____/_____/_____ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))

_____/_____/_____

Fixed Taps Available

Present Tap Setting

If more than one transformer stage is used to deliver the output from the proposed generator to the Transmission System, please provide the information above for each transformer or transformer type.

IMPEDANCE

Positive

Z₁ (on self-cooled kVA rating) _____ % _____ X/R

Zero

Z₀ (on self-cooled kVA rating) _____ % _____ X/R

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

Elevation: _____ Single Phase _____ Three Phase _____

Inverter manufacturer, model name, number, and version:

List of adjustable setpoints for the protective equipment or software:

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

INDUCTION GENERATORS

- (*) Field Volts: _____
- (*) Field Amperes: _____
- (*) Motoring Power (kW): _____
- (*) Neutral Grounding Resistor (If Applicable): _____
- (*) I_2^2t or K (Heating Time Constant): _____
- (*) Rotor Resistance: _____
- (*) Stator Resistance: _____
- (*) Stator Reactance: _____
- (*) Rotor Reactance: _____
- (*) Magnetizing Reactance: _____
- (*) Short Circuit Reactance: _____
- (*) Exciting Current: _____
- (*) Temperature Rise: _____
- (*) Frame Size: _____
- (*) Design Letter: _____
- (*) Reactive Power Required In Vars (No Load): _____
- (*) Reactive Power Required In Vars (Full Load): _____
- (*) Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Informational Interconnection Study Request to determine if the information designated by (*) is required.

APPENDIX 5.5 to Revised LGIP

INFORMATIONAL INTERCONNECTION STUDY AGREEMENT

THIS AGREEMENT is made and entered into this _____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, (“Interconnection Customer,”) and _____ a _____ existing under the laws of the State of _____, (“Transmission Provider”). Interconnection Customer and Transmission Provider each may be referred to as a “Party,” or collectively as the “Parties.”

RECITALS

WHEREAS, Interconnection Customer is evaluating developing a Large Generating Facility or generating capacity addition to an existing Generating Facility and

WHEREAS, Interconnection Customer is proposing to evaluate an interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to Transmission Provider an Informational Interconnection Study Interconnection Request; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Informational Interconnection Study consistent with Section 6 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Informational Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Informational Interconnection Study shall be performed solely for informational purposes.
- 5.0 The Informational Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by Interconnection Customer in Attachment A to this Agreement. The Informational Interconnection Study shall identify Transmission Provider's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof that may be required to provide transmission service or Interconnection Service based upon the assumptions specified by Interconnection Customer in Attachment A.

6.0 Interconnection Customer shall provide a deposit of ten thousand dollars (\$10,000.00) for the performance of the Informational Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Informational Interconnection Study is [insert date].

Upon receipt of the Informational Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Informational Interconnection Study.

Any difference between the initial deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

7.0 Miscellaneous. The Informational Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

APPENDIX 6 to Revised LGIP

STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT (LGIA)

(Applicable to Generating Facilities that exceed 20 MW)

TABLE OF CONTENTS

	<u>Page</u>
Article 1. Definitions.....	
Article 2. Effective Date, Term, and Termination.....	
2.1 Effective Date.....	
2.2 Term of Agreement.....	
2.3 Termination Procedures.....	
2.3.1 Written Notice.....	
2.3.2 Default.....	
2.4 Termination Costs.....	
2.5 Disconnection.....	
2.6 Survival.....	
Article 3. Regulatory Filings.....	
3.1 Filing.....	
Article 4. Scope of Service.....	
4.1 Interconnection Product Options.....	
4.1.1 Energy Resource Interconnection Service.....	
4.1.1.1 The Product.....	
4.1.1.2 Transmission Delivery Service Implications.....	
4.1.2 Network Resource Interconnection Service.....	
4.1.2.1 The Product.....	
4.1.2.2 Transmission Delivery Service Implications.....	
4.2 Provision of Service.....	
4.3 Performance Standards.....	
4.4 No Transmission Delivery Service.....	
4.5 Interconnection Customer Provided Services.....	
Article 5. Interconnection Facilities Engineering, Procurement, and Construction.....	
5.1 Options.....	
5.1.1 Standard Option.....	
5.1.2 Alternate Option.....	
5.1.3 Option to Build.....	
5.1.4 Negotiated Option.....	
5.2 General Conditions Applicable to Option to Build.....	
5.3 Liquidated Damages.....	
5.4 Power System Stabilizers.....	
5.5 Equipment Procurement.....	
5.6 Construction Commencement.....	
5.7 Work Progress.....	
5.8 Information Exchange.....	
5.9 Other Interconnection Options.....	
Recitals	
Article 1. Definitions	
Article 2. Effective Date, Term,, and Termination	
2.1 Effective Date	
2.2 Term of Agreement	
2.3 Termination Procedures	

2.3.1	~~Written Notice~~
2.3.2	~~Default~~
2.4	~~Termination Costs~~
2.5	~~Disconnection~~
2.6	~~Survival~~
Article 3.	~~Regulatory Filings~~
3.1	~~Filing~~
Article 4.	~~Scope of Service~~
4.1	~~Interconnection Product Options~~
4.1.1	~~Energy Resource Interconnection Service~~
4.1.1.1	~~The Product~~
4.1.1.2	~~Transmission Delivery Service Implications~~
4.1.2	~~Network Resource Interconnection Service~~
4.1.2.1	~~The Product~~
4.1.2.2	~~Transmission Delivery Service Implications~~
4.2	~~Provision of Service~~
4.3	~~Performance Standards~~
4.4	~~No Transmission Delivery Service~~
4.5	~~Interconnection Customer Provided Services~~
Article 5.	~~Interconnection Facilities Engineering, Procurement, & Construction~~
5.1	~~Options~~
5.1.1	~~Standard Option~~
5.1.2	~~Alternate Option~~
5.1.3	~~Option to Build~~
5.1.4	~~Negotiated Option~~
5.2	~~General Conditions Applicable to Option to Build~~
5.3	~~Liquidated Damages~~
5.4	~~Power System Stabilizers~~
5.5	~~Equipment Procurement~~
5.6	~~Construction Commencement~~
5.7	~~Work Progress~~
5.8	~~Information Exchange~~
5.9	~~Other Interconnection Options~~
5.9.1	~~Limited Operation.~~
5.9.2	~~Provisional Interconnection Service.~~
5.10	~~Interconnection Customer's Interconnection Facilities ("ICIF").~~
5.10.1	~~Interconnection Customer's Interconnection Facility Specifications.~~
5.10.2	~~Transmission Provider's Review.~~
5.10.3	~~ICIF Construction.~~
5.11	~~Transmission Provider's Interconnection Facilities Construction.~~
5.12	~~Access Rights.~~
5.13	~~Lands of Other Property Owners.~~
5.14	~~Permits.~~
5.15	~~Early Construction of Base Case Facilities.~~
5.16	~~Suspension.~~
5.16.1	~~Effect of Missed Interconnection Customer LGIA Milestones.~~
5.16.2	~~Effect of Suspension; Parties Obligations.~~
5.17	~~Taxes.~~

	5.17.1	Interconnection Customer Payments Not Taxable.....
	5.17.2	Representations and Covenants.....
	5.17.3	Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider.....
	5.17.4	Tax Gross-Up Amount.....
	5.17.5	Private Letter Ruling or Change or Clarification of Law.....
	5.17.6	Subsequent Taxable Events.....
	5.17.7	Contests.....
	5.17.8	Refund.....
	5.17.9	Taxes Other Than Income Taxes.....
	5.17.10	Transmission Owners Who Are Not Transmission Providers.....
5.18		Tax Status.....
5.19		Modification.....
	5.19.1	General.....
	5.19.2	Standards.....
	5.19.3	Modification Costs.....
	Article 6	Testing and Inspection.....
	6.1	Pre-Commercial Operation Date Testing and Modifications.....
	6.2	Post-Commercial Operation Date Testing and Modifications.....
	6.3	Right to Observe Testing.....
	6.4	Right to Inspect.....
	Article 7	Metering.....
	7.1	General.....
	7.2	Check Meters.....
	7.3	Standards.....
	7.4	Testing of Metering Equipment.....
	7.5	Metering Data.....
	Article 8	Communications.....
	8.1	Interconnection Customer Obligations.....
	8.2	Remote Terminal Unit.....
	8.3	No Annexation.....
5.10		~~Interconnection Customer's Interconnection Facilities ('ICIF')~~
	5.10.1	~~Interconnection Customer's Interconnection Facility Specifications~~
	5.10.2	~~Transmission Provider's Review~~
	5.10.3	~~ICIF Construction~~
5.11		~~Transmission Provider's Interconnection Facilities Construction~~
5.12		~~Access Rights~~
5.13		~~Lands of Other Property Owners~~
5.14		~~Permits~~
5.15		~~Early Construction of Base Case Facilities~~
5.16		~~Suspension~~
5.17		~~Taxes~~
	5.17.1	~~Interconnection Customer Payments Not Taxable~~
	5.17.2	~~Representations and Covenants~~
	5.17.3	~~Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider~~
	5.17.4	~~Tax Gross-Up Amount~~

5.17.5	Private Letter Ruling or Change or Clarification of Law
5.17.6	Subsequent Taxable Events
5.17.7	Contests
5.17.8	Refund
5.17.9	Taxes Other Than Income Taxes
5.17.10	Transmission Owners Who Are Not Transmission Providers
5.18	Tax Status
5.19	Modification
5.19.1	General
5.19.2	Standards
5.19.3	Modification Costs
Article 6	Testing and Inspection
6.1	Pre-Commercial Operation Date Testing and Modifications
6.2	Post-Commercial Operation Date Testing and Modifications
6.3	Right to Observe Testing
6.4	Right to Inspect
Article 7	Metering
7.1	General
7.2	Check Meters
7.3	Standards
7.4	Testing of Metering Equipment
7.5	Metering Data
Article 8	Communications
8.1	Interconnection Customer Obligations
8.2	Remote Terminal Unit
8.3	No Annexation
8.4	Provision of Data from a Variable Energy Resource
Article 9	Operations
9.1	General
9.2	Control Area Notification
9.3	Transmission Provider Obligations
9.4	Interconnection Customer Obligations
9.5	Start-Up and Synchronization
9.6	Reactive Power and Primary Frequency Response
9.6.1	Power Factor Design Criteria
9.6.1.1	Synchronous Generation
9.6.1.2	Non-Synchronous Generation
9.6.2	Voltage Schedules
Article 9	Operations
9.1	General
9.2	Control Area Notification
9.3	Transmission Provider Obligations
9.4	Interconnection Customer Obligations
9.5	Start-Up and Synchronization
9.6	Reactive Power and Primary Frequency Response
9.6.1	Power Factor Design Criteria
9.6.2	Voltage Schedules
9.6.2.1	Voltage Regulators

~~9.6.3~~	~~Payment for Reactive Power~~	
9.6.2.1	Voltage Regulators.....	
~~9.6.3~~	~~Payment for Reactive Power.....~~	
~~9.6.4~~	~~Primary Frequency Response.....~~	
~~9.6.4.1~~	~~Governor or Equivalent Controls.....~~	
~~9.6.4.2~~	~~Timely and Sustained Response.....~~	
~~9.6.4.3~~	~~Exemptions.....~~	
~~9.6.4.4~~	~~Electric Storage Resources.....~~	
9.7	Outages and Interruptions.....	
9.7.1	Outages.....	
9.7.1.1	Outage Authority and Coordination.....	
9.7.1.2	Outage Schedules.....	
9.7.1.3	Outage Restoration.....	
9.7.2	Interruption of Service.....	
9.7.3	Under-Frequency and Over Frequency Conditions.....	
9.7.4	System Protection and Other Control Requirements.....	
9.7.4.1	System Protection Facilities.....	
9.7.5	Requirements for Protection.....	
9.7.6	Power Quality.....	
9.8	Switching and Tagging Rules.....	
9.9	Use of Interconnection Facilities by Third Parties.....	
9.9.1	Purpose of Interconnection Facilities.....	
9.9.2	Third Party Users.....	
9.10	Disturbance Analysis Data Exchange.....	
Article 10	Maintenance.....	
10.1	Transmission Provider Obligations.....	
10.2	Interconnection Customer Obligations.....	
10.3	Coordination.....	
10.4	Secondary Systems.....	
10.5	Operating and Maintenance Expenses.....	
Article 11	Performance Obligation.....	
11.1	Interconnection Customer Interconnection Facilities.....	
11.2	Transmission Provider's Interconnection Facilities.....	
11.3	Network Upgrades and Distribution Upgrades.....	
11.4	Transmission Credits.....	
11.4.1	Repayment of Amounts Advanced for Network Upgrades.....	
11.4.2	Special Provisions for Affected Systems.....	
11.5	Provision of Security.....	
11.6	Interconnection Customer Compensation.....	
11.6.1	Interconnection Customer Compensation for Actions During Emergency Condition.....	
Article 12	Invoice.....	
12.1	General.....	
12.2	Final Invoice.....	
12.3	Payment.....	
12.4	Disputes.....	
Article 13	Emergencies.....	
13.1	Definition.....	

13.2	Obligations.....
13.3	Notice.....
13.4	Immediate Action.....
13.5	Transmission Provider Authority.....
13.5.1	General.....
13.5.2	Reduction and Disconnection.....
13.6	Interconnection Customer Authority.....
13.7	Limited Liability.....
Article 14. Regulatory Requirements and Governing Law.....	
14.1	Regulatory Requirements.....
14.2	Governing Law.....
Article 15. Notices.....	
15.1	General.....
15.2	Billings and Payments.....
15.3	Alternative Forms of Notice.....
15.4	Operations and Maintenance Notice.....
Article 16. Force Majeure.....	
Article 17. Default.....	
17.1	Default.....
17.1.1	General.....
17.1.2	Right to Terminate.....
Article 18. Indemnity, Consequential Damages and Insurance.....	
18.1	Indemnity.....
18.1.1	Indemnified Person.....
18.1.2	Indemnifying Party.....
18.1.3	Indemnity Procedures.....
18.2	Consequential Damages.....
18.3	Insurance.....
Article 19. Assignment.....	
19.1	Assignment.....
Article 20. Severability.....	
20.1	Severability.....
Article 21. Comparability.....	
Article 22. Confidentiality.....	
22.1	Confidentiality.....
22.1.1	Term.....
22.1.2	Scope.....
22.1.3	Release of Confidential Information.....
22.1.4	Rights.....
22.1.5	No Warranties.....
22.1.6	Standard of Care.....
22.1.7	Order of Disclosure.....
22.1.8	Termination of Agreement.....
22.1.9	Remedies.....
22.1.10	Disclosure to FERC, its Staff, or a State.....
Article 23. Environmental Releases.....	
Article 24. Information Requirements.....	
24.1	Information Acquisition.....

24.2	Information Submission by Transmission Provider.....
24.3	Updated Information Submission by Interconnection Customer.....
24.4	Information Supplementation.....
Article 25. Information Access and Audit Rights.....	
25.1	Information Access.....
25.2	Reporting of Non-Force Majeure Events.....
25.3	Audit Rights.....
25.4	Audit Rights Periods.....
25.4.1	Audit Rights Period for Construction-Related Accounts and Records.....
25.4.2	Audit Rights Period for All Other Accounts and Records.....
25.5	Audit Results.....
Article 26. Subcontractors.....	
26.1	General.....
26.2	Responsibility of Principal.....
26.3	No Limitation by Insurance.....
Article 27. Disputes.....	
27.1	Submission.....
27.2	External Arbitration Procedures.....
27.3	Arbitration Decisions.....
27.4	Costs.....
Article 28. Representations, Warranties, and Covenants.....	
28.1	General.....
28.1.1	Good Standing.....
28.1.2	Authority.....
28.1.3	No Conflict.....
28.1.4	Consent and Approval.....
Article 29. Joint Operating Committee.....	
29.1	Joint Operating Committee.....
Article 30. Miscellaneous.....	
30.1	Binding Effect.....
30.2	Conflicts.....
30.3	Rules of Interpretation.....
30.4	Entire Agreement.....
30.5	No Third Party Beneficiaries.....
30.6	Waiver.....
30.7	Headings.....
30.8	Multiple Counterparts.....
30.9	Amendment.....
30.10	Modification by the Parties.....
30.11	Reservation of Rights.....
30.12	No Partnership.....

~~9.7~~	~~Outages and Interruptions~~
~~9.7.1~~	~~Outages~~
~~9.7.1.1~~	~~Outage Authority and Coordination~~
~~9.7.1.2~~	~~Outage Schedules~~
~~9.7.1.3~~	~~Outage Restoration~~
~~9.7.2~~	~~Interruption of Service~~
~~9.7.3~~	~~Under-Frequency and Over Frequency Conditions~~
~~9.7.4~~	~~System Protection and Other Control Requirements~~
~~9.7.4.1~~	~~System Protection Facilities~~
~~9.7.5~~	~~Requirements for Protection~~
~~9.7.6~~	~~Power Quality~~
~~9.8~~	~~Switching and Tagging Rules~~
~~9.9~~	~~Use of Interconnection Facilities by Third Parties~~
~~9.9.1~~	~~Purpose of Interconnection Facilities~~
~~9.9.2~~	~~Third Party Users~~
~~9.10~~	~~Disturbance Analysis Data Exchange~~
~~Article 10.~~	~~Maintenance~~
~~10.1~~	~~Transmission Provider Obligations~~
~~10.2~~	~~Interconnection Customer Obligations~~
~~10.3~~	~~Coordination~~
~~10.4~~	~~Secondary Systems~~
~~10.5~~	~~Operating and Maintenance Expenses~~
~~Article 11.~~	~~Performance Obligation~~
~~11.1~~	~~Interconnection Customer Interconnection Facilities~~
~~11.2~~	~~Transmission Provider's Interconnection Facilities~~
~~11.3~~	~~Network Upgrades and Distribution Upgrades~~
~~11.4~~	~~Transmission Credits~~
~~11.4.1~~	~~Repayment of Amounts Advanced for Network Upgrades~~
~~11.5~~	~~Provision of Security~~
~~11.6~~	~~Interconnection Customer Compensation~~
~~11.6.1~~	~~Interconnection Customer Compensation for Actions During Emergency Condition~~
~~Article 12.~~	~~Invoice~~
~~12.1~~	~~General~~
~~12.2~~	~~Final Invoice~~
~~12.3~~	~~Payment~~
~~12.4~~	~~Disputes~~
~~Article 13.~~	~~Emergencies~~
~~13.1~~	~~Definition~~
~~13.2~~	~~Obligations~~
~~13.3~~	~~Notice~~
~~13.4~~	~~Immediate Action~~
~~13.5~~	~~Transmission Provider Authority~~
~~13.5.1~~	~~General~~
~~13.5.2~~	~~Reduction and Disconnection~~
~~13.6~~	~~Interconnection Customer Authority~~
~~13.7~~	~~Limited Liability~~
~~Article 14.~~	~~Regulatory Requirements and Governing Law~~

~~14.1~~	~~Regulatory Requirements~~
~~14.2~~	~~Governing Law~~
~~Article 15.~~	~~Notices~~
~~15.1~~	~~General~~
~~15.2~~	~~Billings and Payments~~
~~15.3~~	~~Alternative Forms of Notice~~
~~15.4~~	~~Operations and Maintenance Notice~~
~~Article 16.~~	~~Force Majeure~~
~~Article 17.~~	~~Default~~
~~17.1~~	~~Default~~
~~17.1.1~~	~~General~~
~~17.1.2~~	~~Right to Terminate~~
~~Article 18.~~	~~Indemnity, Consequential Damages and Insurance~~
~~18.1~~	~~Indemnity~~
~~18.1.1~~	~~Indemnified Person~~
~~18.1.2~~	~~Indemnifying Party~~
~~18.1.3~~	~~Indemnity Procedures~~
~~18.2~~	~~Consequential Damages~~
~~18.3~~	~~Insurance~~
~~Article 19.~~	~~Assignment~~
~~Article 20.~~	~~Severability~~
~~Article 21.~~	~~Comparability~~
~~Article 22.~~	~~Confidentiality~~
~~22.1~~	~~Confidentiality~~
~~22.1.1~~	~~Term~~
~~22.1.2~~	~~Scope~~
~~22.1.3~~	~~Release of Confidential Information~~
~~22.1.4~~	~~Rights~~
~~22.1.5~~	~~No Warranties~~
~~22.1.6~~	~~Standard of Care~~
~~22.1.7~~	~~Order of Disclosure~~
~~22.1.8~~	~~Termination of Agreement~~
~~22.1.9~~	~~Remedies~~
~~22.1.10~~	~~Disclosure to FERC, its Staff, or a State~~
~~Article 23.~~	~~Environmental Releases~~
~~Article 24.~~	~~Information Requirements~~
~~24.1~~	~~Information Acquisition~~
~~24.2~~	~~Information Submission by Transmission Provider~~
~~24.3~~	~~Updated Information Submission by Interconnection Customer~~
~~24.4~~	~~Information Supplementation~~
~~Article 25.~~	~~Information Access and Audit Rights~~
~~25.1~~	~~Information Access~~
~~25.2~~	~~Reporting of Non-Force Majeure Events~~
~~25.3~~	~~Audit Rights~~
~~25.4~~	~~Audit Rights Periods~~
~~25.4.1~~	~~Audit Rights Period for Construction-Related Accounts and Records~~
~~25.4.2~~	~~Audit Rights Period for All Other Accounts and Records~~
~~25.5~~	~~Audit Results~~

~~Article 26.~~	~~Subcontractors~~
~~26.1~~	~~General~~
~~26.2~~	~~Responsibility of Principal~~
~~26.3~~	~~No Limitation by Insurance~~
~~Article 27.~~	~~Disputes~~
~~27.1~~	~~Submission~~
~~27.2~~	~~External Arbitration Procedures~~
~~27.3~~	~~Arbitration Decisions~~
~~27.4~~	~~Costs~~
~~Article 28.~~	~~Representations, Warranties, and Covenants~~
~~28.1~~	~~General~~
~~28.1.1~~	~~Good Standing~~
~~28.1.2~~	~~Authority~~
~~28.1.3~~	~~No Conflict~~
~~28.1.4~~	~~Consent and Approval~~
~~Article 29.~~	~~Joint Operating Committee~~
~~Article 30.~~	~~Miscellaneous~~
~~30.1~~	~~Binding Effect~~
~~30.2~~	~~Conflicts~~
~~30.3~~	~~Rules of Interpretation~~
~~30.4~~	~~Entire Agreement~~
~~30.5~~	~~No Third Party Beneficiaries~~
~~30.6~~	~~Waiver~~
~~30.7~~	~~Headings~~
~~30.8~~	~~Multiple Counterparts~~
~~30.9~~	~~Amendment~~
~~30.10~~	~~Modification by the Parties~~
~~30.11~~	~~Reservation of Rights~~
~~30.12~~	~~No Partnership~~

Appendix A - Interconnection Facilities, Network Upgrades, and Distribution Upgrades

Appendix B – LGIA Milestones

Appendix C – Interconnection Details

Appendix D – Security Arrangements Details

Appendix E – Commercial Operation Date

Appendix F – Addresses for Delivery of Notices and Billings

Appendix G – Requirements of Generators Relying on Newer Technologies

-STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT

THIS STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT (~~“Agreement”~~ or “LGIA”) is made and entered into this ____ day of _____ 20____, by and between _____, a _____, organized and existing under the laws of the State/Commonwealth of _____, (~~“Interconnection Customer”~~ with a Large Generating Facility), and _____, a _____, organized and existing under the laws of the State/Commonwealth of _____, (~~“Transmission Provider and/or Transmission Owner”~~); ~~“Interconnection Customer and Transmission Provider each may be referred to as a “Party” or collectively as the “Parties.”~~

Recitals

WHEREAS, Transmission Provider operates the Transmission System; and

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and,

WHEREAS, Interconnection Customer and Transmission Provider have agreed to enter into this Agreement for the purpose of interconnecting the Large Generating Facility with the Transmission System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used or the Open Access Transmission Tariff (Tariff).

Article 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more

intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Transmission System to which the Generating Facility is directly interconnected.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday. If a requirement due date lands on a Saturday, Sunday or Federal Holiday, the requirement is due the next Business Day.

~~**Cluster**~~**Clustering** shall mean ~~the process whereby~~ a group of Interconnection Requests (one or more) that are studied together, ~~instead of serially,~~ for the purpose of conducting the Interconnection ~~Studies~~System Impact Study.

Clustering shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Control Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation of the interconnection. ~~A Control Area must be certified by the Applicable NERC Regional Reliability Entity. Control Area shall have the same meaning as Balancing Authority Area as defined by NERC Council.~~

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Definitive Interconnection Study Process (“Definitive Interconnection Study”) shall mean the complete definitive study process inclusive of the DISIS Request Window, Customer Engagement Window, Definitive Interconnection System Impact Study, and the Interconnection Facilities Study. Both the Resource Solicitation Cluster and the DISIS Cluster are processed under the Definitive Interconnection Study.

Definitive Interconnection System Impact Study (“DISIS”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of the Transmission System and, if applicable, an Affected System.

Definitive Interconnection System Impact Study Agreement (“DISIS Agreement”) shall mean the form of agreement contained in Appendix 2 of the Revised LGIP for conducting the Definitive Interconnection System Impact Study.

Definitive Interconnection System Impact Study Cluster (“DISIS Cluster”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of Transmission System and, if applicable, an Affected System.

DISIS Request Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. ~~The voltage levels at which distribution systems operate differ among areas.~~

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service

necessary to ~~affect~~effect Interconnection Customer's wholesale sale of electricity in interstate commerce.- Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) ~~-~~that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) ~~-~~that, in the case of a Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which the Transmission Provider's Transmission System is directly connected; or (3) ~~-~~that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. -System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or ~~non-firm~~nonfirm capacity of the Transmission Provider's Transmission System on an as available basis.- Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. -A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. –Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Informational Interconnection Study shall mean an analysis based on assumptions specified by Interconnection Customer in the Informational Interconnection Study Agreement.

Informational Interconnection Study Agreement shall mean the form of agreement contained in Appendix 7 of the Revised LGIP for conducting the Informational Interconnection Study.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities (e.g. for generator interconnection).

Interconnection Facilities shall mean the Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Interconnection Facilities may be shared by more than one Generating Facility in a Cluster.

Interconnection Facilities Study shall mean a study conducted by the Transmission Provider or a third party consultant for the Interconnection Customer to determine a list of facilities (including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Definitive Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Provider's Transmission System. The scope of the study is defined in Section 8 of the Revised LGIP Standard Large Generator Interconnection Procedures.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 34 of the Revised LGIP Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

~~**Interconnection Feasibility Study** shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Transmission Provider's Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.~~

~~**Interconnection Feasibility Study Agreement** shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.~~

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Revised LGIP Standard Large Generator Interconnection Procedures, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Informational Interconnection ~~Feasibility~~ Study, the Definitive Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

Interconnection System Impact Study Agreement shall mean ~~anyan engineering study that evaluates the impact of the following agreements: the Informational proposed interconnection on the safety and reliability of Transmission Provider's Transmission System and, if applicable, an Affected System. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on the Adverse System Impacts identified in the Interconnection Feasibility Study Agreement, the Definitive Interconnection System Impact Study Agreement, or the Interconnection Facilities Study Agreement to study potential impacts, including but not limited to those identified in the Scoping Meeting as~~ described in the Standard Large Generator Interconnection Procedures.

~~**Interconnection System Impact Study Agreement** shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures or Revised LGIP for conducting the Interconnection System Impact Study.~~

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

LGIA Milestone shall mean milestones provided in Appendix B of this LGIA

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with a later or equal Queue Position~~queue priority date~~.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

OASIS shall mean the Transmission Provider's Open Access Same-Time Information System

~~**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.~~

~~**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5.1 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.~~

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Phase ("Phase 1, Phase 2, Phase 3, or Phase 4") shall mean a distinct part of the Definitive Study Process as described in Section 7.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Provider's Transmission System.

Provisional Interconnection Service shall mean interconnection service~~Interconnection Service~~ provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or the Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes. Provisional Large Generator Interconnection Agreements are not eligible for suspension.

Queue shall mean a queue for valid Interconnection Requests for the Definitive Interconnection Study Process.

~~**Point of Change of Ownership** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Provider's Interconnection Facilities.~~

~~**Point of Interconnection** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Provider's Transmission System.~~

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Interconnection Study Process. The Queue Position~~that~~ is established based upon the date and time ~~of receipt of the valid Interconnection~~ Customer satisfies all of Request by the requirements of Section 7.2 of the Revised LGIP to enter the Definitive Interconnection Study Process~~Transmission Provider.~~

Readiness Milestone(s) shall have the meaning set forth in Section 7.7 of the Revised LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Revised LGIP shall mean the Large Generator Interconnection Process ad described in this Attachment N.

Resource Plan shall mean any process authorized or required by Applicable Laws and Regulations for, *inter alia*, the selection of Generating Facilities interconnected to the Transmission System of Transmission Provider

Resource Planning Entity shall mean any entity subject to or conducting a Resource Solicitation Process.

Resource Solicitation Cluster shall mean a Cluster Study associated with a Resource Planning Process.

Resource Solicitation Process shall mean any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources by an entity interconnected to the Transmission System of Transmission Provider.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer and Transmission Provider conducted for the purpose of discussing the proposed Interconnection Request, alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to ~~affect~~impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection Facilities. Site Control may be demonstrated by documentation establishing: ~~reasonably demonstrating:~~ (1) ownership of, a leasehold interest in, or a right to develop a site ~~for the purpose of~~ sufficient size to construct and operate ~~constructing the Generating Facility and associated Interconnection Customer's Interconnection Facilities;~~ (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities for such purpose; or (3) any other documentation that clearly demonstrates the right of the an exclusivity or other business relationship between Interconnection Customer to exclusively and the entity having the right to sell, lease or grant Interconnection Customer the right to possess or occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition for such purpose.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not a part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the

Transmission Provider must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Provider's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Provider's Transmission System or on other delivery systems or other generating systems to which the Transmission Provider's Transmission System is directly connected.

Tariff shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Transmission Provider's Interconnection Facilities may be shared by more than one Generating Facility in a given Cluster Study.

Transmission System shall mean the facilities owned, controlled or operated by the Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Variable Energy Resource shall mean a device for the production of electricity that is characterized by an energy source that: (1) ~~is~~ renewable; (2) ~~cannot~~ be stored by the facility owner or operator; and (3) ~~has~~ variability that is beyond the control of the facility owner or operator.

Withdrawal Penalty shall have the meaning set forth in Section 3.7.1 of the Revised LGIP.

Article 2. Effective Date, Term, and Termination

2.1 Effective Date.

~~This LGIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. Transmission Provider shall promptly file this LGIA with FERC upon execution in accordance with Article 3.1, if required.~~

2.2 Term of Agreement.

~~Subject to the provisions of Article 2.3, this LGIA shall remain in effect for a period of ten (10) years from the Effective Date or such other longer period as Interconnection Customer may request (Term to be specified in individual agreements) and shall be automatically renewed for each successive one-year period thereafter.~~

2.3 Termination Procedures.

2.3.1 Written Notice. ~~This LGIA may be terminated by Interconnection Customer after giving Transmission Provider ninety (90) Calendar Days advance written notice, or by Transmission Provider notifying FERC after the Generating Facility permanently ceases Commercial Operation.~~
This LGIA may be terminated by Interconnection Customer after giving Transmission Provider ninety (90) Calendar Days advance written notice, or by Transmission Provider notifying FERC after the Generating Facility permanently ceases Commercial Operation. This LGIA shall be terminated by Transmission Provider if the Generating Facility or a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.5 of the Revised LGIP, including any extension provided thereunder, or, having previously achieved Commercial Operation, has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the Generating Facility, after giving Interconnection Customer ninety (90) Calendar Days advance written notice. When only a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation

Date established in accordance with Section 4.4.5 of the Revised LGIP, including any extension provided thereunder, Transmission Provider shall terminate only that portion of the LGIA. Notwithstanding the foregoing, in the limited circumstance that the Interconnection Request is served by a Contingent Facility with an in-service date that is later than the Commercial Operation Date permitted under Section 4.4.5 of the Revised LGIP, Transmission Provider shall terminate this LGIA only for failure to achieve Commercial Operation by ninety (90) Calendar Days after that later in-service date of the Contingent Facility. The Generating Facility will not be deemed to have ceased Commercial Operation for purposes of this Article 2.3.1 if Interconnection Customer can document that it has taken other significant steps to maintain or restore operational readiness of the Generating Facility for the purpose of returning the Generating Facility to Commercial Operation as soon as possible.

2.3.2 Default.

—Either Party may terminate this LGIA in accordance with Article 17.

2.3.3 Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this LGIA, which notice has been accepted for filing by FERC.

2.4 Termination Costs.

—If a Party elects to terminate this Agreement pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party, as of the date of the other Party's receipt of such notice of termination, that are the responsibility of the Terminating Party under this LGIA. —In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. — Upon termination of this LGIA, unless otherwise ordered or approved by FERC:

2.4.1 With respect to any portion of Transmission Provider's Interconnection Facilities that have not yet been constructed or installed, Transmission Provider shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Provider shall deliver such material and equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Provider for any or all such costs of materials or equipment not taken by Interconnection Customer, Transmission Provider shall promptly refund such amounts to Interconnection Customer,

less any costs, including penalties incurred by Transmission Provider to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which Transmission Provider has incurred expenses and has not been reimbursed by Interconnection Customer.

2.4.2 Transmission Provider may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Provider shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

2.4.3 With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

2.4.4 Transmission Provider shall refund the security provided under Section 10.3 of the Revised LGIP, including any accumulated interest, if applicable. Notwithstanding the foregoing, prior to remitting such security, plus accumulated interest, Transmission Provider shall offset against such security, and accumulated interest, any unpaid costs or penalties arising out of this Agreement or the Revised LGIP. Monies due the Interconnection Customer shall be remitted within 90 days of termination.

2.5 Disconnection.

-Upon termination of this LGIA, the Parties will take all appropriate steps to disconnect the Large Generating Facility from the Transmission System. -All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this LGIA or such non-terminating Party otherwise is responsible for these costs under this LGIA.

2.6 Survival.

-This LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this LGIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this LGIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment

Article 3. Regulatory Filings

3.1 Filing.

-Transmission Provider shall file this LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required. -Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If Interconnection Customer has executed this LGIA, or any amendment thereto, Interconnection Customer shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

Article 4. Scope of Service

4.1 Interconnection Product Options.

-Interconnection Customer has selected the following (checked) type of Interconnection Service:

4.1.1 Energy Resource Interconnection Service.

4.1.1.1 The Product.

-Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. To the extent Interconnection Customer wants to receive Energy Resource Interconnection Service, Transmission Provider shall construct facilities identified in Attachment A.

4.1.1.2 Transmission Delivery Service Implications.

-Under Energy Resource Interconnection Service, Interconnection Customer will be eligible to inject power from the Large Generating Facility into and deliver power across the interconnecting Transmission Provider's Transmission System on an "as available" basis up to the amount of MWs identified in the applicable stability and steady state studies to the extent the upgrades initially required to qualify for Energy Resource Interconnection Service have been constructed. -Where eligible to do so (e.g., PJM, ISO-NE, NYISO), Interconnection Customer may place a bid to sell into the market up to the maximum identified Large Generating Facility output, subject to any conditions specified in the interconnection service approval, and the Large Generating Facility will be dispatched to the extent Interconnection Customer's bid clears. -In all other instances, no transmission delivery service from the Large Generating Facility is assured, but Interconnection Customer may obtain Point-to-Point Transmission Service, Network Integration Transmission Service, or be used for secondary network transmission service, pursuant to Transmission Provider's Tariff, up to the maximum output

identified in the stability and steady state studies. —In those instances, in order for Interconnection Customer to obtain the right to deliver or inject energy beyond the Large Generating Facility Point of Interconnection or to improve its ability to do so, transmission delivery service must be obtained pursuant to the provisions of Transmission Provider's Tariff. —The Interconnection Customer's ability to inject its Large Generating Facility output beyond the Point of Interconnection, therefore, will depend on the existing capacity of Transmission Provider's Transmission System at such time as a transmission service request is made that would accommodate such delivery. —The provision of firm Point-to-Point Transmission Service or Network Integration Transmission Service may require the construction of additional Network Upgrades.

4.1.2 Network Resource Interconnection Service.

4.1.2.1 The Product.

—Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility (1) —in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) —in an ISO or RTO with market based congestion management, in the same manner as all Network Resources. —To the extent Interconnection Customer wants to receive Network Resource Interconnection Service, Transmission Provider shall construct the facilities identified in Attachment A to this LGIA.

4.1.2.2 Transmission Delivery Service Implications.

—Network Resource Interconnection Service allows Interconnection Customer's Large Generating Facility to be designated by any Network Customer under the Tariff on Transmission Provider's Transmission System as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. —Although Network Resource Interconnection Service does not convey a reservation of transmission service, any Network Customer under the Tariff can utilize its network service under the Tariff to obtain delivery of energy from the interconnected Interconnection Customer's Large Generating Facility in the same manner as it accesses Network Resources. —A Large Generating Facility receiving Network Resource Interconnection Service may also be used to provide Ancillary Services after technical studies and/or periodic analyses are performed with respect to the Large Generating Facility's ability to provide any applicable Ancillary

Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Network Resource. —However, if an Interconnection Customer's Large Generating Facility has not been designated as a Network Resource by any load, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all generating facilities that are similarly situated. —The provision of Network Integration Transmission Service or firm Point-to-Point Transmission Service may require additional studies and the construction of additional upgrades. Because such studies and upgrades would be associated with a request for delivery service under the Tariff, cost responsibility for the studies and upgrades would be in accordance with FERC's policy for pricing transmission delivery services.

Network Resource Interconnection Service does not necessarily provide Interconnection Customer with the capability to physically deliver the output of its Large Generating Facility to any particular load on Transmission Provider's Transmission System without incurring congestion costs. —In the event of transmission constraints on Transmission Provider's Transmission System, Interconnection Customer's Large Generating Facility shall be subject to the applicable congestion management procedures in Transmission Provider's Transmission System in the same manner as Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that Interconnection Customer's Large Generating Facility be designated as a Network Resource by a Network Service Customer under the Tariff or that Interconnection Customer identify a specific buyer (or sink). —To the extent a Network Customer does designate the Large Generating Facility as a Network Resource, it must do so pursuant to Transmission Provider's Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining Network Resource Interconnection Service, any future transmission service request for delivery from the Large Generating Facility within Transmission Provider's Transmission System of any amount of capacity and/or energy, up to the amount initially studied, will not require that any additional studies be performed or that any further upgrades associated with such Large Generating Facility be undertaken, regardless of whether or not such Large Generating Facility is ever designated by a Network Customer as a Network Resource and regardless of changes in ownership of the Large Generating Facility. —However, the reduction or elimination of congestion or redispatch costs may

require additional studies and the construction of additional upgrades.

To the extent Interconnection Customer enters into an arrangement for long term transmission service for deliveries from the Large Generating Facility outside Transmission Provider's Transmission System, such request may require additional studies and upgrades in order for Transmission Provider to grant such request.

4.2 Provision of Service. ~~Transmission Provider shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.~~
Transmission Provider shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.

4.3 Performance Standards.
-Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith. ~~-If such Party is a Transmission Provider or Transmission Owner, then that Party shall amend the LGIA and submit the amendment to FERC for approval.~~

4.4 No Transmission Delivery Service.
-The execution of this LGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Provider's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.

4.5 Interconnection Customer Provided Services.
~~-The services provided by Interconnection Customer under this LGIA are set forth in Article 9.6 and Article 13.5.1.- Interconnection Customer shall be paid for such services in accordance with Article 11.6.~~

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

5.1 Options.
-Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select the In-Service Date, Initial Synchronization Date, and Commercial Operation Date; and either the Standard Option or Alternate Option set forth below for completion of Transmission Provider's Interconnection Facilities and Network Upgrades as set forth in Appendix A, Interconnection Facilities and Network Upgrades, and such dates and selected option shall be set forth in Appendix B, Milestones.~~-~~ At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in Article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to

Transmission Provider, the Interconnection Customer shall notify Transmission Provider within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

5.1.1 Standard Option.

—Transmission Provider shall design, procure, and construct Transmission Provider's Interconnection Facilities and Network Upgrades, using Reasonable Efforts to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the dates set forth in Appendix B, LGIA Milestones. —Transmission Provider shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. —In the event Transmission Provider reasonably expects that it will not be able to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the specified dates, Transmission Provider shall promptly provide written notice to Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.1.2 Alternate Option.

—If the dates designated by Interconnection Customer are acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days, and shall assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities by the designated dates.

If Transmission Provider subsequently fails to complete Transmission Provider's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B, LGIA Milestones; Transmission Provider shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each day that the applicable RTO or ISO refuses to grant clearances to install equipment.

5.1.3 Option to Build.

Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2. —Transmission Provider and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. —Except for

Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

5.1.4 **Negotiated Option.**

~~====~~ If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3) If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Transmission Provider shall assume responsibility for the design, procurement and construction of all facilities other than Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

5.2 **General Conditions Applicable to Option to Build.**

~~-~~ If Interconnection Customer assumes responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades,

- (1) Interconnection Customer shall engineer, procure equipment, and construct Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Provider;
- (2) Interconnection Customer's engineering, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Transmission Provider would be subject in the engineering, procurement or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (3) Transmission Provider shall review and approve the engineering design, equipment acceptance tests, and the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (4) ~~Prior~~^{prior} to commencement of construction, Interconnection Customer shall provide to Transmission Provider a schedule for construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider;

- (5) ~~Atat~~ any time during construction, Transmission Provider shall have the right to gain unrestricted access to Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;
- (6) ~~Atat~~ any time during construction, should any phase of the engineering, equipment procurement, or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Provider, Interconnection Customer shall be obligated to remedy deficiencies in that portion of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (7) Interconnection Customer shall indemnify Transmission Provider for claims arising from Interconnection Customer's construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 Indemnity;
- (8) Interconnection Customer shall transfer control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Provider;
- (9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Transmission Provider's Interconnection Facilities and Stand-Alone Network Upgrades to Transmission Provider;
- (10) Transmission Provider shall approve and accept for operation and maintenance Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2; and
- (11) Interconnection Customer shall deliver to Transmission Provider ~~""~~as-built~~""~~ drawings, information, and any other documents that are reasonably required by Transmission Provider to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Transmission Provider.
- (12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission Provider the agreed upon amount of [\$ PLACEHOLDER] for Transmission Provider to execute the responsibilities enumerated to Transmission Provider under Article 5.2. Transmission Provider shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

5.3 Liquidated Damages.

-The actual damages to Interconnection Customer, in the event Transmission Provider's Interconnection Facilities or Network Upgrades are not completed by the dates designated by Interconnection Customer and accepted by Transmission Provider pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity costs. -Such actual damages are uncertain and impossible to determine at this time.- Because of such uncertainty, any liquidated damages paid by Transmission Provider to Interconnection Customer in the event that Transmission Provider does not complete any portion of Transmission Provider's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to $\frac{1}{2}$ of 1 percent per day of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades, in the aggregate, for which Transmission Provider has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades for which Transmission Provider has assumed responsibility to design, procure, and construct. -The foregoing payments will be made by Transmission Provider to Interconnection Customer as just compensation for the damages caused to Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this LGIA. -Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Provider's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) -Interconnection Customer is not ready to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for the Large Generating Facility's Trial Operation or to export power from the Large Generating Facility on the specified dates, unless Interconnection Customer would have been able to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for Large Generating Facility's Trial Operation or to export power from the Large Generating Facility, but for Transmission Provider's delay; (2) -Transmission Provider's failure to meet the specified dates is the result of the action or inaction of Interconnection Customer or any other Interconnection Customer who has entered into an LGIA with Transmission Provider or any cause beyond Transmission Provider's reasonable control or reasonable ability to cure; (3) the Interconnection Customer has assumed responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades; or (4) -the Parties have otherwise agreed.

5.4 Power System Stabilizers.

-The Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the Applicable Reliability Council. -Transmission Provider reserves the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. -If the

Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative. —The requirements of this paragraph shall not apply to wind generators.

5.5 Equipment Procurement.

-If responsibility for construction of Transmission Provider's Interconnection Facilities or Network Upgrades is to be borne by Transmission Provider, then Transmission Provider shall commence design of Transmission Provider's Interconnection Facilities or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

5.5.1 Transmission Provider has completed the Interconnection Facilities Study pursuant to the Interconnection Facilities Study Agreement;

5.5.2 Transmission Provider has received written authorization to proceed with design and procurement from Interconnection Customer by the date specified in Appendix B, LGIA Milestones; and

5.5.3 Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, LGIA Milestones.

5.6 Construction Commencement.

-Transmission Provider shall commence construction of Transmission Provider's Interconnection Facilities and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

5.6.1 Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;

5.6.2 Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of Transmission Provider's Interconnection Facilities and Network Upgrades;

5.6.3 Transmission Provider has received written authorization to proceed with construction from Interconnection Customer by the date specified in Appendix B, LGIA Milestones; and

5.6.4 Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, LGIA Milestones.

5.7 Work Progress.

-The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. -Either Party may, at any time, request a progress report from the other Party. -If, at any time, Interconnection Customer determines that the completion of Transmission Provider's Interconnection Facilities will

not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Transmission Provider of such later date upon which the completion of Transmission Provider's Interconnection Facilities will be required.

5.8 Information Exchange.

-As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with Transmission Provider's Transmission System, and shall work diligently and in good faith to make any necessary design changes.

5.9 Other Interconnection Options

5.9.1 Limited Operation.

—If any of Transmission Provider's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Large Generating Facility, Transmission Provider shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Large Generating Facility and Interconnection Customer's Interconnection Facilities may operate prior to the completion of Transmission Provider's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this LGIA. —Transmission Provider shall permit Interconnection Customer to operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.

~~**5.9.1 Limited Operation.**~~

~~**5.9.2 Provisional Interconnection Service.**~~

Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Provider may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with the Interconnection Customer for limited Interconnection Service at the discretion of Transmission Provider based upon an evaluation that will consider the results of available studies. Transmission Provider shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission System. Transmission Provider shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of

Interconnection Service from the Generating Facility. Where available studies indicate that such, Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, Transmission Provider will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated if necessary on a quarterly basis and at the Interconnection Customer's expense. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

5.10 Interconnection Customer's Interconnection Facilities ("ICIF").

~~("ICIF")~~.—Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.10.1 Interconnection Customer's Interconnection Facility Specifications.

—Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Transmission Provider at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. —Transmission Provider shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Provider and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. —All specifications provided hereunder shall be deemed confidential.

5.10.2 Transmission Provider's Review.

—Transmission Provider's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. —Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Provider, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Provider.

5.10.3 ICIF Construction.

—The ICIF shall be designed and constructed in accordance with Good Utility Practice. —Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually

acceptable deadline, Interconnection Customer shall deliver to Transmission Provider ~~“as-built”~~ drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with Interconnection Customer's step-up transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facility. ~~—~~The Interconnection Customer shall provide Transmission Provider specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

5.11 Transmission Provider's Interconnection Facilities Construction.

~~—~~Transmission Provider's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. ~~—~~Upon request, within one~~—~~hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Provider shall deliver to Interconnection Customer the following ~~“as-built”~~ drawings, information and documents for Transmission Provider's Interconnection Facilities [include appropriate drawings and relay diagrams]. ~~—~~Transmission Provider will obtain control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities.

5.12 Access Rights.

~~—~~Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party (~~“Granting Party”~~) shall furnish at no cost to the other Party (~~“Access Party”~~) any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) ~~—~~interconnect the Large Generating Facility with the Transmission System; (ii) ~~—~~operate and maintain the Large Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) ~~—~~disconnect or remove the Access Party's facilities and equipment upon termination of this LGIA. ~~—~~In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

5.13 Lands of Other Property Owners.

~~—~~If any part of Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Transmission Provider or Transmission Owner, Transmission Provider or Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on

its own behalf or on behalf of its Affiliates, including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades upon such property.

5.14 Permits.

—Transmission Provider or Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. —With respect to this paragraph, Transmission Provider or Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to Transmission Provider's own, or an Affiliate's generation.

5.15 Early Construction of Base Case Facilities.

—Interconnection Customer may request Transmission Provider to construct, and Transmission Provider shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades required for Interconnection Customer to be interconnected to the Transmission System which are included in the Base Case of the Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date.

5.16 Suspension.

—Interconnection Customer reserves the right, upon written notice to Transmission Provider, to suspend at any time all work by Transmission Provider associated with the construction and installation of Transmission Provider's Interconnection Facilities and/or Network Upgrades required under this LGIA with the condition that Transmission System shall be left in a safe and reliable condition in accordance with Good Utility Practice and Transmission Provider's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Transmission Provider (i) has incurred pursuant to this LGIA prior to the suspension and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the Transmission System during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Transmission Provider cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Transmission Provider shall obtain Interconnection Customer's authorization to do so.

Transmission Provider shall invoice Interconnection Customer for such costs pursuant to Article 12 and shall use due diligence to minimize its costs. In the event Interconnection Customer suspends work by Transmission Provider required under this LGIA pursuant to this Article 5.16, and has not requested Transmission Provider to recommence the work required under this LGIA on or before the expiration of three (3) years following commencement of such suspension, this LGIA shall be deemed terminated. The three-

year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified.

5.16.1 Effect of Missed Interconnection Customer LGIA Milestones.

If Interconnection Customer fails to provide notice of suspension pursuant to Article 5.16, and Interconnection Customer fails to fulfill or complete any Interconnection Customer LGIA Milestone provided in Appendix B ("LGIA Milestone"), this constitutes a Breach under this LGIA. Depending upon the consequences of the Breach and effectiveness of the cure pursuant to Article 17, Transmission Provider's LGIA Milestones may be revised, following consultation with Interconnection Customer, consistent with Reasonable Efforts, and in consideration of all relevant circumstances. Parties shall employ Reasonable Efforts to maintain their remaining respective LGIA Milestones.

5.16.2 Effect of Suspension; Parties Obligations.

In the event that Interconnection Customer suspends work pursuant to this Article 5.16, the applicable construction duration, timelines and schedules set forth in Appendix B shall be suspended during the period of suspension. Should Interconnection Customer thereafter request that work be recommenced, Appendix A and Appendix B may be revised to account for construction sequencing and modified milestones. If the Commercial Operation Date is extended beyond three (3) cumulative years described in Section 4.4.5 of the Revised LGIP and Article 2.3.1 of this LGIA, such an extension may be considered a Material Modification and result in the termination of the LGIA under Article 2.3.1. Interconnection Customer is required to maintain Site Control while this LGIA is in effect, including during suspension.

5.17 Taxes

5.17.1 Interconnection Customer Payments Not Taxable.

—The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Provider for the installation of Transmission Provider's Interconnection Facilities and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

5.17.2 Representations and Covenants.

—In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) —ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) —for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Provider for Transmission Provider's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years,

and (iii) ~~any~~ portion of Transmission Provider's Interconnection Facilities that is a ~~"dual-use intertie,"~~ within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. ~~For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 88-129.~~ This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Transmission Provider's request, Interconnection Customer shall provide Transmission Provider with a report from an independent engineer confirming its representation in clause (iii), above. ~~Transmission Provider represents and covenants that the cost of Transmission Provider's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.~~

5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider.

Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Transmission Provider from the cost consequences of any current tax liability imposed against Transmission Provider as the result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Provider.

Transmission Provider shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this LGIA unless (i) ~~Transmission Provider has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Provider should be reported as income subject to taxation or~~ (ii) ~~any Governmental Authority directs Transmission Provider to report payments or property as income subject to taxation; provided, however, that Transmission Provider may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Provider (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Transmission Provider for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Provider of the amount due, including detail about how the amount was calculated.~~

The indemnification obligation shall terminate at the earlier of (1) ~~the expiration of the ten-year testing period and the applicable statute of limitation, as it may be extended by Transmission Provider upon request of the IRS, to keep these years open for audit or adjustment, or~~ (2) ~~the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.~~

5.17.4 Tax Gross-Up Amount.

—Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Transmission Provider, in addition to the amount paid for the Interconnection Facilities and Network Upgrades, an amount equal to (1) ~~the~~ current taxes imposed on Transmission Provider ~~(“Current Taxes”)~~ on the excess of (a) ~~the~~ gross income realized by Transmission Provider as a result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA (without regard to any payments under this Article 5.17) (the ~~“Gross Income Amount”~~) over (b) ~~the~~ present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the ~~“Present Value Depreciation Amount”~~), plus (2) ~~an~~ additional amount sufficient to permit Transmission Provider to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) ~~Current Taxes~~ shall be computed based on Transmission Provider's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Provider will be treated as being subject to tax at the highest marginal rates in effect at that time (the ~~“Current Tax Rate”~~), and (ii) ~~the~~ Present Value Depreciation Amount shall be computed by discounting Transmission Provider's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Provider's current weighted average cost of capital. —Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$. Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.17.5 Private Letter Ruling or Change or Clarification of Law.

—At Interconnection Customer's request and expense, Transmission Provider shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Provider under this LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. —Transmission Provider and Interconnection Customer shall cooperate in good faith with respect to the submission of such request. Transmission Provider shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. —Transmission Provider shall

allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.17.6 Subsequent Taxable Events.

-If, within ten (10) years from the date on which the relevant Transmission Provider's Interconnection Facilities are placed in service, (i) ~~Interconnection Customer Breaches the covenants contained in Article 5.17.2,~~ (ii) ~~a "disqualification event"~~ occurs within the meaning of IRS Notice 88-129, or (iii) ~~this LGIA terminates and Transmission Provider retains ownership of the Interconnection Facilities and Network Upgrades,~~ Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Provider, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

5.17.7 Contests.

-In the event any Governmental Authority determines that Transmission Provider's receipt of payments or property constitutes income that is subject to taxation, Transmission Provider shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. ~~Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Provider may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Transmission Provider reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Provider shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.~~

Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. ~~At any time during the contest, Transmission Provider may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Transmission Provider, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally-recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without~~

Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Provider for the tax at issue in the contest.

5.17.8 Refund.

~~In the event that (a) a private letter ruling is issued to Transmission Provider which holds that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Provider under the terms of this LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Provider in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Provider under the terms of this LGIA is not taxable to Transmission Provider, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Provider are not subject to federal income tax, or (d) if Transmission Provider receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Provider pursuant to this LGIA, Transmission Provider shall promptly refund to Interconnection Customer the following:~~

- (i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,
- (ii) interest on any amount paid by Interconnection Customer to Transmission Provider for such taxes which Transmission Provider did not submit to the taxing authority, calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Provider refunds such payment to Interconnection Customer, and
- (iii) with respect to any such taxes paid by Transmission Provider, any refund or credit Transmission Provider receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Transmission Provider for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Provider to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Provider will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Provider has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to Transmission Provider's Interconnection Facilities. ~~The intent of this provision is to leave the Parties, to the extent practicable, in the event that no taxes are due~~

with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

5.17.9 Taxes Other Than Income Taxes.

-Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Provider for which Interconnection Customer may be required to reimburse Transmission Provider under the terms of this LGIA. -Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. -Interconnection Customer and Transmission Provider shall cooperate in good faith with respect to any such contest. -Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Provider for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. -In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Provider.

5.17.10 ~~Transmission Owners Who Are Not Transmission Providers.~~

-If Transmission Provider is not the same entity as the Transmission Owner, then (i) ~~all references in this Article 5.17 to Transmission Provider shall be deemed also to refer to and to include the Transmission Owner, as appropriate,~~ and (ii) ~~this LGIA shall not become effective until such Transmission Owner shall have agreed in writing to assume all of the duties and obligations of Transmission Provider under this Article 5.17 of this LGIA.~~

5.18 Tax Status.

-Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this LGIA is intended to adversely affect any Transmission Provider's tax exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

5.19 Modification.

5.19.1 General.

-Either Party may undertake modifications to its facilities. - If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, that Party shall provide to the other Party sufficient information regarding such modification so that the other Party may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be confidential hereunder and shall include information concerning the timing of such modifications and whether

such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. ~~The~~ The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Large Generating Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Transmission Provider shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission System, Transmission Provider's Interconnection Facilities or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

5.19.2 Standards.

~~Any~~ Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed, and operated in accordance with this LGIA and Good Utility Practice.

5.19.3 Modification Costs.

~~Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Transmission Provider makes to Transmission Provider's Interconnection Facilities or the Transmission System to facilitate the interconnection of a third party to Transmission Provider's Interconnection Facilities or the Transmission System, or to provide transmission service to a third party under Transmission Provider's Tariff. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.~~

Article 6. Testing and Inspection

6.1 Pre-Commercial Operation Date Testing and Modifications.

~~Prior to the Commercial Operation Date, Transmission Provider shall test Transmission Provider's Interconnection Facilities and Network Upgrades and Interconnection Customer shall test the Large Generating Facility and Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.~~

6.2 Post-Commercial Operation Date Testing and Modifications.

-Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Large Generating Facility with the Transmission System in a safe and reliable manner. -Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.

6.3 Right to Observe Testing.

-Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities. -The other Party has the right, at its own expense, to observe such testing.

6.4 Right to Inspect.

-Each Party shall have the right, but shall have no obligation to: (i) -observe the other Party's tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) -review the settings of the other Party's System Protection Facilities and other protective equipment; and (iii) -review the other Party's maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. -A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Party. -The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. -Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this LGIA.

Article 7. Metering

7.1 General.

-Each Party shall comply with the Applicable Reliability Council requirements. - Unless otherwise agreed by the Parties, Transmission Provider shall install Metering Equipment at the Point of Interconnection prior to any operation of the Large Generating Facility and shall own, operate, test and maintain such Metering Equipment. -Power flows to and from the Large Generating Facility shall be measured at or, at Transmission Provider's option, compensated to, the Point of Interconnection. -Transmission Provider shall provide metering quantities, in analog and/or digital form, to Interconnection Customer upon request. -Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

7.2 Check Meters.

-Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Transmission Provider's meters. -Such check meters shall be for check purposes

only and shall not be used for the measurement of power flows for purposes of this LGIA, except as provided in Article 7.4 below. -The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider or its designee. -The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

7.3 Standards.

-Transmission Provider shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.

7.4 Testing of Metering Equipment.

-Transmission Provider shall inspect and test all Transmission Provider-owned Metering Equipment upon installation and at least once every two (2) years thereafter. -If requested to do so by Interconnection Customer, Transmission Provider shall, at Interconnection Customer's expense, inspect or test Metering Equipment more frequently than every two (2) years. -Transmission Provider shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer may have representatives present at the test or inspection. -If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to Transmission Provider's failure to maintain, then Transmission Provider shall pay. -If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent from the measurement made by the standard meter used in the test, Transmission Provider shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. -If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment.

7.5 Metering Data.

-At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and one or more locations designated by Interconnection Customer. -Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection.

Article 8. Communications

8.1 Interconnection Customer Obligations.

-Interconnection Customer shall maintain satisfactory operating communications with Transmission Provider's Transmission System dispatcher or representative designated by Transmission Provider. -Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Large Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. -Interconnection Customer shall also provide the dedicated data circuit(s)

necessary to provide Interconnection Customer data to Transmission Provider as set forth in Appendix D, Security Arrangements Details. -The data circuit(s) shall extend from the Large Generating Facility to the location(s) specified by Transmission Provider. Any required maintenance of such communications equipment shall be performed by Interconnection Customer. -Operational communications shall be activated and maintained under, but not be limited to, the following events: -system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data

8.2 Remote Terminal Unit.

-Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer, or by Transmission Provider at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Provider through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. -The communication protocol for the data circuit(s) shall be specified by Transmission Provider. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Provider.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. -The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

8.3 No Annexation.

-Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

8.4 Provision of Data from a Variable Energy Resource.

-The Interconnection Customer whose Generating Facility is a Variable Energy Resource shall provide meteorological and forced outage data to the Transmission Provider to the extent necessary for the Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources.

The Interconnection Customer with a Variable Energy Resource having wind as the energy source, at a minimum, will be required to provide the Transmission Provider with site-specific meteorological data including: manufacturer, model, and year of all wind turbines and meteorological instrumentation, latitude, longitude and hub height at every wind turbine and meteorological tower, -real-time data including turbine generation (kW), wind speed (mph), turbine availability, wind direction (in degrees relative to true north), temperature (Celsius and F), pressure (mb), air density and turbine manufacturer power curve. -The information provided shall be refreshed in approximately four-ten (4-10) second intervals with regard to its generation of Renewable Energy at the Facility.

The Interconnection Customer with a Variable Energy Resource having solar as the energy source, at a minimum, will be required to provide the Transmission Provider with site-specific meteorological -data including:- manufacturer, model and year of all panels, inverters and meteorological instrumentation, latitude and longitude of the center of the solar panels for every inverter and every meteorological tower, real-time data including inverter generation (kW), inverter availability, direct normal solar insolation (solar intensity), temperature, barometric pressure, wind speed (mph), wind direction (degrees relative to true north) and solar panel manufacturer power curve. -The information provided shall be refreshed as frequently as allowed by the SCADA System, not to exceed sixty (60) second intervals.

The Transmission Provider and Interconnection Customer whose Generating Facility is a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. The Interconnection Customer whose Generating Facility is a Variable Energy Resource also shall submit data to the Transmission Provider regarding all forced outages to the extent necessary for the Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the Transmission Provider including the frequency and timing of data submittals shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Provider. Such requirements for meteorological and forced outage data are set forth in Appendix C, Interconnection Details, of this LGIA, as they may change from time to time.

Article 9. Operations

- 9.1 General.** Each Party shall comply with the Applicable Reliability Council requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 Control Area Notification.** At least three months before Initial Synchronization Date, Interconnection Customer shall notify Transmission Provider in writing of the Control Area in which the Large Generating Facility will be located. If Interconnection Customer elects to locate the Large Generating Facility in a Control Area other than the Control Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this LGIA, and remote Control Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented prior to the placement of the Large Generating Facility in the other Control Area.

- 9.3 Transmission Provider Obligations.** Transmission Provider shall cause the Transmission System and Transmission Provider's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA. Transmission Provider may provide operating instructions to Interconnection Customer consistent with this LGIA and Transmission Provider's operating protocols and procedures as they may change from time to time. Transmission Provider will consider changes to its operating protocols and procedures proposed by Interconnection Customer.
- 9.4 Interconnection Customer Obligations.** Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA. Interconnection Customer shall operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of the Control Area of which it is part, as such requirements are set forth in Appendix C, Interconnection Details, of this LGIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Either Party may request that the other Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this LGIA.
- 9.5 Start-Up and Synchronization.** Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Large Generating Facility to Transmission Provider's Transmission System.
- 9.6 Reactive Power and Primary Frequency Response.**
- 9.6.1 Power Factor Design Criteria.**
- 9.6.1.1 Synchronous Generation.** Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all synchronous generators in the Control Area on a comparable basis.
- 9.6.1.2 Non-Synchronous Generation.** Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Provider has established a different power factor range that applies to all non-synchronous generators in the Control Area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall

only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).¹ This requirement also applies to existing non-synchronous generators making upgrades that require a new Generator Interconnection Agreement where the System Impact Study shows the need for reactive power as a result of an upgrade.

[1] The effective date of Order 827 is October 14, 2016.

9.6.2 — Voltage Schedules. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Transmission Provider shall require Interconnection Customer to operate the Large Generating Facility to produce or absorb reactive power within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). Transmission Provider's voltage schedules shall treat all sources of reactive power in the Control Area in an equitable and not unduly discriminatory manner. Transmission Provider shall exercise Reasonable Efforts to provide Interconnection Customer with such schedules at least one (1) day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission System. Interconnection Customer shall operate the Large Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify the System Operator.

9.6.2.1 Voltage Regulators.

—Whenever the Large Generating Facility is operated in parallel with the Transmission ~~System and~~ System and voltage regulators are capable of operation, Interconnection Customer shall operate the Large Generating Facility with its voltage regulators in automatic operation. —If the Large Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Large Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Large Generating Facility's generating unit(s) and steady state stability limits. —Interconnection Customer shall not cause its Large Generating Facility to disconnect automatically or instantaneously from the Transmission System or trip any generating unit comprising the Large Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set

forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Control Area on a comparable basis.

9.6.3 Payment for Reactive Power.

—Transmission Provider is required to pay Interconnection Customer for reactive power that Interconnection Customer provides or absorbs from the Large Generating Facility when Transmission Provider requests Interconnection Customer to operate its Large Generating Facility outside the range specified in Article 9.6.1, provided that if Transmission Provider pays its own or affiliated generators for reactive power service within the specified range, it must also pay Interconnection Customer. —Payments shall be pursuant to Article 11.6 or such other agreement to which the Parties have otherwise agreed.

9.6.4 Primary Frequency Response.—

Interconnection Customer shall ensure the primary frequency response capability of its Large Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. —Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) —with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) —in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. —The droop characteristic shall be: (1) —based on the nameplate capacity of the Large Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) —based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. —The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility’s real power output in response to frequency deviations. —The deadband shall be implemented: (1) —without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Large Generating Facility’s real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) —in accordance with an approved NERC Reliability Standard providing for an equivalent or more

stringent parameter. —Interconnection Customer shall notify Transmission Provider that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. —Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in ~~Articles~~Sections 9.6.4.1 and 9.6.4.2 of this Agreement.— The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

9.6.4.1 Governor or Equivalent Controls.

—Whenever the Large Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1)—in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (1)—a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent; or (2)—implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. —Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. —If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the following information: (1)—the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2)—the reasons for removing the governor or equivalent controls from service; and (3)—a reasonable estimate of when the governor or equivalent controls will be returned to service.— Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. —Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the Transmission System.

9.6.4.2— Timely and Sustained Response.

—Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the

deadband, and to the extent the Large Generating Facility has operating capability in the direction needed to correct the frequency deviation. ~~-~~Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. ~~-~~The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

9.6.4.3- Exemptions.

~~-~~Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from ~~Articles~~Sections 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in ~~Article~~Section 9.6.4, but shall be otherwise exempt from the operating requirements in ~~Articles~~Sections 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

9.6.4.4- Electric Storage Resources.

~~-~~Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in ~~Articles~~Sections 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.3 of this Agreement. ~~-~~Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) ~~_~~the expected magnitude of frequency deviations in the interconnection; (2) ~~_~~the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) ~~_~~the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) ~~_~~the physical capabilities of the electric storage resource; (5) ~~_~~operational limitations of the electric storage resource due to manufacturer specifications; and (6) ~~_~~any other

relevant factors agreed to by Transmission Provider and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. -If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with ~~Article~~Section 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. -If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

9.7 Outages and Interruptions.

9.7.1 Outages.

9.7.1.1 Outage Authority and Coordination.

-Each Party may in accordance with Good Utility Practice in coordination with the other Party remove from service any of its respective Interconnection Facilities or Network Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. -Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to schedule such removal on a date and time mutually acceptable to the Parties. -In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Party of such removal.

9.7.1.2 Outage Schedules.

-Transmission Provider shall post scheduled outages of its transmission facilities on the OASIS.- Interconnection Customer shall submit its planned maintenance schedules for the Large Generating Facility to Transmission Provider for a minimum of a

rolling twenty-four month period. -Interconnection Customer shall update its planned maintenance schedules as necessary. Transmission Provider may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of generation supply shall not be a criterion in determining Transmission System reliability. -Transmission Provider shall compensate Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred absent Transmission Provider's request to reschedule maintenance. -Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities.

9.7.1.3 Outage Restoration.

-If an outage on a Party's Interconnection Facilities or Network Upgrades adversely affects the other Party's operations or facilities, the Party that owns or controls the facility that is out of service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. -The Party that owns or controls the facility that is out of service shall provide the other Party, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. -Initial verbal notice shall be followed up as soon as practicable with written notice explaining the nature of the outage.

9.7.2 Interruption of Service.

-If required by Good Utility Practice to do so, Transmission Provider may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Provider's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. -The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

9.7.2.1 The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

9.7.2.2 Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission System;

9.7.2.3 When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Provider shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. —Telephone notification shall be followed by written notification as soon as practicable;

9.7.2.4 Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Provider shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the expected duration. —Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer and Transmission Provider; and

9.7.2.5 The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Large Generating Facility, Interconnection Facilities, and the Transmission System to their normal operating state, consistent with system conditions and Good Utility Practice.

9.7.3 Under-Frequency and Over Frequency Conditions.

—The Transmission System is designed to automatically activate a load-shed program as required by the Applicable Reliability Council in the event of an under-frequency system disturbance. —Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the Applicable Reliability Council to ensure “ride through” capability of the Transmission System.— Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with Transmission Provider in accordance with Good Utility Practice. —The term “ride through” as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice.

9.7.4 System Protection and Other Control Requirements.

9.7.4.1 System Protection Facilities.— Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Provider shall install at Interconnection Customer's expense any System Protection Facilities that may be required on

Transmission Provider's Interconnection Facilities or the Transmission System as a result of the interconnection of the Large Generating Facility and Interconnection Customer's Interconnection Facilities.

9.7.4.2 Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.

9.7.4.3 Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

9.7.4.4 Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of Interconnection Customer's units.

9.7.4.5 Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice.

9.7.4.6 Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. ~~At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated~~

9.7.5 Requirements for Protection.

~~In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the Transmission System not otherwise isolated by Transmission Provider's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the Transmission System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency,~~

sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission System could adversely affect the Large Generating Facility.

9.7.6 Power Quality.

-Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. -In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard, ANSI Standard C84.1-1989, or the applicable superseding electric industry standard, shall control.

9.8 Switching and Tagging Rules.

-Each Party shall provide the other Party a copy of its switching and tagging rules that are applicable to the other Party's activities. -Such switching and tagging rules shall be developed on a non-discriminatory basis.- The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

9.9 Use of Interconnection Facilities by Third Parties.

9.9.1 Purpose of Interconnection Facilities.

-Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Transmission System and shall be used for no other purpose.

9.9.2 Third Party Users.

-If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use Transmission Provider's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. -In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. -If the

issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to FERC for resolution.

9.10 Disturbance Analysis Data Exchange.

-The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or Transmission Provider's Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice

Article 10. Maintenance.

10.1 Transmission Provider Obligations.

-Transmission Provider shall maintain the Transmission System and Transmission Provider's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.2 Interconnection Customer Obligations.

-Interconnection Customer shall maintain the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.3 Coordination.

-The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Large Generating Facility and the Interconnection Facilities.

10.4 Secondary Systems.

-Each Party shall cooperate with the other in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. -Each Party shall provide advance notice to the other Party before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

10.5 Operating and Maintenance Expenses.

-Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) -owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) -operation,

maintenance, repair and replacement of Transmission Provider's Interconnection Facilities.

Article 11. Performance Obligation.

11.1 Interconnection Customer Interconnection Facilities.

-Interconnection Customer shall design, procure, construct, install, own and/or control Interconnection Customer Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at its sole expense.

11.2 Transmission Provider's Interconnection Facilities.

-Transmission Provider or Transmission Owner shall design, procure, construct, install, own and/or control the Transmission Provider's Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at the sole expense of the Interconnection Customer.

11.3 Network Upgrades and Distribution Upgrades.

-Transmission Provider or Transmission Owner shall design, procure, construct, install, and own the Network Upgrades and Distribution Upgrades described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades. —The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades.— Unless Transmission Provider or Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by Interconnection Customer.

11.4 Transmission Credits.

11.4.1 Repayment of Amounts Advanced for Network Upgrades.

—Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to Transmission Provider and Affected System Operator, if any, for the Network Upgrades, including any tax gross-up or other tax-related payments associated with Network Upgrades, and not refunded to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under Transmission Provider's Tariff and Affected System's Tariff for transmission services with respect to the Large Generating Facility. —Any— repayment shall include interest calculated in accordance with the methodology set forth in ~~FERC's~~FERC's regulations at 18 ~~CFR § 35C.F.R.~~CFR § 35.19a(a)(2)(iii) from the date of any cash payment for Network Upgrades through the date on which the Interconnection Customer receives a —repayment of such payment pursuant to this subparagraph.— Interconnection Customer may assign such repayment rights to any person.

Notwithstanding the foregoing, Interconnection Customer, Transmission Provider, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Transmission Provider and

Affected System Operator take one of the following actions no later than five years from the Commercial Operation Date: ~~-(1)-~~return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or ~~(2)-~~declare in writing that Transmission Provider or Affected System Operator will continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

If the Large Generating Facility fails to achieve Commercial Operation~~commercial operation~~, but it or another Generating Facility is later constructed and makes use of the Network Upgrades, Transmission Provider and Affected System Operator shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, the Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which reimbursement must be made.

11.4.2 Special Provisions for Affected Systems.

~~-~~Unless Transmission Provider provides, under the LGIA, for the repayment of amounts advanced to Affected System Operator for Network Upgrades, Interconnection Customer and Affected System Operator shall enter into an agreement that provides for such repayment. ~~-~~The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the repayment by the Affected System Operator.

11.4.3 Notwithstanding any other provision of this LGIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or in the future under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Large Generating Facility.

11.5 Provision of Security.

~~-~~At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of a Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades, Interconnection Customer shall provide Transmission Provider, at Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Provider and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. ~~-~~Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring and installing the

applicable portion of Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Provider for these purposes.

In addition:

11.5.1 The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Provider, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.

11.5.2 The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

11.5.3 The surety bond must be issued by an insurer reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

11.6 Interconnection Customer Compensation.

-If Transmission Provider requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.5.1 of this LGIA, Transmission Provider shall compensate Interconnection Customer in accordance with Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to an RTO or ISO FERC-approved rate schedule. Interconnection Customer shall serve Transmission Provider or RTO or ISO with any filing of a proposed rate schedule at the time of such filing with FERC. -To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb any Reactive Power under this LGIA, Transmission Provider agrees to compensate Interconnection Customer in such amount as would have been due Interconnection Customer had the rate schedule been in effect at the time service commenced; provided, however, that such rate schedule must be filed at FERC or other appropriate Governmental Authority within sixty (60) Calendar Days of the commencement of service

11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition.

-Transmission Provider or RTO or ISO shall compensate Interconnection Customer for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the Transmission System during an Emergency Condition in accordance with Article 11.6.

Article 12. Invoice.

12.1 General.

-Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due for the preceding month. -Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. -The Parties may discharge

mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

12.2 Final Invoice.

-Within six months after completion of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades, Transmission Provider shall provide an invoice of the final cost of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. -Transmission Provider shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

12.3 Payment.

-Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. -All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. -Payment of invoices by either Party will not constitute a waiver of any rights or claims either Party may have under this LGIA. If Interconnection Customer has not paid the final invoice following a withdrawal within thirty (30) Calendar Days, Transmission Provider shall draw upon the security provided under this LGIA to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

12.4 Disputes.

-In the event of a billing dispute between Transmission Provider and Interconnection Customer, Transmission Provider shall continue to provide Interconnection Service under this LGIA as long as Interconnection Customer: (i) -continues to make all payments not in dispute; and (ii) -pays to Transmission Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Provider may provide notice to Interconnection Customer of a Default pursuant to Article 17. -Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in FERC's regulations at 18 CFR § -35.19a(a)(2)(iii)

Article 13. Emergencies

13.1 Definition.

"Emergency Condition" shall mean a condition or situation: (i) -that in the judgment of the Party making the claim is imminently likely to endanger life or property; ~~or~~ (ii) -that, in

the case of Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Provider's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (iii) ~~that~~, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Large Generating Facility or Interconnection Customer's Interconnection ~~Facilities~~. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by this LGIA to possess black start capability.

13.2 Obligations.

~~Each Party shall comply with the Emergency Condition procedures of the applicable ISO/RTO, NERC, the Applicable Reliability Council, Applicable Laws and Regulations, and any emergency procedures agreed to by the Joint Operating Committee.~~

13.3 Notice.

~~Transmission Provider shall notify Interconnection Customer promptly when it becomes aware of an Emergency Condition that affects Transmission Provider's Interconnection Facilities or the Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. —Interconnection Customer shall notify Transmission Provider promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission System or Transmission Provider's Interconnection Facilities. —To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Provider's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. —The initial notice shall be followed as soon as practicable with written notice.~~

13.4 Immediate Action.

~~Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Transmission Provider, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Provider or otherwise regarding the Transmission System.~~

13.5 Transmission Provider Authority.

13.5.1 General.

~~Transmission Provider may take whatever actions or inactions with regard to the Transmission System or Transmission Provider's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) —preserve the reliability of the~~

Transmission System or Transmission Provider's Interconnection Facilities, (iii) ~~-~~limit or prevent damage, and (iv) ~~-~~expedite restoration of service.

Transmission Provider shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or Interconnection Customer's Interconnection Facilities. ~~-~~Transmission Provider may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.5.2; directing Interconnection Customer to assist with blackstart (if available) or restoration efforts; or altering the outage schedules of the Large Generating Facility and Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Transmission Provider's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

13.5.2 Reduction and Disconnection.

~~-~~Transmission Provider may reduce Interconnection Service or disconnect the Large Generating Facility or Interconnection Customer's Interconnection Facilities, when such, reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. ~~-~~These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to Transmission Provider's Tariff. ~~-~~When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. ~~-~~Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the reduction or disconnection during periods of least impact to Interconnection Customer and Transmission Provider. ~~-~~Any reduction or disconnection shall continue only for so long as reasonably necessary under Good Utility Practice. ~~-~~The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

13.6 Interconnection Customer Authority.

~~-~~Consistent with Good Utility Practice and the LGIA and the Revised LGIP, Interconnection Customer may take actions or inactions with regard to the Large Generating Facility or Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) ~~-~~preserve public health and safety, (ii) ~~-~~preserve the reliability of the Large Generating Facility or Interconnection Customer's Interconnection Facilities, (iii) ~~-~~limit or prevent damage, and (iv) ~~-~~expedite restoration of service.

Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and Transmission Provider's Interconnection Facilities. -Transmission Provider shall use Reasonable Efforts to assist Interconnection Customer in such actions.

13.7 Limited Liability.

-Except as otherwise provided in Article 11.6.1 of this LGIA, neither Party shall be liable to the other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

Article 14. Regulatory Requirements and Governing Law

14.1 Regulatory Requirements.

-Each Party's obligations under this LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. -Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals.- Nothing in this LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978.

14.2 Governing Law.

14.2.1 The validity, interpretation and performance of this LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.

14.2.2 This LGIA is subject to all Applicable Laws and Regulations.

14.2.3 Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

Article 15. Notices

15.1 General.

-Unless otherwise provided in this LGIA, any notice, demand or request required or permitted to be given by either Party to the other and any instrument required or permitted to be tendered or delivered by either Party in writing to the other shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for Delivery of Notices and Billings.

Either Party may change the notice information in this LGIA by giving five (5) Business Days written notice prior to the effective date of the change.

15.2 Billings and Payments.

—Billings and payments shall be sent to the addresses set out in Appendix F.

15.3 Alternative Forms of Notice.

—Any notice or request required or permitted to be given by a Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

15.4 Operations and Maintenance Notice.

—Each Party shall notify the other Party in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

Article 16. Force Majeure

16.1 Force Majeure.

16.1.1 Economic hardship is not considered a Force Majeure event.

16.1.2 Neither Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. —A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. —Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. —The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

Article 17. Default

17.1 Default.

17.1.1 General.

—No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this LGIA or the result of an act of omission of the other Party. —Upon a Breach, the non-breaching Party shall give written notice of such Breach to the

breaching Party. -Except as provided in Article 17.1.2, the breaching Party shall have thirty (30) Calendar Days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

17.1.2 Right to Terminate.

-If a Breach is not cured as provided in this article, or if a Breach is not capable of being cured within the period provided for herein, the non-breaching Party shall have the right to declare a Default and terminate this LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this LGIA, to recover from the breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. -The provisions of this article will survive termination of this LGIA.

Article 18. Indemnity, Consequential Damages and Insurance

18.1 Indemnity.

-The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnified Party.

18.1.1 Indemnified Person.

-If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

18.1.2 Indemnifying Party.

-If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

18.1.3 Indemnity Procedures.

-Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply,

the Indemnified Person shall notify the Indemnifying Party of such fact. -Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. -If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. -In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. -Notwithstanding the foregoing, the Indemnifying Party (i) -shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) -shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

18.2 Consequential Damages.

-Other than the Liquidated Damages heretofore described, in no event shall either Party be liable under any provision of this LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

18.3 Insurance.

-Each party shall, at its own expense, maintain in force throughout the period of this LGIA, and until released by the other Party, the following minimum insurance coverages,

with insurers authorized to do business in the state where the Point of Interconnection is located:

- 18.3.1** Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.
- 18.3.2** Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.
- 18.3.3** Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.
- 18.3.4** Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.3.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ~~("Other Party Group")~~ as additional insured.— All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.
- 18.3.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one

insured been covered. ~~Each Party shall be responsible for its respective deductibles or retentions.~~

18.3.7 The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.

18.3.8 The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this LGIA.

18.3.9 Within ten (10) ~~Calendar Days~~days following execution of this LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) ~~Calendar Days~~days thereafter, each Party shall provide certification of all insurance required in this LGIA, executed by each insurer or by an authorized representative of each insurer.

18.3.10 ~~In addition to~~Notwithstanding the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program; provided that, such Party's ~~senior secured debt is rated at investment grade or better by Standard & Poor's and that its~~ self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. ~~For any period of time that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.3.2 through 18.3.9.~~ In the event that a Party is permitted to self-insure pursuant to this article, it shall ~~certify to~~notify the other Party with a letter of self-insurance that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

18.3.11 The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this LGIA.

Article 19. Assignment

19.1 Assignment.

~~This LGIA may be assigned by either Party only with the written consent of the other; provided that either Party may assign this LGIA without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this LGIA; and provided further that Interconnection Customer shall have the right~~

to assign this LGIA, without the consent of Transmission Provider, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that Interconnection Customer will promptly notify Transmission Provider of any such assignment. ~~Any~~ financing arrangement entered into by Interconnection Customer pursuant to this article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Provider of the date and particulars of any such exercise of assignment right(s), including providing the Transmission Provider with proof that it meets the requirements of Articles 11.5 and 18.3. ~~Any attempted assignment that violates this article is void and ineffective.~~ Any assignment under this LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. ~~Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.~~

Article 20. Severability

20.1 Severability. ~~If any provision in this LGIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this LGIA; provided that if Interconnection Customer (or any third party, but only if such third party is not acting at the direction of Transmission Provider) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1)~~

Article 21. Comparability

21.1 Comparability.

~~The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.~~

Article 22. Confidentiality

22.1 Confidentiality.

~~Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this LGIA.~~

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing, the basis for asserting that the information referred to in this Article 22 warrants confidential

treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. -Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

22.1.1 Term.

-During the term of this LGIA, and for a period of three (3) years after the expiration or termination of this LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

22.1.2 Scope.

-Confidential Information shall not include information that the receiving Party can demonstrate: (1) ~~-~~is generally available to the public other than as a result of a disclosure by the receiving Party; (2) ~~-~~was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) ~~-~~was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) ~~-~~was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) ~~-~~is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this LGIA; or (6) ~~-~~is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this LGIA. -Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

22.1.3 Release of Confidential Information.

-Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this LGIA, unless such person has first been advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

22.1.4 Rights.

-Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. -The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by

either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

22.1.5 No Warranties.

-By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. -In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

22.1.6 Standard of Care.

-Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. -Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this LGIA or its regulatory requirements.

22.1.7 Order of Disclosure.

-If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this LGIA. -Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. -Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

22.1.8 Termination of Agreement.

-Upon termination of this LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the other Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.

22.1.9 Remedies.

-The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Article 22. -Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. -Such remedy shall not be deemed an exclusive remedy for

the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. -The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. -No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

22.1.10 Disclosure to FERC, its Staff, or a State.

-Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this LGIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. -In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. -Parties are prohibited from notifying the other Party to this LGIA prior to the release of the Confidential Information to FERC or its staff. -The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

22.1.11 Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this LGIA ~~(“Confidential Information”)~~ shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) ~~-~~required by law; (ii) ~~-~~reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) ~~-~~otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; ~~-or~~ (iv) ~~-~~necessary to fulfill its obligations under this LGIA or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. -The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. -Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

Article 23. Environmental Releases

- 23.1** Each Party shall notify the other Party, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. -The notifying Party shall: (i) ~~provide~~ the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) ~~promptly~~ furnish to the other Party copies of any publicly available reports filed with any Governmental Authorities addressing such events.

Article 24. Information Requirements

24.1 Information Acquisition.

-Transmission Provider and Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

24.2 Information Submission by Transmission Provider.

-The initial information submission by Transmission Provider shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include Transmission System information necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise agreed to by the Parties. -On a monthly basis Transmission Provider shall provide Interconnection Customer a status report on the construction and installation of Transmission Provider's Interconnection Facilities and Network Upgrades, including, but not limited to, the following information: (1) ~~progress~~ to date; (2) ~~a~~ description of the activities since the last report (3) ~~a~~ description of the action items for the next period; and (4) ~~the~~ delivery status of equipment ordered.

24.3 Updated Information Submission by Interconnection Customer.

-The updated information submission by Interconnection Customer, including manufacturer information, shall occur no later than one ~~hundred~~ eighty (180) Calendar Days prior to the Trial Operation. -Interconnection Customer shall submit a completed copy of the Large Generating Facility data requirements contained in Appendix 1 to the Revised LGIP. - It shall also include any additional information provided to Transmission Provider for the Definitive Interconnection System Impact Study ~~Feasibility~~ and Interconnection Facilities Study. -Information in this submission shall be the most current Large Generating Facility design or expected performance data. - Information submitted for stability models shall be compatible with Transmission Provider standard models. -If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information.

If Interconnection Customer's data is materially different from what was originally provided to Transmission Provider pursuant to the Interconnection Study Agreement between Transmission Provider and Interconnection Customer, then Transmission

Provider will conduct appropriate studies to determine the impact on Transmission Provider Transmission System based on the actual data submitted pursuant to this Article 24.3. ~~The Interconnection Customer shall not begin Trial Operation until such studies are completed.~~

24.4 Information Supplementation.

~~Prior to the Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator.~~

~~Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Large Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to Transmission Provider for each individual generating unit in a station.~~

~~Subsequent to the Operation Date, Interconnection Customer shall provide Transmission Provider any information changes due to equipment replacement, repair, or adjustment. Transmission Provider shall provide Interconnection Customer any information changes due to equipment replacement, repair or adjustment in the directly connected substation or any adjacent Transmission Provider-owned substation that may affect Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.~~

Article 25. Information Access and Audit Rights

25.1 Information Access.

~~Each Party (the "disclosing Party") shall make available to the other Party information that is in the possession of the disclosing Party and is necessary in order for the other Party to: (i) verify the costs incurred by the disclosing Party for which the other Party is responsible under this LGIA; and (ii) carry out its obligations and responsibilities under this LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this LGIA.~~

25.2 Reporting of Non-Force Majeure Events.

-Each Party (the ~~"~~notifying Party~~"~~) shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this LGIA for a reason other than a Force Majeure event. -The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. -Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this LGIA.

25.3 Audit Rights.

-Subject to the requirements of confidentiality under Article 22 of this LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit at its own expense the other Party's accounts and records pertaining to either Party's performance or either Party's satisfaction of obligations under this LGIA. -Such audit rights shall include audits of the other Party's costs, calculation of invoiced amounts, Transmission Provider's efforts to allocate responsibility for the provision of reactive support to the Transmission System, Transmission Provider's efforts to allocate responsibility for interruption or reduction of generation on the Transmission System, and each Party's actions in an Emergency Condition. -Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this LGIA. -Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

25.4 Audit Rights Periods.

25.4.1 Audit Rights Period for Construction-Related Accounts and Records.

-Accounts and records related to the design, engineering, procurement, and construction of Transmission Provider's Interconnection Facilities and Network Upgrades shall be subject to audit for a period of twenty-four months following Transmission Provider's issuance of a final invoice in accordance with Article 12.2.

25.4.2 Audit Rights Period for All Other Accounts and Records.

-Accounts and records related to either Party's performance or satisfaction of all obligations under this LGIA other than those described in Article 25.4.1 shall be subject to audit as follows: ~~-(i)~~ for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) ~~for~~ for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four months after the event for which the audit is sought.

25.5 Audit Results.

-If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party together with those records from the audit which support such determination.

Article 26. Subcontractors

26.1 General.

-Nothing in this LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this LGIA in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

26.2 Responsibility of Principal.

-The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this LGIA. -The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Provider be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this LGIA. -Any applicable obligation imposed by this LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

26.3 No Limitation by Insurance.

-The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

Article 27. Disputes

27.1 Submission.

-In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with this LGIA or its performance, such Party (the ~~"disputing Party"~~) shall provide the other Party with written notice of the dispute or claim (~~"Notice of Dispute"~~).— Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. -In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. -In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

27.2 External Arbitration Procedures.

-Any arbitration initiated under this LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. -If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. -The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to

chair the arbitration panel. -In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). -The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ~~(“Arbitration Rules”)~~ and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail.

27.3 Arbitration Decisions.

-Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. -The arbitrator(s) shall be authorized only to interpret and apply the provisions of this LGIA and shall have no power to modify or change any provision of this Agreement in any manner. -The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. -The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. -The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

27.4 Costs.

-Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: ~~-(1)-~~the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or ~~(2)-~~one-half the cost of the single arbitrator jointly chosen by the Parties.

Article 28. Representations, Warranties, and Covenants

28.1 General. ~~Each Party makes the following representations, warranties and~~

Each Party makes the following representations, warranties and covenants:

28.1.1 Good Standing.

-Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this LGIA.

28.1.2 Authority.

-Such Party has the right, power and authority to enter into this LGIA, to become a Party hereto and to perform its obligations hereunder. -This LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

28.1.3 No Conflict.

-The execution, delivery and performance of this LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

28.1.4 Consent and Approval.

-Such Party has sought or obtained, or, in accordance with this LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this LGIA, and it will provide to any Governmental Authority notice of any actions under this LGIA that are required by Applicable Laws and Regulations

Article 29. Joint Operating Committee

29.1 Joint Operating Committee.

-Except in the case of ISOs and RTOs, Transmission Provider shall constitute a Joint Operating Committee to coordinate operating and technical considerations of Interconnection Service. -At least six (6) months prior to the expected Initial Synchronization Date, Interconnection Customer and Transmission Provider shall each appoint one representative and one alternate to the Joint Operating Committee. -Each Interconnection Customer shall notify Transmission Provider of its appointment in writing. -Such appointments may be changed at any time by similar notice. -The Joint Operating Committee shall meet as necessary, but not less than once each calendar year, to carry out the duties set forth herein. -The Joint Operating Committee shall hold a meeting at the request of either Party, at a time and place agreed upon by the representatives. -The Joint Operating Committee shall perform all of its duties consistent with the provisions of this LGIA. -Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. -All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. -The duties of the Joint Operating Committee shall include the following:

29.1.1 Establish data requirements and operating record requirements.

29.1.2 Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.

- 29.1.3** Annually review the one (1) year forecast of maintenance and planned outage schedules of Transmission Provider's and Interconnection Customer's facilities at the Point of Interconnection.
- 29.1.4** Coordinate the scheduling of maintenance and planned outages on the Interconnection Facilities, the Large Generating Facility and other facilities that impact the normal operation of the interconnection of the Large Generating Facility to the Transmission System.
- 29.1.5** Ensure that information is being provided by each Party regarding equipment availability.
- 29.1.6** Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

Article 30. Miscellaneous

30.1 Binding Effect.

—This LGIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

30.2 Conflicts.

—In the event of a conflict between the body of this LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this LGIA shall prevail and be deemed the final intent of the Parties.

30.3 Rules of Interpretation.

—This LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) ~~the~~ singular number includes the plural number and vice versa; (2) ~~reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this LGIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually;~~ (3) ~~reference to any agreement (including this LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof;~~ (4) ~~reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder;~~ (5) ~~unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this LGIA or such Appendix to this LGIA, or such Section to the Revised LGIP or such Appendix to the Revised LGIP, as the case may be;~~ (6) ~~"hereunder", "hereof", "herein", "hereto"~~ and words of similar import shall be deemed references to this LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) ~~"including"~~ (and with correlative meaning ~~"include"~~) means including without limiting the generality of any description preceding such term; and (8) ~~relative to the~~

determination of any period of time, ~~“from”~~ means ~~“from and including”~~, ~~“to”~~ means ~~“to but excluding”~~ and ~~“through”~~ means ~~“through and including”~~.

30.4 Entire Agreement.

-This LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this LGIA. -There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this LGIA.

30.5 No Third Party Beneficiaries.

-This LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

30.6 Waiver.

-The failure of a Party to this LGIA to insist, on any occasion, upon strict performance of any provision of this LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this LGIA. -Termination or Default of this LGIA for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer's legal rights to obtain an interconnection from Transmission Provider. -Any waiver of this LGIA shall, if requested, be provided in writing.

30.7 Headings.

-The descriptive headings of the various Articles of this LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this LGIA.

30.8 Multiple Counterparts.

-This LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

30.9 Amendment.

-The Parties may by mutual agreement amend this LGIA by a written instrument duly executed by the Parties.

30.10 Modification by the Parties.

-The Parties may by mutual agreement amend the Appendices to this LGIA by a written instrument duly executed by the Parties. -Such amendment shall become effective and a part of this LGIA upon satisfaction of all Applicable Laws and Regulations.

30.11 Reservation of Rights.

-Transmission Provider shall have the right to make a unilateral filing with FERC to modify this LGIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this LGIA pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. -Nothing in this LGIA shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

30.12 No Partnership.

-This LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. -Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

IN WITNESS WHEREOF, the Parties have executed this LGIA in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Appendix A to LGIA

Interconnection Facilities, Network Upgrades and Distribution Upgrades

1. Interconnection Facilities:

(a) [insert Interconnection Customer's Interconnection Facilities]:

(b) [insert Transmission Provider's Interconnection Facilities]:

2. Network Upgrades:

(a) [insert Stand Alone Network Upgrades]:

(b) [insert Other Network Upgrades]:

3. Distribution Upgrades:

Appendix B to LGIA

LGIA Milestones

Appendix C to LGIA
Interconnection Details

Appendix D to LGIA

Security Arrangements Details

Infrastructure security of Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day Transmission System reliability and operational security. -FERC will expect all Transmission Providers, market participants, and Interconnection Customers interconnected to the Transmission System to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. -All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

Appendix E to LGIA
Commercial Operation Date

This Appendix E is a part of the LGIA between Transmission Provider and Interconnection Customer.

[Date]

[Transmission Provider Address]

Re:- _____ Large Generating Facility

Dear:- _____

On **[Date]** **[Interconnection Customer]** has completed Trial Operation of Unit No. _____. -This letter confirms that **[Interconnection Customer]** commenced Commercial Operation of Unit No. ____ at the Large Generating Facility, effective as of **[Date plus one day]**.

Thank you.

[Signature]

[Interconnection Customer Representative]

Appendix F to LGIA

Addresses for Delivery of Notices and Billings

Notices:.

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Billings and Payments:

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Alternative Forms of Delivery of Notices (telephone, facsimile or email):

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

APPENDIX G

INTERCONNECTION REQUIREMENTS FOR A WIND GENERATING PLANT

Appendix G sets forth requirements and provisions specific to a wind generating plant. -All other requirements of this LGIA continue to apply to wind generating plant interconnections.

A. Technical Standards Applicable to a Wind Generating Plant

i. Low Voltage Ride-Through (LVRT) Capability

A wind generating plant shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

Transition Period LVRT Standard

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) ~~-~~interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) ~~-~~wind

generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. ~~-The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by Transmission Provider.~~ the transmission provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or “GSU”), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR

Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.

5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

Post-transition Period LVRT Standard

All wind generating plants subject to FERC Order No. 661 and not covered by the transition period described above must meet the following requirements:

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. ~~The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by Transmission Provider, the transmission provider.~~ The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be nine (9) cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system. ~~A~~ wind generating plant shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero (0) volts, as measured at the high voltage side of the wind GSU.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

ii. Power Factor Design Criteria (Reactive Power)

The following reactive power requirements apply only to a newly interconnecting wind generating plant that has executed a Facilities Study Agreement as of the effective date of the Final Rule establishing the reactive power requirements for non-synchronous generators in ~~Article~~section 9.6.1 of this LGIA (Order No. 827).² - A wind generating plant to which this provision applies shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this LGIA, if ~~the~~ Transmission Provider's System Impact Study shows that such a requirement is necessary to ensure safety or reliability. -The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by ~~the~~ Transmission Provider, or a combination of the two.- The Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. -Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the System Impact Study shows this to be required for system safety or reliability.

[2] If identified in the System Impact Study as necessary to ensure safety or reliability, existing Generating Facilities being upgraded that require a new interconnection request are subject to this reactive power requirement.

iii. Supervisory Control and Data Acquisition (SCADA) Capability

The wind plant shall provide SCADA capability to transmit data and receive instructions from ~~the~~ Transmission Provider to protect system reliability.-~~The~~ Transmission Provider and the wind plant Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

APPENDIX 6. 1to Revised LGIP1

INTERCONNECTION PROCEDURES FOR A WIND GENERATING PLANT

Appendix G to the LGIA sets forth procedures specific to a wind generating plant. –All other requirements of this Revised LGIP continue to apply to wind generating plant interconnections.

A.- Special Procedures Applicable to Wind Generators

The wind plant Interconnection Customer, in completing the Interconnection Request required by section 3. ~~43~~ of this Revised LGIP, may provide to ~~the~~ Transmission Provider a set of preliminary electrical design specifications depicting the wind plant as a single equivalent generator. –Upon satisfying these and other applicable Interconnection Request conditions, the wind plant may enter the Queuequeue and receive the base case data as provided for in this Revised LGIP.

No later than six months after submitting an Interconnection Request completed in this manner, the wind plant Interconnection Customer must submit completed detailed electrical design specifications and other data (including collector system layout data) needed to allow ~~the~~ Transmission Provider to complete the System Impact Study.

Exhibit XES-100:

Direct Testimony of Ian R.
Benson

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Public Service Company of Colorado	)	
	)	Docket No. ER19-____-000
	)	

**DIRECT TESTIMONY
OF
IAN R. BENSON**

**ON BEHALF OF
PUBLIC SERVICE COMPANY OF COLORADO**

September 9, 2019

DIRECT TESTIMONY OF IAN BENSON

TABLE OF CONTENTS

I. INTRODUCTION AND EXPERIENCE 1

II. PURPOSE OF TESTIMONY 5

III. CORPORATE OVERVIEW 5

IV. DESCRIPTION OF PSCO’S GENERATION INTERCONNECTION QUEUE AND
STUDY PROCESSES 10

 A. GENERATOR INTERCONNECTION SERVICES ON THE PSCO SYSTEM .10

 B. THE PSCO INTERCONNECTION QUEUE 13

 C. THE CURRENT PSCO INTERCONNECTION STUDY PROCESS.....21

 D. IMPACTS OF THE LGIA SUSPENSION PROCESS 29

 E. EXPERIENCES IN OTHER REGIONS 34

 F. PSCO NETWORK UPGRADE FUNDING POLICY 35

V. CONCLUSION.....37

**DIRECT TESTIMONY OF
IAN BENSON**

Summary of Testimony

Mr. Benson provides the background on why Public Service Company of Colorado (“PSCo”) needs to modify the Large Generator Interconnection Procedure (“LGIP”) contained in Attachment N to the Xcel Energy Tariff (the “LGIP provisions”), including certain provisions to the Large Generator Interconnection Agreement (“LGIA”) form set forth in Attachment N, Appendix 8 to the Tariff, in order to better serve the needs of Interconnection Customers proposing to interconnect new generation to the PSCo transmission system. Mr. Benson provides background regarding PSCo and discusses PSCo’s current generation interconnection queue and study processes and related issues. Mr. Benson concludes that the PSCo generator interconnection queue processes must be reformed to allow viable generation projects to proceed through the interconnection process.

**DIRECT TESTIMONY OF
IAN BENSON**

I. INTRODUCTION AND EXPERIENCE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ian R. Benson. My business address is 414 Nicollet Mall (GO 6), Minneapolis, Minnesota 55401.

Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?

A. I am employed by Xcel Energy Services Inc. (“Xcel Energy Services” or “XES”), a wholly-owned subsidiary of Xcel Energy Inc. (“Xcel Energy”), as Area Vice President, Transmission Strategy and Planning. Xcel Energy Services is the centralized service company for the Xcel Energy holding company system, and provides services to the subsidiaries of Xcel Energy.

Q. PLEASE DESCRIBE XCEL ENERGY.

A. Xcel Energy is a public utility holding company with, among other subsidiaries, four wholly-owned, vertically integrated public utility operating company subsidiaries: Public Service Company of Colorado (“PSCo” or the “Company”), Northern States Power Company, a Minnesota corporation (“NSPM”), Northern States Power Company, a Wisconsin corporation (“NSPW”) (and jointly with NSPM the “NSP System” and the “NSP Companies”), and Southwestern Public Service Company (“SPS”) (together, the “Xcel Energy Operating Companies”).

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of PSCo. PSCo is filing proposed revisions to the Large Generator Interconnection Process (“LGIP”) contained in Attachment N to the Xcel

Energy Operating Companies Open Access Transmission Tariff (“Xcel Energy Tariff” or “Tariff”) applicable to wholesale transmission services on the PSCo transmission system. The tariff changes are proposed to address several issues that have arisen with the “first-come, first-served” sequential generator interconnection queue process established under the Commission’s *pro forma* LGIP process adopted in Order No. 2003. PSCo proposes to move to a “first-ready, first-served” approach in order to facilitate interconnection of new generation.

I note that the changes to the Xcel Energy Tariff proposed in this filing affect only the terms for generator interconnection service to the PSCo transmission system. The changes do not affect the terms of generator interconnection service on the NSP System or SPS transmission system, which are subject to the Midcontinent Independent System Operator, Inc. (“MISO”) and Southwest Power Pool, Inc. (“SPP”) regional tariffs, respectively. MISO has already filed and received Commission authorization for several iterations of queue reform to move to a first-ready, first-served approach in order to address issues similar to those faced by generation projects proposing to interconnect to the PSCo system today. SPP also has already filed and received Commission authorization for queue reform to move to a first-ready, first-served approach.

PSCo is not in a regional transmission organization (“RTO”) like SPP or MISO. In addition, the PSCo Transmission System is also somewhat isolated from both a geographical and electric perspective. The issues faced by the generators seeking to interconnect to the PSCo Transmission System and the PSCo transmission function are thus different than those faced by generators and transmission owners in MISO or SPP.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I have over 26 years of experience in the utility industry and have served in positions in nuclear generation, retail electric marketing, wholesale power purchases and sales, and transmission. I hold engineering and mathematics degrees from the University of Minnesota and a Master of Business Administration from the University of St. Thomas. I am a retired naval officer having served 21 years of combined active and reserve duty. I retired with the rank of Commander.

Q. WHAT ARE YOUR DUTIES IN YOUR CURRENT POSITION?

A. As the Area Vice President, Transmission Strategy and Planning, my responsibilities include: supervising department engineers in planning electric transmission system expansions for the four Xcel Energy Operating Companies; recommending specific construction projects to Xcel Energy management, MISO, and SPP; overseeing transmission related agreements with third parties, MISO, and SPP; and resolving wholesale customer transmission service concerns. I am also responsible for Xcel Energy's asset renewal efforts for the transmission facilities owned by the Xcel Energy Operating Companies, the exploration of competitive transmission projects, and leading processes and procedures for the implementation of the Xcel Energy Joint Open Access Transmission Tariff ("Tariff").

Three of the functions most involved in administering the LGIP process under the Xcel Energy Tariff—Transmission Policy, Transmission Planning and Transmission Business Relations—are within my area of management responsibility. These functions are also involved in the preparation, execution and administration of study agreements

and Large Generator Interconnection Agreements (“LGIAs”) executed by PSCo as Transmission Provider under the Xcel Energy Tariff. As such, I have personal knowledge of the issues related to the interconnection queue affecting the PSCo transmission system under the Xcel Energy Tariff.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION OR BEFORE ANY STATE UTILITY COMMISSION?

A. Yes. I previously filed testimony in *Public Service Company of Colorado*, Docket No. ER12-1589, in support of proposed changes to the PSCo transmission formula rate contained in Attachment O-PSCo to the Xcel Energy Tariff.¹ I also submitted testimony in *Public Service Company of Colorado*, Docket No. ER18-1201-000, in support of proposed changes to the “suspension” provisions to the *pro forma* LGIA to the Xcel Energy Tariff.² I have also testified multiple times before state utility commissions.³

¹ See *Pub. Serv. Co. of Colo.*, Docket No. ER12-1589-000, Section 205 Filing Ex. PSC-28, Testimony of Ian Benson (Apr. 20, 2012).

² See *Pub. Serv. Co. of Colo.*, Docket No. ER18-1201-000, Section 205 Filing Ex. XES-100, Testimony of Ian Benson (Mar. 28, 2018). The Commission rejected the proposed LGIA revisions, in part, because PSCo was engaged in the process to more comprehensively reform the PSCo LGIP. *Pub. Serv. Co. of Colo.*, 163 FERC ¶ 61,146 at P 34 (2018).

³ See *In the Matter of the Application of N. States Power Co., a Minn. Corp., for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E002/GR-10-971, Direct Testimony and Schedules of Ian R. Benson (Minn. P.U.C. Nov. 3, 2010); *In the Matter of the Application of N. States Power Co., a Minn. Corp., for Auth. to Increase Rates for Elec. Serv. in N.D.; Petition for Approval of a Customer Credit Mechanism for a Department of Energy Settlement Payment*, Case Nos. PU-10-657 & PU-11-55, Direct Testimony and Exhibits of Ian R. Benson (N.D. P.U.C. Dec. 20, 2010); *In the Matter of Advice Letter No. 1597 Filed by Pub. Serv. Co. of Colo. to Revise the General Rate Schedule Adjustment (GRSA) Rider Applicable to All Elec. Base Rate Schedules in the Co.’s Colo. P.U.C. No. 7*, Docket No. 11AL-947E, Direct Testimony and Exhibits of Ian R. Benson (Colo. P.U.C. Nov. 22, 2011); *In the Matter of the Application of N. States Power Co. for Auth. to Increase Rates for Elec. Serv. in Minn.*, Docket No. E002/GR-15-826, Direct Testimony and Schedules of Ian R. Benson (Minn. P.U.C. Nov. 2, 2015).

Q. WAS THIS TESTIMONY PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes, the testimony, figures, and exhibit were prepared by me or under my direct supervision.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to provide the background on why PSCo needs to modify the LGIP, including the LGIA form, contained in Attachment N to the Xcel Energy Tariff (the “LGIP provisions”) in order to better serve the needs of Interconnection Customers proposing to interconnect new generation to the PSCo system. I will provide background regarding PSCo. Then, I will discuss PSCo’s generation interconnection queue and study processes and related issues which demonstrate the need for this tariff change filing.

III. CORPORATE OVERVIEW

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF PSCO.

A. PSCo generates, transmits and distributes electric power and energy throughout portions of the State of Colorado. PSCo provides, among other things, retail cost-based electric service to approximately 1.5 million retail customers in Colorado subject to the jurisdiction of the Colorado Public Utilities Commission (“Colorado Commission” or “CPUC”). The Company’s greatest concentration of retail customers is in the Denver metropolitan area. PSCo also provides cost-based wholesale transmission services subject to the jurisdiction of the Commission pursuant to the Xcel Energy Tariff.⁴ PSCo

⁴ As I understand, PSCo also provides cost-based production (sales) services to certain wholesale requirements customers in Colorado, but those Commission-jurisdictional services are administered by other areas of XES.

is located at the eastern edge of the Western Interconnection and is a member of the Western Electricity Coordinating Council (“WECC”). Since there is no RTO serving Colorado, PSCo is the Transmission Provider for the PSCo Transmission System. PSCo provides Network Integration Transmission Service (“NITS”), Point-to-Point Transmission Services (“PTP”) and various ancillary services pursuant to the Tariff, on file with the Commission pursuant to Order Nos. 888 and 890, and derives the rates for NITS and PTP services pursuant to the Attachment O-PSCo transmission formula rate template. PSCo operates a Balancing Authority Area (“BAA”) within the WECC region, and provides certain Balancing Authority (“BA”) services pursuant to Part IV of the Xcel Energy Tariff.

The PSCo Transmission System is unique because it has very limited interconnections to other transmission providers subject to Commission jurisdiction. PSCo has a single 230 kV interconnection with Public Service Company of New Mexico (“PNM”) and the PNM BAA near the Colorado/New Mexico border; and a single 210 MW 345 kV high-voltage, direct current (“HVDC”) interconnection with SPS and the SPP BAA, which are in the Eastern Interconnection, near Lamar, Colorado.

Most of PSCo’s interconnections at transmission voltage are with the Western Area Power Administration (“Western” or “WAPA”), a federal power authority and Tri-State Generation and Transmission Cooperative, Inc., (“Tri-State”), neither subject to Commission jurisdiction. The Western BAA encircles the PSCo BAA to the north and west, and has a peak load of approximately 4,350 MW. PSCo also has transmission interconnections with the Platte River Power Agency (“PRPA”), Intermountain Rural Electric Association (“IREA”), Yampa Valley Electric Association (“YVEA”), Colorado

Springs Utilities (“CSU”), and Black Hills Colorado Electric, Inc. (“Black Hills”). Of these utilities, only Black Hills is a Commission-jurisdictional utility.

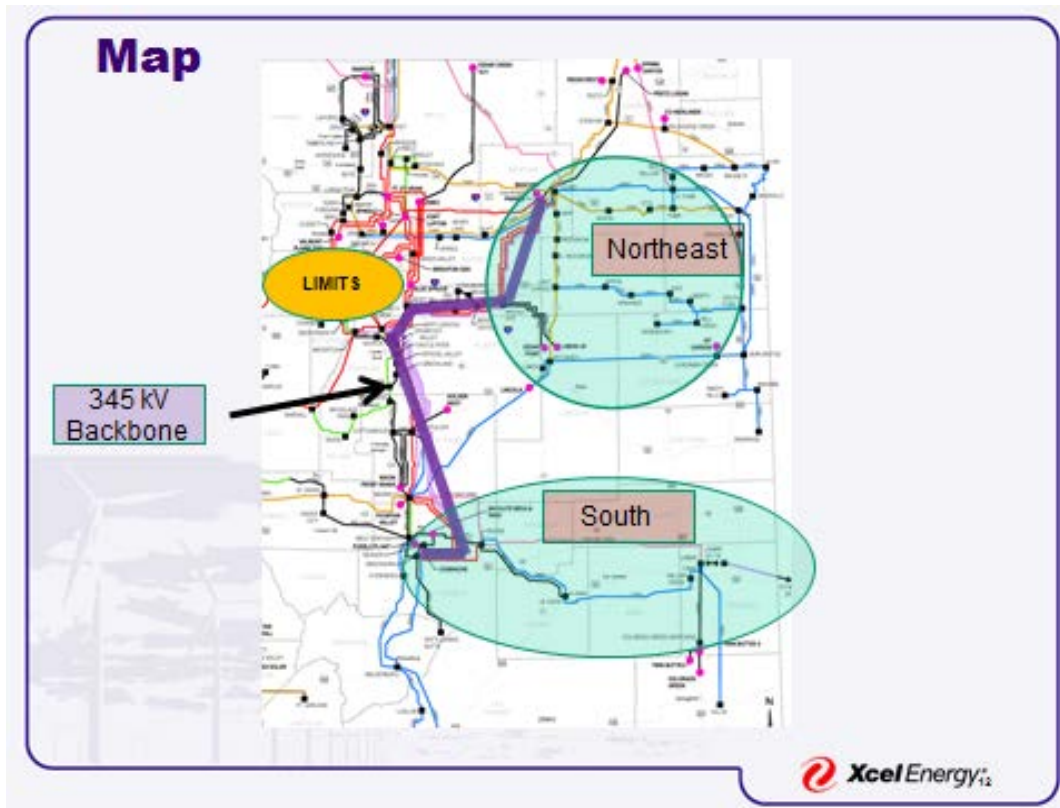
Q. HOW DOES THIS ELECTRICAL CONFIGURATION AND GEOGRAPHY AFFECT ELECTRICAL FLOWS ON THE PSCO SYSTEM?

- A. The PSCo Transmission System is bordered on the west by the Rocky Mountains and the WAPA transmission system, and on the east by the Eastern Interconnection. The PSCo system has one large load center: the Denver metro area. The nearest major load centers in the Western Interconnection are Salt Lake City, Las Vegas, Albuquerque, and Phoenix; each of which is hundreds of miles away from Denver. The PSCo system has very limited export capability to the north, west, east, or south. Upon review of neighboring BAA’s OASIS postings, there is almost no Available Transfer Capability (“ATC”) to export generation out of the PSCo BAA.

As a result, the majority of flows on the PSCo Transmission System are toward the Denver metro area. Figure 1 is a simplified map of the PSCo transmission system in the Denver area. The addition of generation resources and subsequent energy flows from the north, east and/or south will introduce system limits in the Denver metro area.

Figure 1 shows that there is one main 345 kV backbone along the front range of the Rocky Mountains and the Denver metro area. The 345 kV backbone along the eastern side of the load center, connects substantial generation to that load. Load flows along the backbone are especially impacted whenever a generator injecting on the backbone changes or when a new plant is added.

**FIGURE 1
MAP OF PSCo TRANSMISSION SYSTEM**



Q. PLEASE DESCRIBE THE TRANSMISSION PLANNING REGIONS IN WHICH PSCo PARTICIPATES.

A. PSCo conducts its own Order No. 890 planning process. PSCo coordinates its plans with other jurisdictional and non-jurisdictional transmission-owning electric utilities in Colorado through participation in the Colorado Coordinated Planning Group (“CCPG”).⁵ PSCo is part of the WestConnect Order No. 1000 regional transmission planning region. PSCo participates in WestConnect both directly and through the CCPG.⁶

⁵ See the Joint Transmission Access Principles and Electric Transmission Policy Statement, dated December 16, 1991, filed with the Federal Energy Regulatory Commission in Docket No. EC92-8-000. See *Pub. Serv. Co. of Colo.*, 58 FERC ¶ 61,322 (1992).

⁶ See *Pub. Serv. Co. of Colo.*, 142 FERC ¶ 61,206 (2013) (accepting respective parties’ OATT filings to comply with the local and regional transmission planning and cost allocation requirements of Order No. 1000), *order on* (Footnote continued)

Q. DO WESTCONNECT OR THE CCPG ADMINISTER REGIONAL OR SUBREGIONAL GENERATOR INTERCONNECTION PROCESSES?

A. No. The individual member transmission owners within WestConnect and CCPG each administer their generator interconnection procedures under their own tariffs—either an Open Access Transmission Tariff (“OATT”) on file with the Commission (for jurisdictional utilities) or tariff that is not under Commission jurisdiction (for non-jurisdictional utilities). Only two of the seven CCPG member entities are Commission-jurisdictional entities (PSCo and Black Hills). Approximately 60 percent of WestConnect’s transmission owner participants are non-jurisdictional entities.

Q. PLEASE DESCRIBE HOW THE XCEL ENERGY TRANSMISSION FUNCTION IS ENGAGED IN THE LGIP PROCESSES ORDERED BY THE COMMISSION IN ORDER NO. 2003.

A. The Xcel Energy Transmission Function is involved in the generator interconnection process under three separate FERC-jurisdictional tariffs: PSCo is a Transmission Provider under the Xcel Energy Tariff; the NSP Companies are Transmission Owners under the MISO Tariff; and SPS is a Transmission Owner under the SPP Tariff.

In MISO and SPP, the RTO administers its tariff and the generator interconnection queue, performs (or administers) the interconnection studies, and manages execution and filing (if required) of all LGIAs and other agreements mandated in the LGIP interconnection process in the RTO tariff. The Transmission Owner (e.g., the NSP Companies or SPS) executes three-party agreements with the RTO and

reh’g and compliance, 148 FERC ¶ 61,213, *reh’g denied*, 151 FERC ¶ 61,128 (2014), *aff’d in part sub nom. El Paso Elec. Co. v. FERC*, 832 F.3d 495 (5th Cir. 2016), *order on remand*, 161 FERC ¶ 61,188 (2017), *reh’g denied*, 163 FERC ¶ 61,204 (2018).

interconnection customer, and constructs, owns, and operates the Transmission Owner Interconnection Facilities and Network Upgrades subject to the LGIA.

As a Transmission Provider in a portion of the Western Interconnection where no RTO exists, the PSCo Transmission Function is responsible under the Xcel Energy Tariff to administer the interconnection queue, execute and administer the various study agreements contemplated by the LGIP—Feasibility Study Agreements, System Impact Study Agreements, Facility Study Agreements—perform the interconnection studies, and ultimately develop and administer LGIAs and file them with the Commission (if required) or report them in PSCo’s electronic quarterly reports. PSCo also constructs and owns the Transmission Provider’s Interconnection Facilities (“TPIF”) and Network Upgrades needed to interconnect the new generator.

Since Xcel Energy Transmission Function personnel are engaged in the interconnection queue process in three separate regions, personnel in my group interact with all three queue processes, and have experience with the effects of the queue reform proposals implemented or proposed by MISO and SPP.

IV. DESCRIPTION OF PSCO’S GENERATION INTERCONNECTION QUEUE AND STUDY PROCESSES

A. GENERATOR INTERCONNECTION SERVICES ON THE PSCO SYSTEM

Q. PLEASE DESCRIBE THE GENERATOR INTERCONNECTION SERVICE PROVIDED BY PSCO.

A. Pursuant to Commission policy, PSCo offers non-discriminatory Interconnection Service to Generators larger than 20 MW under Attachment N of the Xcel Energy Tariff. Attachment N contains the LGIP, including the LGIA agreement form and other study

agreement forms. PSCo also provides non-discriminatory Interconnection Service to Generators 20 MW or smaller under Attachment P to the Xcel Energy Tariff, the Small Generator Interconnection Process (“SGIP”).

Q. PLEASE DESCRIBE THE CPUC’S OVERSIGHT OF PSCO’S TRANSMISSION PLANNING AND GENERATION RESOURCE PROCUREMENT PROCESSES.

- A. PSCo is subject to traditional cost-based rate regulation by the CPUC. PSCo must obtain a certificate of public convenience and necessity (“CPCN”) from the CPUC to construct most new transmission facilities at 230 kV and above, including facilities associated with generation interconnection. In a CPCN application, PSCo must demonstrate the need for the new transmission facilities and justify the anticipated costs. The CPUC also requires PSCo, Black Hills, and Tri-State to biennially provide transmission planning reports describing anticipated transmission construction projects over the next 10 years.

PSCo also procures new generation resources through Electric Resource Planning (“ERP”) and competitive bidding processes overseen by the CPUC. Almost⁷ all of the new generation interconnected with the PSCo Transmission System to serve PSCo native load (whether owned by a third party or PSCo) has been selected through the CPUC ERP and competitive bidding processes, and has been processed pursuant to the LGIP or SGIP in the Xcel Energy Tariff.

⁷ The only exception to this is a test facility owned by National Renewable Energy Laboratory (part of the Department of Energy), from which PSCo purchases some energy.

Q. ARE THE OTHER UTILITIES WITH TRANSMISSION FACILITIES IN THE PSCO BAA SUBJECT TO CPUC ERP AND BIDDING PROCESSES?

A. Other CPUC jurisdictional utilities with loads in the PSCo BAA (e.g., Black Hills) also operate subject to the CPUC ERP and bidding process requirements.⁸ As I understand, even some non-FERC jurisdictional utilities such as Tri-State are subject to the CPUC ERP and bidding rules, and even ones that are not, like PRPA, can still and do acquire generation under competitive solicitation processes.

Q. PLEASE DESCRIBE PSCO'S NATIVE AND BAA LOADS.

A. The 2018 PSCo native obligation peak load (including wholesale production requirements loads) was 6,936 MW, and the 2018 peak Network Load on the PSCo Transmission System was 7,307 MW. The 2018 peak PSCo BAA load was 8,657 MW. The approximately 400 MW of PSCo Network Load that is not PSCo native load is served by third-party load serving entities ("LSEs"), primarily non-jurisdictional utilities. Approximately 1,200 MW of the BAA load is connected to third-party Transmission Systems. These LSEs (e.g., Tri-State, PRPA, Black Hills) own both transmission facilities and generation within the PSCo BAA and tend to use their own generation resources connected to their own Transmission Systems (and not PSCo generation) to serve their loads in the PSCo BAA.

⁸ Black Hills closed its most recent 60 MW resource solicitation process when it submitted its 120 day report to the Colorado Commission in Docket No. 16A-0436E on February 8, 2018.

Q. ARE ALL OF PSCO'S DESIGNATED NETWORK RESOURCES OWNED BY PSCO?

A. No. Approximately 4,500 MW, or 40 percent, of PSCo's Designated Network Resources are non-affiliated, third-party generation. PSCo processes both generation it owns as well as non-affiliated, third-party generation under the same Commission approved LGIP.

Q. ARE ALL GENERATOR INTERCONNECTIONS WITHIN THE PSCO BAA SUBJECT TO THE PSCO TARIFF?

A. No. Generator interconnections to the other Transmission Systems, such as Tri-State, PRPA, and Black Hills, are governed by the third-party utility's tariffs and not PSCo's Tariff. Of the approximately 8,600 MW of load in the PSCo BAA, only 7,300 MW is Network Load interconnected to the PSCo Transmission System. The PSCo generator interconnection process is thus limited to the PSCo system and serving that 7,300 MW of Network Load.

B. THE PSCO INTERCONNECTION QUEUE

Q. PLEASE DESCRIBE THE SIZE OF THE CURRENT PSCO LARGE GENERATOR INTERCONNECTION QUEUE.

A. As of June 30, 2019, the PSCo generation interconnection queue includes 82 interconnection requests seeking to interconnect just over 22,183 MW of generation.⁹ The total amount of generation requesting interconnection is thus more than triple PSCo's 2018 total peak Network Load (7,300 MW). Exhibit XES-101 provides a list of active generation interconnection requests developed from the PSCo interconnection queue

⁹ See Ex. XES-101; see also *PSCo Generation Interconnection Requests*, Pub. Serv. Co. of Colo. OASIS, http://www.rmao.com/public/wtpp/PSCO_Studies.html. Note that this amount does not include the 1,007 MW resource solicitation cluster because Generating Facilities in this cluster have two queue positions.

posted on the PSCo OASIS.¹⁰ As indicated by Exhibit No. XES-101, almost all—approximately 95 percent¹¹—of these interconnection customers have requested Network Resource Interconnection Service (“NRIS”). Their requested service is solely for the delivery of power to the Network Load in the PSCo BAA rather than any export of power to loads connected to another transmission provider’s system. Upon review of the Interconnection Requests, most of these requests specifically request delivery to PSCo’s native load.

Q. PLEASE DESCRIBE THE TYPES OF GENERATION SEEKING TO INTERCONNECT.

- A. Table 1 and Figures 2 below provide the current number and magnitude of generator Interconnection Requests in the PSCo LGIP queue by generation type as of June 30, 2019. A little over 58 percent of all Interconnection Requests involve wind generation resources, and the balance is mostly solar resources. The only fossil fuel requests are natural gas generation.

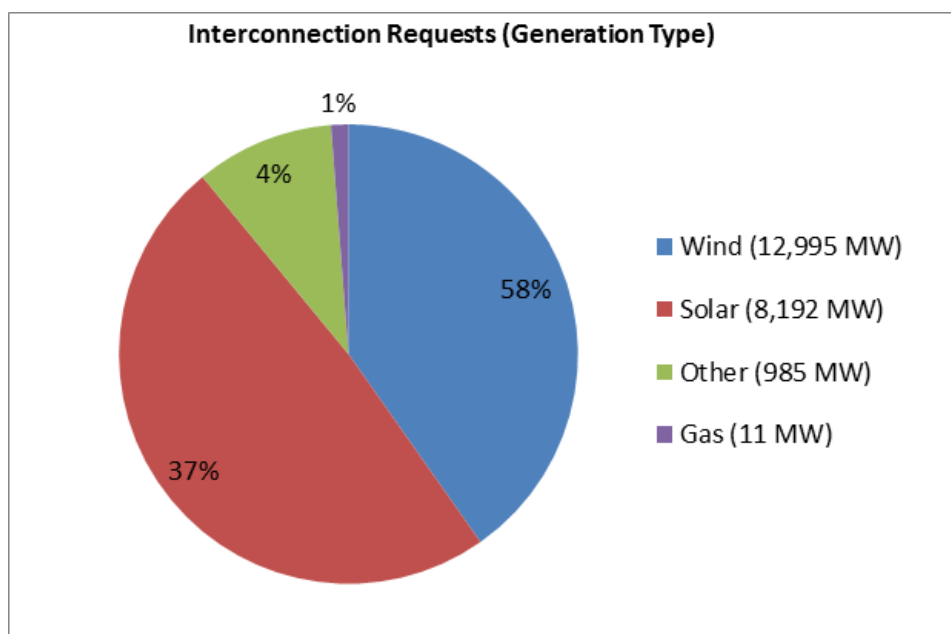
¹⁰ The complete PSCo LGIP queue is available at *Generation Interconnection Requests*, Pub. Serv. Co. of Colo. OASIS, http://www.rmao.com/public/wtpp/PSCO_Studies.html.

¹¹ Calculated by megawatt, 95% of the queue has requested NRIS. Calculated by request, 90% have requested NRIS. See Ex. XES-101.

TABLE 1
INTERCONNECTION REQUESTS BY RESOURCE TYPE

Gen. Type	Active Requests (MW)	Active Requests (#)
Wind	12,995	33
Solar	8,192	40
Gas	11	1
Coal	0	0
Biomass	0	0
Nuclear	0	0
Other	985	8
Total	22,183	82

FIGURE 2
INTERCONNECTION REQUESTS BY RESOURCE TYPE



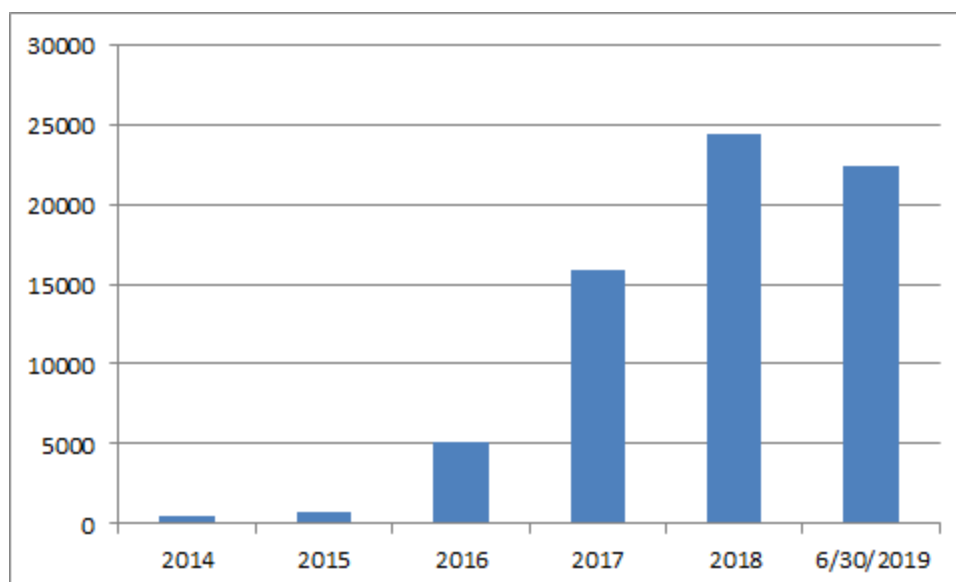
Q. PLEASE CLARIFY WHAT IS INCLUDED IN THE “OTHER” CATEGORY?

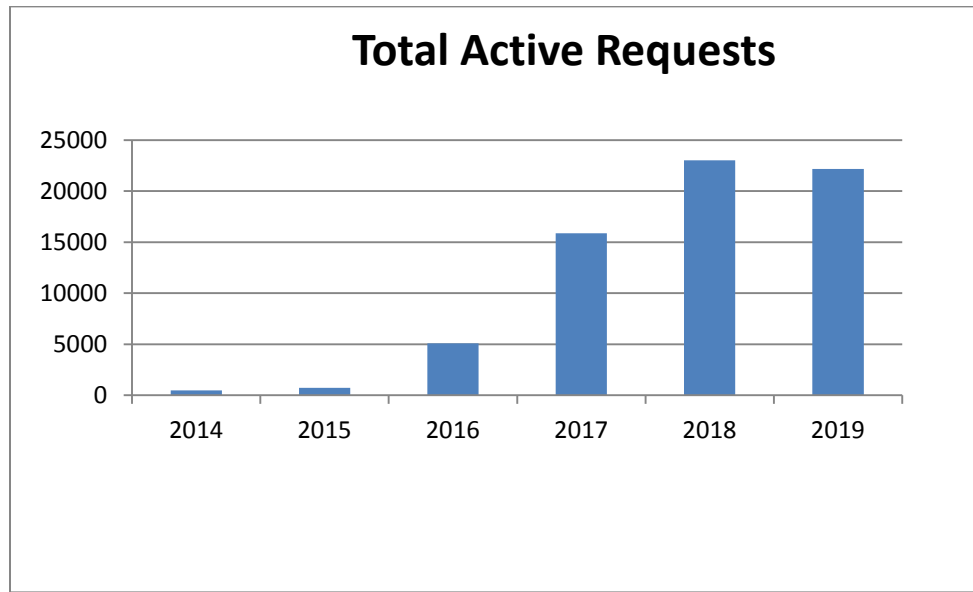
A. The Other category reflects solar generation combined with energy storage (i.e., batteries).

Q. HOW MANY ACTIVE INTERCONNECTION REQUESTS ARE CURRENTLY IN THE PSCO QUEUE?

A. There are over 82 active requests in PSCo's current queue, if you do not include PSCo's own "resource solicitation cluster." Since 2016, PSCo has experienced an explosion in interconnection requests. Figure 3 below illustrates the magnitude of this increase, where the "Total Active Requests" is the cumulative number of active requests by the year they were submitted in the PSCo queue:

**FIGURE 3
CUMULATIVE INTERCONNECTION REQUESTS BY YEAR**



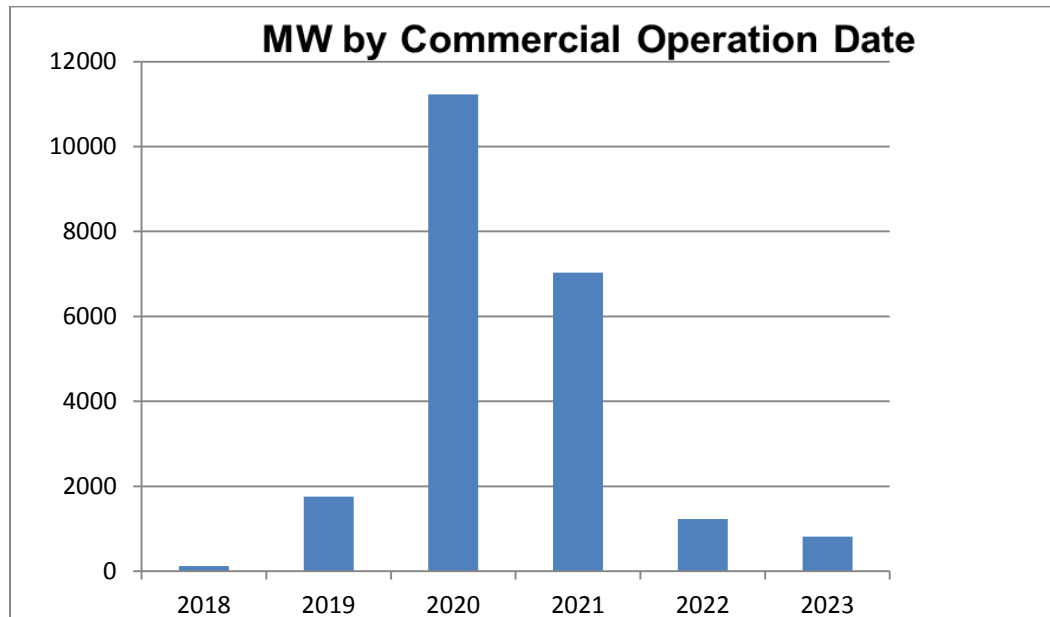


There were more than 9,400 MW of requests submitted and approximately 2,700 MW of requests have withdrawn from the PSCo queue in 2018. There have been more than 1,100 MW of requests submitted in 2019 as of June 30, 2019 and approximately 450 MW of requests have withdrawn from the PSCo queue in the first half of 2019.

Q. BY WHAT DATE ARE CUSTOMERS REQUESTING TO INTERCONNECT?

A. Most Interconnection Customers are requesting a Commercial Operation Date in the next couple of years. As I mentioned above, this is not feasible under the current process because PSCo is unable to study the current volume of requests. In addition, it takes 1.5 to 3 years to construct transmission facilities in Colorado. Therefore PSCo needs to implement immediate reform if there is any change to achieve our customers requested Commercial Operation Date. Figure 4 below shows the Commercial Operation Dates requested for the generation in the PSCo Queue.

**FIGURE 4
REQUESTED COMMERCIAL OPERATION DATES**



Q. WHAT LOAD GROWTH AND GENERATION RETIREMENT IS ANTICIPATED FOR PSCO?

A. The need for new generation resources is driven mostly by load growth and the replacement of existing generation. PSCo expects load growth of approximately 450 MW by 2023, the retirement of a 325 MW generator in 2022, and a 335 MW generator in 2025.¹² In order to fill the need created by this load growth and generation retirement, the CPUC has approved the acquisition of 1,131 MW of new wind resources, 500 MW of which would be owned by PSCo; the procurement of 707 MW of new PV solar resources; and the development of 275 MW of new battery storage. I estimate that the total load growth among all LSEs in the PSCo BAA, including PSCo, will be approximately 600 MW over the next five years. Besides the two generation facilities I

¹² See *In the Matter of the Application of Pub. Serv. Co. of Colo. for Approval of its 2016 Elec. Res. Plan*, Decision No. C18-0761 at PP 27, 29 (CPUC Aug. 27, 2018).

mentioned above, there are no other generation retirements announced in the PSCo BAA of which I am aware.

Q. HOW DOES RESOURCE NEED ASSOCIATED WITH THIS PROJECTED LOAD GROWTH AND ANNOUNCED GENERATION RETIREMENT IN THE PSCO BAA COMPARE WITH THE AMOUNT OF GENERATION IN THE PSCO QUEUE?

A. I do not expect the resource need to be greater than 2,000 MW which is ten times less than that amount of generation in the PSCo Queue.

Q. DO THE GENERATION INTERCONNECTION REQUESTS SEEK POINTS OF INTERCONNECTION DISPERSED ACROSS THE PSCO TRANSMISSION SYSTEM, OR ARE THEY CONCENTRATED AT SPECIFIC POINTS OF INTERCONNECTION?

A. While there are requests seeking to interconnect at a total of 30 substations/line taps (16 interconnection points at substations and 14 are tapping lines) across the PSCo system, a larger number of requests are proposed at a small number of points of interconnection. For example, there are more than 4,156 MW of Interconnection Requests seeking to interconnect in the area around Missile Site Station substation, and over 6,700 MW of requests seeking to interconnect near the Comanche Substation (1,900 MW at the Comanche substation itself).

Q. YOU STATED THAT MOST INTERCONNECTION REQUESTS SEEK TO DELIVER TO LOADS IN THE PSCO BAA. CAN YOU EXPLAIN WHY?

A. I cannot say for certain, but I believe there are a few reasons. First, as I described earlier, the Denver metro load center is the largest electrical load for many miles around.

Second, there is little export capability out of the PSCo BAA. This means for generation to be delivered to other areas, it would need to locate on the other side of the export transmission constraint to be delivered or it would require significant transmission investment to facilitate delivery to loads outside of Colorado. It is difficult and expensive to site and construct additional transmission lines across the Rocky Mountains to distant load centers. For a generator or LSE to deliver generation from a generator interconnected to the PSCo Transmission System to a load on a third-party transmission system (such as WAPA or PNM), the generator or load would be charged a transmission rate “pancake”—i.e., the generator or load would be charged both the transmission rate to deliver the power to the border of the PSCo system and the transmission rate to deliver the power over the third party’s system to the load. If the load were even more distant from the PSCo system—for example in Nevada or California—the generator or load would need to pay multiple rate pancakes. This rate pancaking affects the delivered costs of the generation, and encourages generators to request interconnection close to the load center they seek to serve. Last, but importantly, I expect that many entities, such as state regulators encourage procurement of generation development in that state, which then encourages generators to site more locally.

Q. YOU MENTIONED THAT THE NSP COMPANIES OPERATE IN THE MISO REGION. HOW DOES THE SIZE OF THE PSCO INTERCONNECTION QUEUE COMPARE TO THE INTERCONNECTION QUEUE IN MISO?

A. PSCo’s interconnection queue (22,183 MW) is nearly three times the size of PSCo’s BAA load (8,600 MW). MISO’s peak BAA load is approximately 127,000 MW. As of August 2019, the MISO generator interconnection queue was approximately 100,000

MW.¹³ MISO's queue would need to be approximately 325,000 MW to be of the same relative magnitude as the PSCo queue. That is, to be proportionally similar to PSCo's queue, the MISO queue would need to be more than four times larger.

C. THE CURRENT PSCO INTERCONNECTION STUDY PROCESS

Q. PLEASE DESCRIBE THE CURRENT LGIP PROCESS FOR ENTERING THE PSCO QUEUE.

- A. PSCo applies the *pro forma* Order No. 2003 eligibility requirements. An Interconnection Customer must submit an Interconnection Request, and must pay a study deposit of \$10,000. The Interconnection Request is assigned a queue number, and the request is added to the PSCo queue posted on OASIS. Some information about the request (the date of the request, MW size, type of generation, etc.) is posted on OASIS, but the identity of the requestor is not.

Q. PLEASE DESCRIBE THE CURRENT PSCO INTERCONNECTION STUDY PROCESS.

- A. The current PSCo interconnection process uses the Order No. 2003 *pro forma* sequential or serial study methodology, where requests are studied individually on a first-come, first-served approach. The process is the four step process set forth in Order No. 2003: a Feasibility Study, a System Impact Study, and a Facilities Study, followed by execution of an LGIA if the Interconnection Customer elects to proceed to commercial operation. After execution of the LGIA, an Interconnection Customer may elect to suspend their project for up to 36 months.

¹³ See MISO, *MISO Generator Interconnection Queue*, https://www.misoenergy.org/planning/generator-interconnection/GI_Queue/ (as of Nov. 15, 2018); see also MISO, *Generator Interconnection: Overview*, <https://cdn.misoenergy.org/GIQ%20Web%20Overview%20October%202018272899.pdf> (updated Nov. 1, 2018).

Until about 2016, PSCo was able to administer the interconnection queue using the *pro forma* first-come, first-served approach. With the dramatic increase in Interconnection Requests starting in 2016, however, the queue administration and study process began to break down.

Q. PLEASE EXPLAIN HOW THE DRAMATIC INCREASE IN THE NUMBER OF REQUESTS HAS AFFECTED THE INTERCONNECTION STUDY PROCESS.

- A. There are several impacts. First, the sheer number of requests and the MW totals makes it impossible to study some requests. The standard interconnection study methodology in the industry is to reduce the output (decrement) of an existing generator so that the additional new generation balances with load, and then determine if overload conditions are created on the transmission system by adding the full output of new generator at its proposed location (which may not be the location of the decremented generator).

Under the *pro forma* LGIP, PSCo is required to (1) model all higher queued projects in its study models,¹⁴ and (2) balance all new modeled generation to existing load.¹⁵ As such, PSCo cannot evaluate more NRIS requests than it has Network Load.

¹⁴ PSCo's currently effective LGIP, like the *pro forma* LGIP, requires that projects be studied "at full output," (PSCo LGIP, Section 3.2.2.2), and also requires that the studies account for all higher queued interconnection projects. See PSCo LGIP, Section 6.2 ("The Interconnection Feasibility Study will consider the Base Case as well as all generating facilities . . . that, on the date the Interconnection Feasibility Study is commenced: . . . (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System . . ."); *id.*, Section 7.3 ("The Interconnection System Impact Study will consider the Base Case as well as all generating facilities (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued interconnection) that, on the date the Interconnection System Impact Study is commenced: . . . (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System . . .").

¹⁵ Generation and load must balance for the study models to solve. Also, PSCo's currently-effective LGIP, like the *pro forma* LGIP, requires that the Transmission Provider must determine whether new generation can be delivered to load on the Transmission Provider's system and that existing Network Resources be deemed to be "displaced" by the new generation. See PSCo LGIP, Section 3.2.2.2 (requiring Transmission Provider "to determine whether, with the Large Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on Transmission Provider's Transmission System. . . . This approach assumes that some portion of existing Network Resources is displaced by the output of Interconnection Customer's Large Generating Facility.").

When modeling NRIS requests, proposed NRIS generators are “sunk” to replace existing resources until the existing Network Load is entirely served by the new projects requesting NRIS.

After existing BAA generation has been decremented to the point where all Network Load is being served by newly-interconnecting resources, no more proposed generation can be accommodated in the study models because there would be an imbalance of load and generation. In other words, there is no Network Load to which to sink the power. Any additional generation would need to be modeled as sold off-system, which is contrary both to the concept of NRIS and to the Interconnection Customer’s request to sink the generation to PSCo native load. With a Network Load of 7,300 MW and total requests more than 22,100 MW, there is not sufficient generation to decrement for the models to solve. Because of this limitation, PSCo is unable to process more than 21,117 MW (or 95 percent) of the pending NRIS requests.

Q. HOW ELSE ARE INTERCONNECTION CUSTOMERS AFFECTED BY THE CURRENT *PRO FORMA* STUDY PROCESS?

A. In addition to providing unrealistic results, interconnection studies are delayed or results are modified if a higher queued interconnection customer changes or withdraws their request. Under the *pro forma* LGIP, PSCo is required to perform a restudy if a higher queued generator drops out of the interconnection queue and impacts the lower queued customer’s request. If a higher queued generator is modified or withdraws from the queue, all affected lower queued projects need to be restudied.¹⁶ Because of the configuration of the PSCo system discussed above and the fact that approximately 95

¹⁶ See *Xcel Energy Operating Cos.*, 109 FERC ¶ 61,072 at PP 28, 38-39 (2004).

percent of all interconnection projects in the PSCo Queue have requested NRIS,¹⁷ almost all lower queued requests are affected by withdrawals of changes to higher queued projects.

In addition, because PSCo utilizes the Order No. 2003 process consisting of a Feasibility Study, System Impact Study, and Facilities Study, if a higher queued Interconnection Request is withdrawn, the withdrawal will affect all lower queued requests in any study phase, thus further complicating the restudy process. For example, a withdrawal of a higher queued Interconnection Request that has competed the Facilities Study phase could require a lower queued request already in the Facilities Study phase to move backwards by requiring a System Impact restudy. This System Impact restudy would then be followed by a new Facilities Study. This serial study process, exacerbated by the need for numerous restudies, has resulted in extended delays to PSCo's processing of Interconnection Requests. The *pro forma* LGIP allows an interconnection customer to withdraw its request from the queue without penalty which places little risk on the withdrawing customer, but causes significant harm to any generator that is attempting to interconnect or any load that is trying to purchase output from such generator.

Q. HAS PSCO TRANSMISSION EXPERIENCED A SITUATION WHERE A HIGH QUEUED PROJECT HAS WITHDRAWN, NECESSITATING RESTUDIES?

A. Yes. In November 2018, one of the highest queued projects in the PSCo Queue elected to withdraw from the Queue. That means PSCo must perform restudies of essentially all of the requests lower queued than the withdrawn request. As I noted, approximately 450 MW of requests have withdrawn from the PSCo queue in the first half of 2019.

¹⁷ See *supra* note 11 and accompanying text.

Q. HAS PSCO TRANSMISSION EXPERIENCED A SITUATION WHERE A HIGH QUEUED PROJECT MODIFIED ITS INTERCONNECTION REQUEST, NECESSITATING RESTUDIES?

A. Yes. The *pro forma* LGIP allows interconnection customers to change from requesting NRIS and Energy Resource Interconnection Service (“ERIS”) to requesting just Energy ERIS. An Interconnection Customer might elect to change from NRIS to ERIS if the Interconnection Customer does not wish to fund the Network Upgrades required for NRIS service (because the ERIS study did not require as many Network Upgrades). In September 2018, a 500 MW wind interconnection request submitted in 2016 modified its request from NRIS to ERIS. This change caused the need for cascading restudies, since the Network Upgrades required to provide NRIS service to the modified request are now not needed and lower queued projects that had assumed that project was constructed need to be reevaluated without the Network Upgrades assumed in the model.

Q. HOW DO THE INFEASIBILITY ISSUES AND DELAYS CREATED BY RESTUDIES POTENTIALLY AFFECT VIABLE PROJECTS?

A. As shown in Table 1 and Figure 2 above, the vast majority of the projects currently in the PSCo interconnection queue are proposed wind or solar facilities. These types of generation resources can be constructed relatively quickly as compared to a fossil-fueled resource. For instance, wind, solar, and storage resources can sometimes be constructed and placed in service in less than 18 months. Transmission upgrades associated with interconnection generally require approximately 18 to 36 months to construct after the Interconnection Customer signs an LGIA and agrees to proceed. Many of the existing requests representing wind and solar resources in PSCo’s current queue are trying to

achieve commercialization prior to expiration of federal Production Tax Credits (“PTCs”) or Investment Tax Credits (“ITCs”) if they can also find a load serving counterparty to purchase their power.

If viable wind and solar projects are unable to complete the interconnection queue process in a timely manner, the projects may not achieve commercial operation in time to qualify for the PTC and/or ITC benefits they would otherwise receive if they commence operation before the PTC and ITC provisions expire or phase down. Losing these tax credits (or receiving credits at a lower phase-out level) could cause many projects to become uneconomic, and therefore they may never reach commercial operation. A more efficient queue process would allow the viable projects to proceed to the LGIA stage more quickly, where PSCo can begin the process to obtain required regulatory approvals and construct the required transmission upgrades.

Q. DOES THE OPTION OF PROVISIONAL INTERCONNECTION SERVICE ALLOW VIABLE PROJECTS TO INTERCONNECT BEFORE THE FINAL INTERCONNECTION STUDIES ARE COMPLETE?

A. Yes. Provisional interconnection Service is a new product that went into effect per Order No. 845. A number of ready projects have already requested to use this service and PSCo is in the process of developing agreements with these entities. Even though Provisional Interconnection Service provides a path for interconnecting viable generation, provisional service does not fix PSCo's interconnection issues and places a significant amount of risk on generators using Provisional Interconnection Service. Generators using Provisional Interconnection Service are subject to additional curtailment risks and are liable for unknown amounts of future Network Upgrade costs.

Q. PLEASE DESCRIBE THE RESOURCES PSCO TRANSMISSION HAS APPLIED TO ATTEMPT TO COMPLETE THE LGIP STUDIES USING THE SEQUENTIAL STUDY PROCESS.

A. Xcel Energy Transmission has used both internal transmission planning and engineering personnel and external consultants to attempt to clear the backlog in the PSCo interconnection queue. PSCo Transmission increased the use of consultants over the last two years in order to attempt to process the backlogged queue. Consultants and PSCo (or XES) employees working in coordination with the consultants have expended approximately 11,000 hours in 2018 alone processing, studying, and engineering projects in support of the PSCo generation interconnection requests. Even though PSCo and its

contractors have expended this significant effort to process the interconnection queue,¹⁸ significant issues remain. These issues cannot be solved by increased personnel resources alone; the process itself must be modified. The queue backlogs are depriving generation developers with ready projects of needed business certainty. Since the “cost of entry” to the interconnection queue is so low—a request and a \$10,000 refundable study deposit—higher queued but speculative projects affect completion of interconnection studies and block or delay the development of viable lower queued projects.

Q. DID PSCO TRANSMISSION CONSIDER USING A CLUSTER STUDY PROCESS UNDER THE CURRENT TARIFF?

A. The *pro forma* Tariff requires a 180-day notice to open a cluster window. After the number and size of requests in the queue increased so rapidly, PSCo personnel focused on trying to catch up using serial studies. Even if PSCo had announced a new 180-day cluster window in 2017 to initiate a cluster study by the end of 2017, PSCo would have been unable to perform a study of the cluster due to the volume of interconnection requests that would have been ahead of the requests in the cluster study. In addition, if the volume of requests in the cluster had matched the requests received in the serial queue, it would have been impossible to perform a cluster study because the total generation in the cluster would have likely exceeded the load in the PSCo BAA, meaning the models could not solve.

¹⁸ See *Interconnection Queuing Practices*, 122 FERC ¶61,252 at P 10 (2008) (“2008 Technical Conference Order”) (“The reforms that can be implemented most quickly from a regulatory standpoint are those that do not require any revisions to [the] current tariff. For example, no Commission filings are needed to increase the staff available to work on interconnection studies. . . .”).

D. IMPACTS OF THE LGIA SUSPENSION PROCESS

Q. PLEASE EXPLAIN HOW THE SUSPENSION PROVISIONS IN THE LGIA IN THE CURRENT PSCO TARIFF CAN ALSO AFFECT QUEUE ADMINISTRATION.

A. One way the *pro forma* Tariff can make it difficult for viable but lower queued projects to interconnect is by allowing higher queued projects to enter suspension under Article 5.16 of their LGIA. This commonly occurs in PSCo while the interconnection customer attempts to find a buyer for the output of its generating facility. Without a buyer, generation projects in the PSCo region are not economically viable because they cannot obtain financing. Article 5.16 of the PSCo LGIA, which reflects the FERC *pro forma* LGIA, provides an interconnection customer the ability to suspend its project for up to three years after execution of the LGIA. Such suspensions toll the date of development milestones, Network Upgrade deposit requirements, and the construction of Network Upgrades needed to interconnect the project. PSCo's currently effective Tariff and LGIA permit an Interconnection Customer to suspend for any reason simply by providing notice to PSCo of its decision to suspend.

Once a proposed generator completes the Feasibility Study, System Impact Study and Facilities Study process, it can execute an LGIA. PSCo has found that some interconnection customers place their projects into suspension immediately after they execute their LGIA, or suspend when the first financial milestone is about to be due. In PSCo's experience, most or all interconnection customers who enter suspension do not intend to move forward with construction of their generating facilities until and unless they have a contract to sell the output of their generating facility. If a customer in

suspension later acquires a power purchase agreement (“PPA”) with an LSE, the project will come out of suspension. If the customer does not acquire a contract within three years, however, the suspended LGIA will be terminated and the project will drop out of the queue.

Q. HOW DOES SUSPENSION OF A HIGHER QUEUED PROJECT AFFECT LOWER QUEUED INTERCONNECTION CUSTOMERS?

- A. Suspended generation projects create significant uncertainty for lower queued projects because the suspended generation can have a material impact on the lower queued generation interconnection costs and feasibility. A lower queued project’s Interconnection Facilities or Network Upgrades may be significantly different dependent on a higher queued customer’s ultimate Commercial Operation Date.

For example, if Project A would require construction of a new substation and certain 230 kV network upgrades at a cost of \$10 million, installation of those facilities might facilitate interconnection of additional generation projects at the same substation or interconnected to the 230 kV line at relatively low incremental cost. If Project A suspends shortly after executing its LGIA, however, a lower queued project proposing to interconnect in the same area (Project B) does not know if the facilities needed for Project A will in fact be built or when they might be placed in service. Lower queued interconnection requests are forced to bear this uncertainty until the suspended project either drops out of the interconnection queue or exits suspension and moves forward. In this way, higher queued but speculative projects can block the development of viable, lower queued projects if the higher queued project goes into suspension.

Q. COULD PSCO TRANSMISSION USE “CONSTRUCTION SEQUENCING” TO ADDRESS THE SUSPENSION CONCERN?

A. I do not believe the construction sequencing provisions in the FERC *pro forma* Tariff would be useful in addressing suspensions. Under “construction sequencing,” if a lower queued project is ready to interconnect, but is contingent upon facilities identified for the higher queued project, the lower queued generator may interconnect by paying to advance the facilities that have been identified as Network Upgrades for the higher queued request (or other facilities that would be required to directly interconnect that generator). If the higher queued generator ultimately interconnects, the upgrade cost responsibility is determined by the results of the Interconnection Studies (e.g., the lower queued Interconnection Customer pays for the facilities that the higher queued project uses, and vice versa). The current construction sequencing rules also generally require additional studies for ready projects in order to ensure reliability before interconnection, thus resulting in further delays. While this construction sequencing concept is theoretically simple, it quickly becomes unwieldy. As noted, PSCo has multiple interconnection requests at certain substation locations and each request is not necessarily interchangeable.

Q. PLEASE PROVIDE AN EXAMPLE OF HOW CONSTRUCTION SEQUENCING CAN BECOME UNWIELDY?

A. PSCo discussed the issues related to construction sequencing with stakeholders at its June 19, 2018 open meeting. In that presentation, PSCo provided an example where nine different generators of different types and sizes were requesting interconnection to a specific location. The Transmission Provider’s Interconnection Facilities and Network

Upgrades identified in the respective interconnection study for this illustrative example are shown in Table 2 below.

TABLE 2
CONSTRUCTION SEQUENCING EXAMPLE

Interconnection Request	Transmission Provider's Interconnection Facilities (\$M)	Network Upgrades (\$M)
1	0.5	9
2	7	3
3	1	2
4	12	18
5	0	1
6	20	12
7	2	40
8	1	3
9	5	200

There are many scenarios that can be developed from this example. What if only Interconnection Request number 8 actually moves forward, but it cannot be reliably interconnected using the upgrades identified for Interconnection Request number 1? In another example, imagine if Interconnection Request number 9 moves forward, and then one year later Interconnection Request number 5 moved forward, but the rest of the Interconnection Requests terminate their LGIAs after the three-year suspension term expires. For each of these examples, PSCo would have to restudy each request when it is actually ready to interconnect, resulting in further delays and uncertainty.

The sheer volume of requests pending in the PSCo interconnection queue and the relatively small size of the PSCo BAA loads indicate construction sequencing under the *pro forma* Tariff is not a solution to the issues created by an interconnection suspending

their project under Article 5.16 of the LGIA. As shown in the example above, construction sequencing creates a complicated and confusing process that generally requires additional studies for ready projects in order to ensure reliability before interconnection, thus resulting in further delays.

Q. DOES THE SIZE OF THE PSCO INTERCONNECTION QUEUE IMPLY THE LGIA SUSPENSION PROBLEM COULD BECOME MORE SEVERE?

- A. Yes. Absent implementation of queue reform, the surge in generator interconnection requests will likely result in execution of multiple LGIAs as the serial study processes are completed for the highest queued projects. Since generation projects must have a buyer to proceed, however, many projects that execute LGIAs will likely suspend until they either execute a PPA or upon expiration of the *pro forma* Tariff three-year suspension term.

If a large percentage of these projects issue a notice of suspension immediately after their LGIA is executed, it would make it extremely difficult for viable projects to complete the study processes and interconnect. Lower queued generation projects would face substantial cost uncertainty that could prevent them from obtaining financing and reaching commercial operation.

In addition, once the volume of suspended projects reach the volume of PSCo Network Load, PSCo could no longer process additional requests, for the reasons I discuss above, until the three year suspension term expires.

E. EXPERIENCES IN OTHER REGIONS

Q. YOU MENTIONED THAT YOU MANAGE PERSONNEL WHO HELP PROCESS GENERATOR INTERCONNECTION REQUESTS TO THE NSP AND SPS SYSTEMS IN MISO AND SPP. DID PSCo TRANSMISSION CONSIDER LESSONS LEARNED FROM MISO AND SPP IN DEVELOPING ITS QUEUE REFORM PROPOSAL?

A. Yes. As discussed in Dr. Noailles' testimony, PSCo developed its queue reform proposal primarily by considering the experiences and LGIP reforms filed by other transmission providers in the Western Interconnection, and in particular PNM. Since Xcel Energy Transmission personnel are engaged in the interconnection queue process in three separate regions, personnel in my group interact with all three queue processes and have experience with the effects of the queue reform proposals implemented or proposed by MISO and SPP. For this reason, PSCo and Xcel Energy Transmission personnel also considered the strengths and challenges in the two RTO regions as PSCo evaluated LGIP and process changes to improve administration of the PSCo interconnection queue.

Xcel Energy Transmission's experience in the MISO and SPP regions indicates that queue reform may need to be an ongoing process. MISO is now developing its seventh queue reform proposal, and a number of revisions to SPP's interconnection process were recently accepted by the Commission. XES and PSCo thus recognize that the queue reform proposal submitted in this filing and discussed by Dr. Noailles may not resolve all issues currently facing interconnection customers in the PSCo queue. As such, PSCo committed to stakeholders that PSCo would evaluate its new queue administration processes with stakeholders after two years and submit a report to the

Commission. PSCo will work to further improve our processes over time as needed to facilitate interconnection of new generation, consistent with the policy objectives of Order No. 2003.

F. PSCO NETWORK UPGRADE FUNDING POLICY

Q. HOW DOES THE FUNDING OF NETWORK UPGRADES DIFFER BETWEEN THE PSCO SYSTEM AND RTOS?

- A. One of the significant differences between the RTOs such as MISO, SPP, New York Independent System Operator, Inc. (“NYISO”), or California Independent System Operator Corp. (“CAISO”) and PSCo is how Network Upgrades needed for interconnection are funded. The RTOs directly assign the costs of Network Upgrades to the interconnection projects identified in the interconnection studies as causing the need for the upgrades. The Interconnection Customer is required to provide funds or security during the construction phase, but is also responsible for the full cost of the Network Upgrades after they are placed in service.

PSCo, by contrast, follows the *pro forma* funding mechanism established in Order No. 2003 for non-independent Transmission Providers. The Interconnection Customer bears the costs of the ICIF and the TPIF, but PSCo “rolls in” the costs of Network Upgrades required by new generator interconnections. As such, the loads on the PSCo system—not the interconnecting generator(s)—bear the cost of the Network Upgrades. This funding policy results in significantly less expensive interconnection costs for projects connecting to PSCo compared to one of the RTOs because the majority of costs associated with interconnection are Network Upgrade costs.

Q. WHAT IS THE DIFFERENCE IN COSTS BETWEEN TRANSMISSION PROVIDER'S INTERCONNECTION FACILITIES AND NETWORK UPGRADES IN PSCO?

A. The specific costs of TPIF and Network Upgrades are unique to the interconnection request. Generally TPIF cost less than Network Upgrades because TPIF are only the select facilities between the Point of Interconnection and the point where ownership changes between the Transmission Provider and the Interconnection Customer. This is contrasted with Network Upgrades, which are all facilities on the Transmission Provider's system after the Point of Interconnection. When reviewing the results of PSCo's Interconnection Study Reports from 2003 to 2017, required TPIF ranged from \$0 to \$14 million with an average cost of \$2.3 million. The same study reports identified NU ranging from \$0 to over \$200 million, with an average cost of approximately \$30 million. This shows that the historically-identified average cost of Network Upgrades is approximately ten times the average cost of Transmission Provider's Interconnection Facilities. From experience with the RTOs, it is my understanding that the identified Network Upgrades for a cluster study will likely be significantly higher for larger clusters than the Network Upgrades generally identified in a serial study process.

Q. WILL THE FUNDING OF NETWORK UPGRADES CHANGE UNDER THE PSCO QUEUE REFORM PROPOSAL?

A. No. Under the proposed LGIP changes discussed by Dr. Noailles, PSCo is not proposing to modify the funding language described in Article 11 of the LGIA. Unlike SPP, CAISO, NYISO or MISO, at this time PSCo is not considering direct assignment of generation interconnection related Network Upgrades to the Interconnection Customer.

V. CONCLUSION

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I recommend that the Commission approve PSCo's requested proposed revisions to Attachment N to the Xcel Energy Tariff effective December 5, 2019, as proposed.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Public Service Company of Colorado

)
)
)

Docket No. ER19-____-000

AFFIDAVIT

Ian R. Benson, being duly sworn, deposes and states: The Direct Testimony of Ian R. Benson was prepared by me or under my direct supervision and the statements contained therein and the Exhibits attached thereto are true and correct to the best of my knowledge and belief.


Ian R. Benson

Subscribed and sworn to before me
This 9th day of September 2019.



Notary Public

My Commission expires 1/31/23

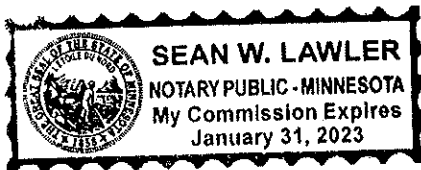


Exhibit XES-101:

PSCo Interconnection
Queue

Queue Position	Requested Point of Interconnection	Voltage	MW	xes	Interconnection Service Type	Request Date	In-Service Date
GI-2016-7	Boone Substation	230	240	Solar	Network Resource	4/26/2016	10/1/2019
GI-2016-9	San Luis Valley Substation	230	480	Solar	Network Resource	4/29/2016	2/1/2023
GI-2016-12	Boone Substation	115	80	Solar	Network Resource	6/10/2016	10/1/2019
GI-2016-13	Comanche-Boone Line	230	200	Solar	Network Resource	6/16/2016	6/1/2020
GI-2016-15	Missile Site Substation	345	300	Wind	Energy Resource	7/28/2016	12/31/2020
GI-2016-18	Comanche Substation	230	120	Solar	Network Resource	8/31/2016	11/1/2018
GI-2016-19	Missile Site Substation	345	150	Wind	Network Resource	9/6/2016	12/1/2019
GI-2016-21	Missile Site Substation	345	199.92	Solar	Network Resource	9/6/2016	12/1/2019
GI-2016-25	Missile Site Substation	345	500.25	Wind	Network Resource	10/6/2016	10/31/2020
GI-2016-27	Missile Site Substation	345	550	Wind	Network Resource	11/7/2016	6/30/2021
GI-2016-28	Collbran Substation	138	51.75	Solar	Network Resource	11/22/2016	12/1/2019
GI-2016-31	Pawnee Substation	230	51.75	Solar	Network Resource	12/19/2016	12/1/2019
GI-2016-32	Missile Site Substation	230	51.75	Solar	Network Resource	12/19/2016	12/1/2019
GI-2017-2	Missile Site Substation	230	150	Solar	Network Resource	6/27/2017	10/31/2019
GI-2017-3	Comanche Substation	230	100	Solar	Network Resource	8/30/2017	12/1/2019
GI-2017-9	Midway-West Station Junction Line	115	80	Solar	Network Resource	2/10/2017	11/30/2019
GI-2017-10	Pawnee-Brick Center	230	150	Solar	Network Resource	4/29/2016	11/30/2019
GI-2017-11	Missile Site Substation	345	500	Solar	Network Resource	2/27/2017	11/1/2020
GI-2017-12	Keenesburg Substation	230	170	Wind	Energy Resource	3/7/2017	8/1/2020
GI-2017-13	Missile Site Substation	345	400	Solar	Network Resource	4/14/2017	11/30/2020
GI-2017-14	Missile Site Substation	230	201	Wind	Network Resource	4/26/2017	12/31/2019
GI-2017-15	Vasquez-Gilcrest Line	115	10.6	Gas	Network Resource	5/11/2017	12/1/2019
GI-2017-16	Midway-Boone Line	230	150	Solar	Network Resource	6/21/2017	12/20/2020
GI-2017-17	Missile Site Substation	345	300	Wind	Network Resource	6/21/2017	12/1/2020
GI-2017-18	Pawnee Substation	230	120	Solar	Network Resource	6/26/2017	12/1/2020
GI-2017-19	Missile Site Substation	230	250	Solar	Network Resource	6/27/2017	12/1/2020
GI-2017-21	Comanche-Boone Line	230	40	Solar	Network Resource	1/18/2017	8/1/2019
GI-2017-23	Missile Site Substation	230	201	Wind	Network Resource	7/11/2017	12/31/2019
GI-2017-24	Pawnee Substation	345	630	Wind	Network Resource	7/20/2017	6/15/2020
GI-2017-27	Comanche-Midway Line	230	80	Solar	Network Resource	8/4/2017	5/1/2022
GI-2017-29	Comanche Substation	345	350	Wind	Network Resource	8/28/2017	10/31/2020
GI-2017-30	Comanche Substation	345	300	Solar	Network Resource	1/20/2017	10/31/2020
GI-2017-31	Comanche Substation	345	300	Solar	Network Resource	8/30/2017	11/1/2020
GI-2017-32	Missile Site Substation	230	100	Solar	Network Resource	8/31/2017	12/31/2021
GI-2017-33	Comanche Substation	345	300	Solar	Network Resource	9/5/2017	11/1/2020
GI-2017-34	Comanche Substation	230	200	Solar	Network Resource	9/7/2017	12/1/2020
GI-2017-35	Comanche-Midway Line	230	400	Solar	Network Resource	9/11/2017	12/1/2020
GI-2017-40	Lamar Substation	230	230	Wind	Network Resource	9/11/2017	9/30/2020
GI-2017-41	Missile Site Substation	345	302.4	Wind	Network Resource	11/13/2017	10/20/2020
GI-2017-42	Lamar Substation	230	200	Wind	Network Resource	11/13/2017	12/1/2020
GI-2017-43	Badger Hill Substation	230	400	Wind	Network Resource	11/16/2017	10/1/2020
GI-2017-44	Badger Hill Substation	230	400	Wind	Network Resource	11/17/2017	10/1/2020
GI-2017-45	Badger Hill Substation	230	200	Wind	Network Resource	11/17/2017	10/1/2020
GI-2017-46	Badger Hill Substation	230	500	Solar	Network Resource	11/17/2017	10/1/2020
GI-2017-47	Badger Hill Substation	230	1000	Wind	Network Resource	11/17/2017	10/1/2020
GI-2017-48	Keenesburg-Ft. St. Vrain Line	230	75	Solar	Network Resource	11/17/2017	12/31/2020
GI-2017-49	Badger Hill Substation	230	500	Solar	Network Resource	11/27/2017	10/31/2022
GI-2017-51	Brick Center	230	75	Solar	Network Resource	11/30/2017	12/31/2020
GI-2018-1	Smoky Hill-Ft. Lupton Line	230	150	Solar + Battery	Network Resource	1/12/2018	5/1/2023
GI-2018-4	Badger Hill Substation	345	700	Wind	Energy Resource	3/2/2018	9/30/2020
GI-2018-5	Badger Hill Substation	345	700	Wind	Network Resource	3/2/2018	9/30/2020
GI-2018-6	Boone-Midway Line	230	150	Solar + Battery	Network Resource	3/16/2018	6/30/2020
GI-2018-7	Keenesburg Substation	230	400.68	Wind	Network Resource	3/26/2018	12/1/2021
GI-2018-8	Keenesburg Substation	230	400.68	Wind	Network Resource	3/26/2018	12/1/2021
GI-2018-9	Keenesburg Substation	230	199.08	Wind	Network Resource	3/26/2018	12/1/2021
GI-2018-10	Pawnee Substation	345	400.68	Wind	Network Resource	3/26/2018	12/1/2021
GI-2018-11	Pawnee Substation	230	199.08	Wind	Network Resource	3/26/2018	12/1/2021
GI-2018-12	Pawnee Substation	230	400.68	Wind	Network Resource	3/26/2018	12/1/2021
GI-2018-13	Pawnee Substation	230	350.28	Wind	Network Resource	3/27/2018	12/1/2021
GI-2018-14	Pawnee Substation	230	350.28	Wind	Network Resource	3/27/2018	12/1/2021
GI-2018-15	Pawnee Substation	230	299.88	Wind	Network Resource	3/27/2018	12/1/2021
GI-2018-16	Ault Substation	345	501.48	Wind	Network Resource	3/27/2018	12/1/2021
GI-2018-17	Ault Substation	345	501.48	Wind	Network Resource	3/27/2018	12/1/2021
GI-2018-18	Green Valley Substation	230	1000	Wind	Network Resource	3/27/2018	12/1/2021
GI-2018-19	Comanche Substation	230	230	Wind	Network Resource	3/29/2018	12/31/2020

GI-2018-20	Keenesburg Substation	230	80	Solar	Network Resource	5/7/2018	10/31/2020
GI-2018-21	Keenesburg Substation	230	220	Solar	Network Resource	5/7/2018	10/31/2020
GI-2018-22	Pronghorn Substation	345	276	Wind	Network Resource	5/25/2018	9/30/2020
GI-2018-23	Hartsel Substation		72	Solar	Network Resource	7/30/2018	12/31/2022
GI-2018-24	Comanche - Daniels Park Line	345	250	Solar + Battery	Network Resource	8/16/2018	12/1/2022
GI-2018-25	Badger Hill Substation	230	200	Solar	Network Resource	8/16/2018	12/1/2022
GI-2018-28	Comanche - Midway Line	230	74.9	Solar	Network Resource	8/22/2018	1/1/2023
GI-2018-29	Barr Lake Substation	230	110	Solar + Battery	Energy Resource	8/22/2018	1/1/2023
GI-2018-31	Valmont Substation	230	100	Battery	Network Resource	9/7/2018	12/31/2020
GI-2018-32	Valmont Substation	230	100	Battery	Network Resource	9/7/2018	12/31/2021
GI-2018-33	Comanche Line	230	240	Solar	Network Resource	9/28/2018	11/1/2021
GI-2019-1	Comanche - Daniels Park Line	230	450	Solar	Network Resource	2/21/2019	12/31/2021
GI-2019-2	Boone Substation	230	350	Solar	Network Resource	2/22/2019	12/31/2021
GI-2019-3	Comanche - Daniels Park Line	345	75	Battery	Energy Resource	3/8/2019	12/1/2022
GI-2019-4	Badger Hill Substation	230	50	Battery	Energy Resource	3/8/2019	12/1/2022
GI-2019-5	Parachute Substation	24	19.99	Solar	Energy Resource	4/17/2019	12/1/2020
GI-2019-6	EVRAZ-Comanche	230	240	Solar	Energy Resource	5/17/2019	6/1/2021

XES-101

Total

22183

% NRIS by MW 0.95

% NRIS by request 0.90

Exhibit XES-200:

Direct Testimony
of
Liam D. Noailles

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Public Service Company of Colorado	)	
	)	Docket No. ER19-____-000
	)	

**DIRECT TESTIMONY
OF
LIAM D. NOAILLES**

**XCEL ENERGY SERVICES INC.
ON BEHALF OF
PUBLIC SERVICE COMPANY OF COLORADO**

September 9, 2019

DIRECT TESTIMONY OF LIAM NOAILLES

TABLE OF CONTENTS

I.	INTRODUCTION AND EXPERIENCE	1
II.	PURPOSE AND SUMMARY	3
III.	DEVELOPMENT OF QUEUE REFORM PROPOSAL	6
IV.	DESCRIPTION OF PROPOSED TARIFF REVISIONS	13
A.	INFORMATIONAL INTERCONNECTION STUDY AND OTHER AVENUES FOR INFORMATION	13
B.	DEFINITIVE INTERCONNECTION STUDY PROCESS	18
1.	CLUSTERED STUDY PROCESS	20
2.	STUDY PHASES	28
C.	TIMING OF STUDIES	31
D.	ALLOCATION OF COSTS	33
1.	STUDY COSTS	33
2.	ALLOCATION OF COSTS ASSOCIATED WITH TRANSMISSION FACILITIES	35
E.	READINESS MILESTONES	39
1.	CONTRACT FOR SALE OPTION	42
2.	INCLUSION IN A RESOURCE PLAN OPTION	44
3.	PROVISIONAL INTERCONNECTION SERVICE OPTION	45
4.	SECURITY	47
F.	WITHDRAWAL PENALTY	51
G.	SITE CONTROL	62
H.	LGIA MODIFICATIONS	64
1.	CLARIFICATION OF TERMINATION PROCEDURES	64
2.	SUSPENSION LANGUAGE	65
I.	TRANSITIONAL PROCESS	67
1.	TRANSITIONAL SERIAL PROCESS	69
2.	TRANSITIONAL CLUSTER PROCESS	71
3.	TIMING CONSIDERATIONS	75
V.	CONCLUSION	76

**DIRECT TESTIMONY OF
LIAM NOAILLES**

Summary of Testimony

Dr. Noailles discusses Public Service Company of Colorado's ("PSCo") proposed revisions to its Large Generator Interconnection Procedures ("LGIP") contained in Attachment N to the Xcel Energy Tariff (the "Revised LGIP"). Dr. Noailles also discusses the stakeholder process used to help develop these proposed revisions. Dr. Noailles provides an overview of the proposed Revised LGIP, which reflects a move from a first-come, first-served approach to a first-ready, first-served approach. Dr. Noailles explains how the various components of the Revised LGIP are designed to work together and address the challenges currently facing the PSCo interconnection queue and to help ensure PSCo is able to efficiently and fairly provide interconnection service. Dr. Noailles discusses PSCo's proposal to determine readiness and other related concepts which are central to the Revised LGIP. Dr. Noailles provides a description of the various aspects of the proposal that provide Interconnection Customers with information so that the Interconnection Customers can ensure that a project is ready prior to entering the generation interconnection queue. Dr. Noailles also describes the proposed transitional process that facilitates the transition of Interconnection Requests in PSCo's current LGIP to the Revised LGIP. Finally, Dr. Noailles discusses other additions included in the Revised LGIP.

**DIRECT TESTIMONY OF
LIAM NOAILLES**

I. INTRODUCTION AND EXPERIENCE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Liam D. Noailles. My office address is 1800 Larimer Street, 12th Floor, Denver, Colorado, 80202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Xcel Energy Services Inc. (“XES”), the centralized service company subsidiary of Xcel Energy Inc. (“Xcel Energy”), a public utility holding company. I am a Manager, Federal Regulatory Administration.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of PSCo, a utility operating company subsidiary of Xcel Energy. PSCo is an integrated electric and natural gas utility operating in Colorado, including in the Denver metropolitan area, and is one of four utility operating company subsidiaries of Xcel Energy.

Q. PLEASE EXPLAIN YOUR DUTIES AND RESPONSIBILITIES.

A. The Federal Regulatory Administration group at XES is responsible for supporting regulatory policy development, regulatory filings (such as a tariff change filing), regulatory activity, and compliance monitoring activities involving the Federal Energy Regulatory Commission (the “Commission” or “FERC”) for the four Xcel Energy utility operating companies, including PSCo. The other Xcel Energy Operating Companies are Northern States Power Company, a Minnesota corporation (“NSPM”), Northern States Power Company, a Wisconsin corporation (“NSPW,” and collectively with NSPM, the “NSP Companies”), and Southwestern Public Service Company (“SPS”).

1 **Q. PLEASE BRIEFLY DESCRIBE YOUR BACKGROUND, INCLUDING YOUR**
2 **EDUCATION AND YOUR EXPERIENCE IN THE ELECTRIC UTILITY**
3 **BUSINESS.**

4 A. In 1997, I received my Bachelor of Arts degree from Reed College with a major in
5 Chemistry. In 2002, I received my Doctor of Philosophy from the University of Oxford
6 in Inorganic Chemistry. From 2002 to 2004, I worked as a post-doctoral fellow at the
7 University of California, Los Angeles in the Department of Materials Science and
8 Engineering. Between 2004 and 2008, I worked for Cabot Corporation as a Materials
9 Scientist and then as a Senior Scientist developing new business lines utilizing novel
10 nano to micron sized materials. I started at Xcel Energy in 2008 as Manager, Market
11 Operations. In that role I was responsible for, among other things, wholesale market
12 policy development, including representing the NSP Companies in stakeholder and other
13 processes at the Midcontinent Independent System Operator, Inc. (“MISO”), the
14 Regional Transmission Organization (“RTO”) to which the NSP Companies belong. In
15 2013, I transferred into my current role in XES’s Federal Regulatory Administration
16 group where I manage federal electric transmission related policy, tariff and transmission
17 related compliance issues.

18 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY OR AFFIDAVITS**
19 **BEFORE ANY REGULATORY COMMISSION?**

20 A. Yes, I previously submitted an affidavit on behalf of XES to FERC in Docket No. EL13-
21 75, a section 206 complaint proceeding involving MISO and PJM Interconnection, LLC
22 (“PJM”). I also recently submitted pre-filed direct testimony in Docket No. ER18-176-
23 000 related to the terms and conditions of service and rates for use of the PSCo Rush

1 Creek Gen-Tie line. I have also provided pre-filed direct testimony in Docket No ER19-
2 366-000, which was the “First Revised LGIP” filing.

3 **II. PURPOSE AND SUMMARY**

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

5 A. The purpose of my testimony is to provide an overview of the mechanics and purpose of
6 PSCo’s amendments to its interconnection procedures. PSCo’s Revised LGIP includes
7 revisions to PSCo’s LGIP and also to PSCo’s *pro forma* Large Generator Interconnection
8 Agreement (“LGIA”). PSCo’s LGIP and *pro forma* LGIA are contained in Attachment N
9 to the Xcel Energy Operating Companies Open Access Transmission Tariff (“Xcel
10 Energy Tariff” or “Tariff”). The proposed queue reform tariff revisions are applicable to
11 the PSCo Transmission System in the Western Interconnection. (The tariff revisions will
12 not apply to the NSP Companies or SPS systems.) PSCo’s queue reform proposal will
13 transition PSCo’s LGIP from a first-come, first-served model under the Commission’s
14 Order No. 2003¹ *pro forma* tariff provisions to a first-ready, first-served model. I also
15 discuss how PSCo developed its queue reform proposal and the stakeholder process that
16 informed PSCo’s queue reform work.

17 **Q. WHAT ARE THE GOALS PSCO IS SEEKING TO ACHIEVE WITH THESE**
18 **TARIFF CHANGES?**

19 A. PSCo’s ultimate goal is to improve the interconnection process for PSCo’s customers.
20 To meet that goal, PSCo must be able to administer the process in a timely manner. To

¹ *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146 (2003), *order on reh’g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160, *order on reh’g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171 (2004), *order on reh’g*, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005), *aff’d sub nom. Nat’l Ass’n of Regulatory Util. Comm’rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007) (collectively, “Order No. 2003”).

1 that end, PSCo's proposed tariff changes are intended to address the material backlog of
2 Interconnection Requests and create a more efficient and streamlined process.

3 PSCo is proposing a comprehensive queue reform that aims to meet several
4 related goals. *First*, PSCo intends that the Revised LGIP will better accommodate ready
5 or near-ready projects entering the Queue by providing a process where developers obtain
6 specific interconnection information prior to entering the Queue and by incentivizing
7 developers to not prematurely enter the Queue or from submitting Interconnection
8 Requests for speculative or non-viable projects. *Second*, PSCo intends to address the
9 current delays in the multi-step study process associated with the cascading restudies that
10 result from projects being withdrawn from the Queue (as discussed by Mr. Benson);
11 PSCo proposes to eliminate the current serial interconnection study process and
12 implement a clustered interconnection study process that will commence on a bi-annual
13 basis. *Third*, PSCo intends to further streamline the cluster study process by merging the
14 Interconnection Feasibility Study and the System Impact Study, as those studies are
15 contemplated under the FERC *pro forma* and current PSCo LGIP, thus creating a single,
16 multi-phased Definitive Interconnection System Impact Study ("DISIS"). *Fourth*, PSCo
17 intends to implement an orderly transition from the serial study process to a clustered
18 study process in a manner that, consistent with Commission precedent, allows only ready
19 projects to advance by establishing a one-time transitional serial process and a one-time
20 transitional cluster process before fully implementing the DISIS Cluster process going
21 forward.

22 **Q. WHEN DOES PSCO PROPOSE THE REVISED LGIP BE EFFECTIVE?**

23 A. PSCo proposes that the Revised LGIP be effective December 5, 2019, eighty-seven (87)

1 days after this filing. If accepted as of that effective date, PSCo would initiate the first
2 DISIS Cluster process on February 1, 2020, when the first DISIS Request Window is
3 proposed to open.

4 **Q. PLEASE SUMMARIZE THE PROPOSED TARIFF CHANGES.**

5 A. The proposed revisions to the Xcel Energy Tariff include:

- 6 • The creation of an “Informational Interconnection Study” (“IIS”) and a
7 “Definitive Interconnection Study Process” (“Definitive Interconnection Study”).
- 8 • The Informational Interconnection Study provides information to Interconnection
9 Customers prior to entering the Generator Interconnection Queue.
- 10 • The DISIS cluster study moves the LGIP process from a first-come, first-served
11 serially performed study process to a first-ready, first-served cluster study
12 process.
- 13 • Incorporation of Readiness Milestones into the Definitive Interconnection Study
14 that demonstrate that projects are ready or near-ready to interconnect.
- 15 • Incorporation of a withdrawal penalty, which will discourage projects from
16 proceeding through the Queue if they are not ready to do so.
- 17 • A Resource Solicitation Cluster to allow for Interconnection Customers who are
18 selected by a load-serving entity (“LSE”) through a resource planning process to
19 move the selected projects forward, while respecting Queue order in accordance
20 with the Commission’s prior orders on this topic.²

² See *Xcel Energy Operating Cos.*, 106 FERC ¶ 61,260 (2004) (“PSCo Implementation Order I”); *Xcel Energy Operating Cos.*, 107 FERC ¶ 61,313 (2004) (“PSCo Implementation Order II”); *Xcel Energy Operating Cos.*, 109 FERC ¶ 61,072 (2004) (“PSCo Implementation Order III”) (collectively, “2004 PSCo Implementation Orders”).

- The incorporation of two transitional processes to transition Interconnection Customers from the current LGIP to the Revised LGIP.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits to my Direct Testimony:

- Exhibit XES-201 – PNM Queue Reform Outcomes Overview;
- Exhibit XES-202 – Appendix A-1, which is an overview and timeline of the initiation of a DISIS Cluster
- Exhibit XES-203 – Definitive Interconnection Study Process and Approximate Timeline for the First DISIS Cluster
- Exhibit XES-204 – Examples of Security and Withdrawal Penalties
- Exhibit XES-205 – Example of Network Upgrade Cost Allocation
- Exhibit XES-206 – Stakeholder Comments Related to Harm Caused by Delayed Interconnection Process

Q. ARE ANY OTHER WITNESSES SPONSORING TESTIMONY AND EXHIBITS?

A. Yes. PSCo witness Mr. R. Ian Benson describes PSCo, the state of the current PSCo Interconnection Queue and the historic events prompting the need for queue reform.³

III. DEVELOPMENT OF QUEUE REFORM PROPOSAL

Q. PLEASE DESCRIBE THE DEVELOPMENT OF THE QUEUE REFORM PROPOSAL.

A. In light of the clear need for queue reform discussed by Mr. Benson, PSCo undertook the process of developing its queue reform proposal. The process began by first reviewing the Commission's guidance on queue reform⁴ as well as surveying other queue reform

³ See Ex. XES-100, Testimony of Ian R. Benson.

⁴ See, e.g., *Interconnection Queuing Practices*, 122 FERC ¶ 61,252 (2008) (hereinafter as "2008 Technical Conference Order").

1 efforts throughout the country proposed by public utilities within and outside of RTOs.
2 Through this work, PSCo sought to identify solutions implemented by similarly situated
3 public utilities and what additional modifications could be made to PSCo's LGIP that
4 would incorporate lessons learned from the experiences of others. After this analysis was
5 completed, PSCo drafted its initial proposed changes to the LGIP. Utilizing this
6 proposed revised LGIP as a starting point, PSCo then undertook a robust stakeholder
7 process to solicit feedback from interested parties over a period of several months. This
8 feedback was considered and, where possible, incorporated into a modified proposal that
9 was followed by a detailed review of draft LGIP tariff language, finally culminating in
10 PSCo's proposed First Revised LGIP. Upon review of PSCo's First Revised LGIP filing,
11 the Commission provided guidance for PSCo to make specific modifications if it
12 intended to refile a queue reform proposal.⁵ The Commission provided additional clarity
13 and guidance in its Rehearing Order.⁶ PSCo incorporated the Commission's guidance in
14 a updated proposal and initiated a second stakeholder process to review the proposed
15 changes. PSCo's final proposal provided in this instant filing reflects the additional
16 stakeholder feedback received during this second stakeholder process.

17 **Q. PLEASE DESCRIBE THE SURVEY WORK PSCO PERFORMED.**

18 A. Because many public utilities have already undertaken queue reform efforts, PSCo
19 believed that incorporating that experience and leveraging the associated learnings would
20 play a vital role in the development of PSCo's own proposal. In particular, PSCo
21 evaluated similarly situated non-RTO transmission providers to examine whether, and

⁵ *Pub. Serv. Co. of Colo.*, 166 FERC ¶ 61,076 (2019) (hereinafter as "Guidance Order").

⁶ *Pub. Serv. Co. of Colo.*, 167 FERC ¶ 61,141 (2019) (hereinafter as "Rehearing Order").

1 how, those utilities moved forward with queue reform, and what lessons could be learned
2 from their work. In addition, the Commission’s 2008 Technical Conference Order in
3 Docket No. AD08-2-000 served as an important starting point to help ensure that any
4 queue reform proposal would be consistent with Commission guidance. PSCo reviewed
5 the queue reforms conducted by several non-RTO transmission providers in the years
6 following this 2008 order. Additionally, PSCo reviewed the many iterations of queue
7 reform performed in MISO, which administers the generator interconnection queue for
8 the NSP Companies; the Southwest Power Pool, Inc. (“SPP”), the RTO which
9 administers the queue for the SPS system; the California Independent System Operator
10 Corp. (“CAISO”), the sole RTO in the Western Interconnection; the New York
11 Independent System Operator, Inc. (“NYISO”); and other RTOs to determine what
12 structural changes have been tested throughout the country, as well as the results of the
13 tariff changes.

14 **Q. WHAT WERE THE RESULTS OF PSCO’S SURVEY WORK?**

15 A. PSCo identified Public Service Company of New Mexico (“PNM”) as a similarly situated
16 utility that had undertaken queue reform to address issues similar to those faced by PSCo.
17 PNM’s queue reform appeared to be the most comprehensive non-RTO queue reform
18 proposal accepted by the Commission, and PNM—like PSCo—operates in the Western
19 Interconnection. The Commission authorized PNM to transition their Interconnection
20 Queue from a first-come, first-served model to a first-ready, first-served model in Docket
21 No. ER11-3522.⁷ In light of this, PSCo utilized PNM’s revised LGIP as a starting point

⁷ *Pub. Serv. Co. of N.M.*, 136 FERC ¶ 61,231 at P 72 (2011) (hereinafter as “PNM Queue Reform Order”), *reh’g denied*, 139 FERC ¶ 61,155 (2012).

1 for its own Queue Reform efforts.

2 I note that Arizona Public Service Company (“APS”), Nevada Power Company
3 (“NV Energy”), and El Paso Electric Services Co. (“El Paso Electric”) were also non-
4 RTO member public utilities in the Western Interconnection whose queue reform efforts
5 were approved by the Commission.⁸ While the queue reforms of APS, NV Energy, and
6 El Paso Electric were beneficial for those non-independent Transmission Providers and
7 provide useful precedent, PSCo determined that the reforms undertaken by these utilities,
8 on their own, would be insufficient to address the issues confronting the PSCo Queue.

9 **Q. PLEASE DESCRIBE PNM AND PNM’S QUEUE REFORM FILING.**

10 A. PNM is a non-RTO member public utility with approximately 2,600 MW of peak load in
11 its Balancing Area Authority (“BAA”) as of 2011. At the time it made its queue reform
12 filing, PNM had 44 larger generator Interconnection Requests totaling approximately
13 15,000 MW in its interconnection queue. As Mr. Benson describes in his Direct
14 Testimony, PNM’s situation was similar to PSCo’s: both are non-RTO member public
15 utilities with Interconnection Requests totaling an amount of generation several times the
16 amount of peak load in each Transmission Provider’s BAA.

17 In its filings with the Commission, PNM proposed to conduct cluster
18 interconnection studies via two separate interconnection queues: (1) a preliminary queue;
19 and (2) a definitive queue. The preliminary queue would provide customers with an
20 opportunity to refine their interconnection requests. The definitive queue was intended to
21 study projects that are commercially viable and ready to proceed. To discourage

⁸ *Ariz. Pub. Serv. Co.*, 137 FERC ¶ 61,099 (2011); *NV Energy, Inc.*, 142 FERC ¶ 61,165 (2013); *El Paso Elec. Servs. Co.*, 137 FERC ¶ 61,101 (2011). NV Energy jointly filed its proposal with its affiliate, Sierra Pacific Power Company.

1 speculative projects from entering the definitive queue, PNM established milestones for a
2 customer to meet, which included, among other things, deposit requirements,
3 demonstration of site control, increased technical information requirements, and
4 additional readiness milestones.

5 PNM argued that its proposed LGIP would: (1) create a fast-track approach for
6 customers that meet specific milestones; (2) reduce the impact of suspended projects on
7 other projects; (3) encourage speculative projects to enter a preliminary queue; and
8 (4) discourage speculative projects from entering the final, definitive queue by increasing
9 deposits. To support this structure, PNM proposed to establish a withdrawal penalty for
10 projects that withdraw from the queue. PNM also proposed a transitional process to
11 facilitate the move from the pre-reform LGIP to the revised LGIP processes.

12 **Q. DID PSCO DISCUSS PNM'S QUEUE REFORM WITH PNM AND OTHER**
13 **STAKEHOLDERS?**

14 A. Yes. PSCo personnel met with PNM personnel several times to better understand the
15 impact and effectiveness of PNM's queue reform. PNM provided useful technical and
16 policy information related to its revised LGIP as well as data related to its interconnection
17 studies. The discussions with PNM were extremely helpful, and PSCo appreciates
18 PNM's assistance. PNM was also invited and participated in PSCo's stakeholder
19 process. As is discussed further in my testimony, PSCo shared information received
20 from PNM with stakeholders to facilitate the development of the Revised LGIP proposal
21 included in the instant filing.

22 **Q. DID PNM'S QUEUE REFORM STRUCTURE ACCOMPLISH ITS GOALS?**

23 A. Yes and no. Initially, the reforms achieved the goal of decreasing the backlog of

1 Interconnection Requests, but recently the same issues the reforms attempted to address
2 seem to be returning. It appears that PNM's queue reforms did allow the utility to
3 process the unmanageable queue that existed in 2011, thereby mitigating delays inherent
4 in the serial process. As shown in Exhibit XES-201, a more manageable amount—2,000
5 MW—instead of 15,000 MW of requests opted to transition into PNM's new process.
6 However, the graph in XES-201 shows that none of the projects that transitioned from
7 PNM's pre-reform LGIP to the new LGIP ultimately executed an LGIA with PNM and,
8 thus, none of those projects ever achieved commercial operation. This suggested to
9 PSCo that the transition projects were not actually ready to interconnect and that the
10 requirements to transition did not appropriately identify ready projects. Moreover, as
11 also shown in Exhibit XES-201, the sizes of the next five clusters studied under PNM's
12 redesigned LGIP appear to have been manageable and a number of interconnection
13 projects proceeded through those clusters to execute LGIAs. However, in these next five
14 clusters a larger number of projects withdrew their requests in the later stages - between
15 the System Impact Study and the Interconnection Facilities Study phases. More
16 importantly, XES-201 shows the size of the clusters studied by PNM have recently risen,
17 steadily and significantly. Clusters 6, 7, 8, and 9 increased in size from 158 MW to 702
18 MW to 1249 MW to 1625 MW. Such a trend is unsustainable and indicates that the
19 underlying design is flawed.

20 When analyzing the timing and circumstances of these withdrawals from the
21 PNM queue, PSCo noted that the timing of project withdrawals coincided with the
22 deadlines for the financial requirements embedded in the study process. This correlation
23 indicates to PSCo that the financial requirement creates a decision point for developers to

determine whether to advance their projects. The impact of withdrawal is significant because, even under the queue reforms, a withdrawal still results in a restudy by PNM which can delay the interconnection service provided to other, viable projects.

Q. ARE THERE DIFFERENCES BETWEEN THE PNM QUEUE AND THE CURRENT PSCO QUEUE THAT AFFECTED PSCO'S ANALYSIS?

A. Yes. One key difference between requests submitted to PNM and requests to PSCO is that a substantial number of the projects seeking to interconnect with PNM will deliver their generation to loads off of the PNM system, typically on the APS system or to the CAISO market. By contrast, as noted by Mr. Benson, more than 90 percent of all requests in the current PSCO Queue seek Network Resource Interconnection Service ("NRIS") where the request is seeking to deliver to loads on the PSCO system.

Q. WHAT KEY LESSONS DID PSCO LEARN FROM PNM'S EXPERIENCE?

A. PSCO believes that the main reason for withdrawals of Interconnection Requests after the System Impact Study phase and the growing size of PNM's interconnection clusters is that projects that are not truly ready to advance to commercial operation are entering the PNM queue. PSCO understands that most customers use the financial security to proceed through the interconnection process and—further—that most customers understand that the financial security is refundable if the project does not reach commercial operation. In PNM's tariff, these customers will only pay a withdrawal penalty of one times the study costs if they withdraw. PSCO believes the reason non-ready projects continue to enter the PNM queue is because the financial commitment used to demonstrate readiness is refundable and the withdrawal penalty is not significant.

Q: HAVE YOU DESCRIBED THE STAKEHOLDER PROCESS THAT WAS USED

TO DEVELOP THE FIRST REVISED LGIP?

A. Yes. My testimony in ER19-366 provides a review of the stakeholder process used to develop the first Revised LGIP.

Q. ASSUMING THIS SECOND REVISED LGIP IS APPROVED, DO YOU PROPOSE TO EVALUATE THE EFFECTIVENESS OF THE PROPOSAL IN THE COMING YEARS?

A. Yes. PSCo proposes an evaluation of the Revised LGIP after two years of experience, in order to determine whether the proposed tariff revisions are achieving the goals of providing an interconnection process that is efficient and fair. PSCo makes this commitment to the Commission as part of its effort to achieve stakeholder consensus consistent with PSCo's stakeholder process.

IV. DESCRIPTION OF PROPOSED TARIFF REVISIONS

A. INFORMATIONAL INTERCONNECTION STUDY AND OTHER AVENUES FOR INFORMATION

Q. PLEASE DESCRIBE THE INFORMATIONAL INTERCONNECTION STUDY.

A. PSCo is proposing that potential Interconnection Customers be permitted to evaluate interconnection feasibility by means of a fully customizable Informational Interconnection Study prior to entering into the Definitive Interconnection Study Process and accepting a Queue Position.

The Informational Interconnection Study is modeled after and replaces the "Optional Study" from the Order No. 2003 *pro forma* LGIP but is more flexible for the customer in two important ways. First, an Interconnection Customer can request that PSCo perform an Informational Interconnection Study at any time instead of only after

1 the completion of the System Impact Study, as otherwise required under PSCo's current
2 LGIP. Second, an Interconnection Customer can determine the scope of the study so that
3 the study can be tailored to the customer's particular needs and objectives.

4 Consequently, the Informational Interconnection Study enables the
5 Interconnection Customer to study almost any interconnection scenario, including the
6 evaluation of location, voltage, and size of potential generation. The customer now has
7 the option to evaluate a single project in isolation, a cluster of projects, or even the impact
8 of other clustered generation on a specific Interconnection Request. The Informational
9 Interconnection Study may be limited much like a traditional Energy Resource
10 Interconnection Service ("ERIS") Feasibility Study, or may be similar to a full NRIS
11 System Impact Study that includes power-flow, voltage, stability, and short-circuit
12 analysis.

13 **Q. WHY IS THE OPTIONAL STUDY IN THE *PRO FORMA* NOT SUFFICIENT TO**
14 **PROVIDE CUSTOMERS WITH INFORMATION TO DETERMINE**
15 **READINESS?**

16 A. The serial nature of the studies required under PSCo's current LGIP, along with the
17 constrained period during which an Interconnection Customer can request an optional
18 study, requires Interconnection Customers whose projects are not fully ready to proceed
19 to enter the Queue so that they may obtain the specific information needed to determine
20 whether their projects are viable. Under PSCo's current LGIP, the Optional Study is only
21 available after a System Impact Study is complete and is intended to provide the
22 customer information on interconnection costs if higher queued generation withdraw or
23 for transmission service costs under different scenarios. It is not intended to provide the

1 Interconnection Customer with needed information before the customer enters the queue.

2 **Q. WHAT ARE SOME OF THE BENEFITS OF THIS NEW INFORMATIONAL**
3 **INTERCONNECTION STUDY?**

4 A. The IIS provides greater flexibility to the Interconnection Customer in several different
5 ways. The first benefit is that the new study process provides an avenue for developers to
6 obtain and evaluate interconnection-related information for their projects before entering
7 the Queue. In doing so, this study work does not adversely affect the Queue or preclude
8 other ready projects from advancing through the Definitive Interconnection Study
9 Process.

10 Informational Interconnection Studies are for informational purposes only and are
11 not queued studies. Since the Interconnection Customer is not committing to entering the
12 Queue through this study process, the Interconnection Customer is able to avoid the
13 withdrawal penalty associated with the new Definitive Interconnection Study Process and
14 may withhold or refine its Interconnection Request until the Interconnection Customer is
15 truly ready to move forward with a project.

16 The second benefit of the Informational Interconnection Study relates to its
17 flexible scoping. The scope of work will be proposed by the Interconnection Customer to
18 suit the Interconnection Customer's business needs and PSCo will work with the
19 customer to refine the scope of work. In this way, the IIS should facilitate the
20 Interconnection Customer's understanding of potential interconnection related costs for
21 their project prior to entering the project into the Definitive Interconnection Study
22 Process.

23 The third benefit is that the results of the IIS could form the basis of a Provisional

1 Large Generator Interconnection Agreement (“Provisional LGIA”), which as discussed
2 below can satisfy a Readiness Milestone needed to advance in the Queue.

3 **Q. WHAT COSTS WILL BE CHARGED TO INTERCONNECTION CUSTOMERS?**

4 A. Consistent with Order No. 2003, Interconnection Customers will pay their actual study
5 costs. Because of the varied scope of these Informational Interconnection Studies, the
6 actual costs may widely vary. PSCo proposes to require a \$10,000 deposit for the
7 Informational Interconnection Study, which will be reconciled to the Interconnection
8 Customer’s actual study costs when the study is complete.

9 **Q. ARE THERE ADDITIONAL AVENUES AVAILABLE TO INTERCONNECTION**
10 **CUSTOMERS WHO WISH TO OBTAIN INFORMATION BEFORE THE**
11 **START OF THE DISIS?**

12 A. Yes. Interconnection Customers gain information such what other generations have
13 requested interconnection in that cluster during the Customer Engagement Window
14 following the filing of an Interconnection Request and prior to entering the Queue. I will
15 discuss this in greater detail below as part of my description of the Definitive
16 Interconnection Study Process.

17 In addition, the Commission’s recent directives in Order No. 845 requires PSCo
18 to post study models and assumptions on OASIS.⁹ The new rule enables customers to
19 study different points of interconnection and configuration for themselves, thus further
20 enhancing a developer’s ability to obtain valuable interconnection information without

⁹ *Reform of Generator Interconnection Procedures and Agreements*, Order No. 845, 163 FERC ¶ 61,043 at P 558 (2018) (“Order No. 845”), *reh’g denied*, 165 FERC ¶ 61,090 (2018). The Commission stayed the effective date of the model posting requirements until 90 days after the Commission issues an order on the requests for rehearing of Order No. 845. *See Reform of Generator Interconnection Procedures and Agreements*, Docket Nos. RM17-8-000 and -001, Notice of Extension of Compliance Date (Oct. 3, 2018).

1 having to prematurely enter the Queue. PSCo currently posts models and assumptions
2 and will post models and assumptions related to the cluster study proposal if this Second
3 Revised LGIP is accepted.

4 **Q. RATHER THAN UNDERTAKE THE INFORMATIONAL INTERCONNECTION**
5 **STUDY PROCESS AND RISK A LOWER QUEUE POSITION IN THE FUTURE,**
6 **WHY WOULDN'T AN INTERCONNECTION CUSTOMER SIMPLY ENTER**
7 **THE DISIS QUEUE AND OBTAIN NEEDED INTERCONNECTION**
8 **INFORMATION WHILE MAINTAINING A BETTER QUEUE POSITION?**

9 A. Interconnection customers do retain the ability to do this, even for speculative projects.
10 That said, PSCo's proposal is designed to discourage those projects from entering and
11 remaining in the queue if their projects remains speculative. This is accomplished
12 through stepwise increasing readiness requirements and reasonable off ramps for such
13 projects before requiring more significant demonstrations of readiness.

14 **Q. WHY HAVE DEVELOPERS SUBMITTED SPECULATIVE PROJECTS INTO**
15 **THE PSCO QUEUE IN THE PAST?**

16 A. As discussed in more detail in the Testimony of Mr. Benson, PSCo believes developers
17 have historically submitted interconnection requests for speculative projects and placed
18 them in the Queue because (1) it was the only avenue for developers to obtain detailed
19 interconnection related information on the PSCo system, (2) there has been little risk or
20 cost for Interconnection Customers to advance non-viable projects and subsequently
21 withdraw from the Queue, and (3) as a business process, Interconnection Customers
22 could complete the interconnection process and suspend their project (without penalty)
23 while they worked to make their project commercially viable.

PSCo addresses each of these three items in its Revised LGIP. First, the Information Interconnection Study and the Customer Engagement Window provide the information a developer may need to inform readiness. Second, PSCo proposes a series of Readiness Milestones and Site Control provisions in the new Definitive Interconnection Study Process so advancing through the interconnection process is no longer viewed as a free option. Third, when faced with a more certain and efficient interconnection process (combined with a process that does not allow lengthy back-end suspensions at no cost), developers may move the interconnection request to later in their development process.

B. DEFINITIVE INTERCONNECTION STUDY PROCESS

Q. WHAT IS THE DEFINITIVE INTERCONNECTION STUDY PROCESS?

A. The Definitive Interconnection Study Process is a multi-phase interconnection study process that culminates in an LGIA under which the Interconnection Customer will take Interconnection Service. As shown in the figure below, the Definitive Interconnection Study Process has four main phases (Phase 1, Phase 2, Phase 3, and Phase 4), which consist of a multiphase clustered Definitive Interconnection System Impact Study (“DISIS”) (Phases 1–3) followed by an individual Interconnection Facilities Study for each Interconnection Request (Phase 4). As noted above, and discussed further below, Interconnection Customers must meet certain Readiness Milestones that demonstrate increasing readiness over the course of the process in order to advance to a successive phase. More specifically, Readiness Milestone 1 (“M1”) is satisfied before moving to Phase 1, Readiness Milestone 2 (“M2”) is satisfied before moving to Phase 2, Readiness Milestone 3 (“M3”) is satisfied before moving to Phase 3 and Readiness Milestone 4

(“M4”) is satisfied before moving to Phase 4. Phase 5 is execution of the LGIA, and Readiness Milestone 5 (“M5”) is required at that time.

The Revised LGIP provides Interconnection Customers with the flexibility to withdraw from the Queue in the early phases with little risk if the projected interconnection costs, or some other issue, results in the project not being ready to move forward with interconnection. The demonstration of readiness required will rise with each successive phase, such that only Interconnection Customers with sufficiently developed projects are advancing through the study process.

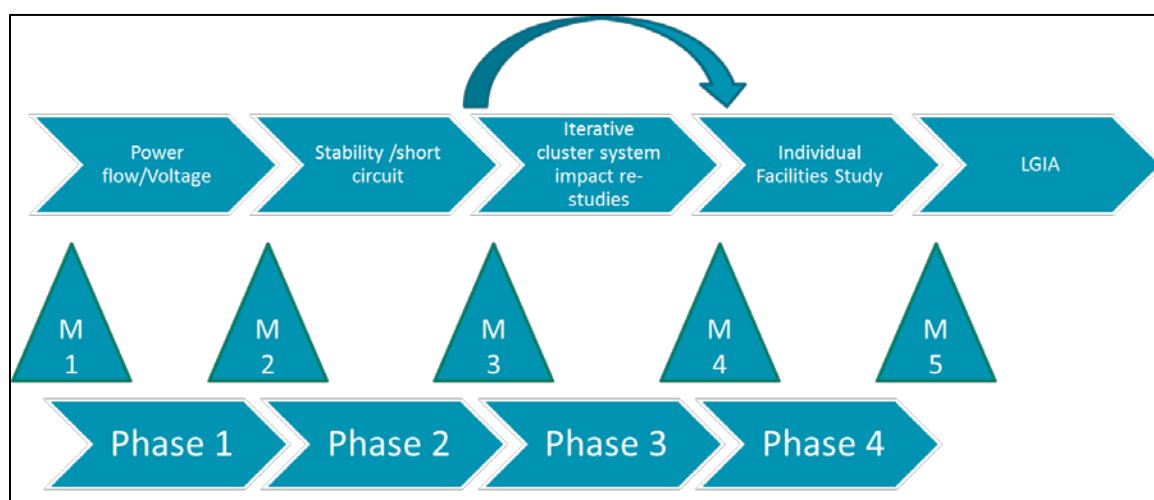


Figure 1. The Definitive Interconnection Study Process

Q. IS PSCO PROVIDING A PROCESS DIAGRAM FOR THE DEFINITIVE INTERCONNECTION STUDY PROCESS?

A. Yes. As appendices to the Revised LGIP, PSCo is providing: (1) Appendix A-1, which is an overview and timeline of initiation of a DISIS Cluster, including the Interconnection Request Window, Customer Engagement Window, and Phase 1 of the DISIS; and (2) Appendix A-2, which is an overview and timeline of the Definitive Interconnection Study Process, including the Phases and Readiness Milestones associated with the

Definitive Interconnection System Impact Study. Besides the process diagram above in Figure 1 and those provided as appendices to the tariff, Exhibit XES-202 provides Appendix A-1 and Exhibit XES-203 provides a detailed timeline for the first DISIS Cluster. Exhibit XES-203 is similar to Appendix A-2, except that it provides the expected dates for each step in the first DISIS Cluster, and Appendix A-2 provides general timeline requirements.

As described in more detail below, the Definitive Interconnection Study Process may be shortened under a variety of circumstances, and so the timeline for the first DISIS Cluster in XES-203 is approximate. Additionally, XES-203 assumes that there are no restudies of the cluster required and so assumes that Phase 3 is skipped.

1. CLUSTERED STUDY PROCESS

Q. WHY IS PSCO PROPOSING TO USE A CLUSTERED STUDY PROCESS?

A. As Mr. Benson describes in his Direct Testimony, PSCo has found that the serial nature of the current interconnection process has, despite PSCo's best efforts, led to significant delays in the interconnection process due to, among other things: (1) the sheer volume of interconnection requests; and (2) the need for cascading restudies when a higher queued project withdraws from the Queue or a higher queued project modifies its request (*e.g.*, changing from NRIS to ERIS). Because each study is dependent on all higher queued studies, a change in a higher queued request can, for instance, result in the need for PSCo to restudy over 80 lower queued requests, which results in material uncertainty for many (if not most) Interconnection Customers and substantial delays in moving Interconnection Customers through the process.

In response to this challenge, PSCo proposes to group multiple Interconnection Requests submitted within a specific request window into a single cluster. This reduces

1 the amount of studies needed to be performed and is intended to streamline the study
2 process. In conjunction with the change to a cluster process, PSCo also expects the total
3 number of projects to decrease significantly as the requests will be limited to ready
4 projects, because of the change to a first-ready, first-served design.

5 By reducing the volume of studies, the clustering process results in a more
6 manageable process which, in turn, improves the processing times for our
7 Interconnection Customers. In a cluster study process, a change in a higher or equal
8 queued request results in a smaller number of restudies because lower queued requests
9 are studied in clusters. Although cascading restudies may still be an issue when using
10 cluster studies, the use of cluster studies mitigates the problem to a more manageable
11 level, as the studies will be grouped together in clusters and thus fewer separate restudies
12 would be required.

13 **Q. IS PSCO PROPOSING TWO DIFFERENT TYPES OF CLUSTERS?**

14 A. Yes. Interconnection Customers may enter the Queue through either a Definitive
15 Interconnection System Impact Study Cluster (“DISIS Cluster”) or a Resource
16 Solicitation Cluster.¹⁰ Both of these cluster types follow the same study process, but are
17 initiated in a different way. To be clear, once either type of Cluster is formed, it proceeds
18 along the same timeline and is processed in the same manner and in Queue order.

19 **Q. HOW DOES AN INTERCONNECTION CUSTOMER ENTER A DISIS**
20 **CLUSTER?**

21 A. To be considered in the DISIS Cluster, Interconnection Customers are required to submit

¹⁰ A project may also enter the Queue through *both* a DISIS Cluster and a Resource Solicitation Cluster, but must select to proceed with only one of the two clusters following receipt of the Resource Solicitation Cluster Study Phase 2 Report. This is discussed in greater detail below.

1 a valid Interconnection Request into a request window that recurs on a semi-annual basis.
2 The DISIS Request Window will open for a 45-day period every six months, with one
3 window opening on February 1 and the other window opening on August 1.

4 **Q. HOW DOES AN INTERCONNECTION CUSTOMER ENTER A RESOURCE**
5 **SOLICITATION CLUSTER?**

6 A. A Resource Solicitation Entity, as the authorized agent, submits all Interconnection
7 Requests to PSCo on behalf of the Interconnection Customers whom the Resource
8 Solicitation Entity is seeking to interconnect as part of its Resource Solicitation Process.
9 A Resource Solicitation Entity may submit these requests at any time, but must submit all
10 relevant requests at the same time. Within 10 Business Days of submitting the requests,
11 the Transmission Provider and Resource Solicitation Entity meet to determine a mutually
12 agreeable timeline to start the DISIS for the Resource Solicitation Cluster, including the
13 timeline of the Customer Engagement Window.

14 **Q. WHY IS A RESOURCE SOLICITATION CLUSTER NEEDED SEPARATE**
15 **FROM THE DISIS CLUSTER?**

16 A. The Resource Solicitation Cluster concept was initially proposed to facilitate compliance
17 by load serving entities (“LSE”) in Colorado with both the CPUC’s integrated resource
18 planning and competitive solicitation rules and the Commission’s LGIP. PSCo has now
19 extended the Resource Solicitation Cluster to any entity that runs a Resource Solicitation
20 Process, consistent with Commission guidance.¹¹

21 For instance, CPUC rules require individual utilities to evaluate portfolios of
22 generation to determine the preferred portfolio to provide future service to the LSE’s

¹¹ See 2004 PSCo Implementation Orders, *supra* note 2.

1 bundled retail electric customers in the state. This evaluation includes the cost of the
2 delivered energy from the selected generation, and therefore also includes the
3 interconnection and transmission service related costs. The Resource Solicitation Cluster
4 study is and would continue to be available to any LSE that that runs such a process for
5 selecting generation connected to the PSCo system. The Resource Solicitation Cluster
6 concept proposed for the Revised LGIP is the same process and concept previously
7 approved by the Commission and included in PSCo's currently-effective LGIP. A DISIS
8 Cluster could include generation proposed to serve loads that are not part of a specific
9 LSE's Resource Solicitation Process and LSEs are not required to solely utilize the
10 Resource Solicitation Cluster. Creating a separate Resource Solicitation Cluster insulates
11 the other Interconnection Customers that are part of the DISIS Cluster from processing
12 solicitation bids.¹²

13 **Q. PLEASE EXPAND ON THE RESOURCE SOLICITATION CLUSTER.**

14 A. The Resource Solicitation Cluster is modeled off of the Resource Solicitation Cluster
15 option included in Section 4.2.2 of PSCo's currently-effective and Commission-approved
16 LGIP. The Commission allowed PSCo to incorporate Section 4.2.2 subject to conditions,
17 such as allowing third-party LSEs to use the Resource Solicitation Cluster. In the
18 Revised LGIP, the Resource Planning Entity—instead of individual Interconnection
19 Customers in the Resource Solicitation Cluster—submits the Interconnection Requests
20 that are being made in connection with a Resource Solicitation Process. The Resource
21 Planning Entity must: (a) act as the authorized representative for all Interconnection

¹² PSCo Implementation Order III at PP 26-27 (“[T]he Commission will require XES to clarify that Interconnection Requests not associated with the resource solicitation will be insulated from the effects of XES’ processing of the solicitation bids.”).

1 Requests submitted to the Resource Solicitation Cluster; (b) submit all Interconnection
2 Requests arising from the Resource Solicitation Process at the same time to ensure an
3 equal Queue Position for all Generating Facilities included in the Resource Solicitation
4 Cluster; (c) cooperate with the Transmission Provider in conducting the studies; and
5 (d) request a reasonable number of different combinations (*i.e.*, portfolios) of such
6 Interconnection Requests to meet the Resource Planning Entity's identified need and
7 assumptions in the Resource Solicitation Process. I note that Resource Solicitation
8 Clusters will respect Queue Order. In other words, the Resource Solicitation Clusters
9 will include all higher queued DISIS Clusters in its modeling.

10 **Q. PLEASE EXPLAIN HOW PORTFOLIOS RELATE TO RESOURCE**
11 **SOLICITATION CLUSTERS.**

12 A. A Resource Planning Entity may be looking to acquire a number of different resources to
13 fill a specific need. In doing so, it may be selecting from hundreds of bids, where it may
14 only ultimately choose three. In its selection process, it may determine that Generators 2
15 and 4 provide similar bids in different locations, and that it needs better information
16 about how these generators interact with other bidders (*e.g.*, Generators 1 and 3). For this
17 evaluation, a Resource Planning Entity may request that PSCo study Generators 1, 2 and
18 3 in one "portfolio" and Generators 1, 3, and 4 in a second "portfolio." The current LGIP
19 and proposed revision would allow the Resource Planning Entity to study a reasonable
20 number of unique portfolios. That said, before proceeding with Phase 3, the Resource
21 Planning Entity must select a single portfolio, which means (in our example) that either
22 the Interconnection Request representing Generator 2 or the request representing
23 Generator 4 will be withdrawn from Resource Solicitation Cluster. If Generator 4's

1 withdrawal meets certain conditions, it will be charged a withdrawal penalty.

2 **Q. RETURNING TO THE DISIS PROCESS, PLEASE DESCRIBE THE**
3 **“CUSTOMER ENGAGEMENT WINDOW.”**

4 A. After Interconnection Customer(s) submit an Interconnection Request during the DISIS
5 Request Window, the Interconnection Customer(s) enter a 75-day “Customer
6 Engagement Window,” during which time PSCo will work with applicable
7 Interconnection Customers to build models, verify data, hold stakeholder meetings
8 (including Scoping Meetings, as appropriate), work with requestors to cure any
9 deficiencies in the Interconnection Request, and generally prepare for the start of the
10 DISIS.

11 **Q. IS THERE ALSO A CUSTOMER ENGAGEMENT WINDOW FOR THE**
12 **RESOURCE SOLICITATION CLUSTER?**

13 A. Yes, there is a Customer Engagement Window for the Resource Solicitation Cluster.
14 However, because all Interconnection Customers are represented by a single authorized
15 agent (the Resource Planning Entity), the Customer Engagement Window process and
16 timeline is determined upon mutual agreement between the Resource Planning Entity and
17 the Transmission Provider. For both the DISIS Cluster and the Resource Solicitation
18 Cluster, the end of the Customer Engagement Window marks the start of the Definitive
19 Interconnection System Impact Study or “DISIS.”

20 **Q. WHAT BENEFITS DOES AN INTERCONNECTION CUSTOMER GAIN FROM**
21 **THE CUSTOMER ENGAGEMENT WINDOW?**

22 A. The Customer Engagement Window is an important time for Interconnection Customers
23 to determine whether they are ready and truly want to enter the DISIS. Customers learn

1 an important piece of information during the Customer Engagement Window—namely,
2 information regarding the number, size and location of other projects requesting
3 interconnection in the particular Cluster.

4 This information is valuable to Interconnection Customers because the upgrade
5 costs for interconnection are influenced by the other requests in a specific Cluster. For
6 instance, a 2,000 MW Cluster may require more Network Upgrades than a 200 MW
7 Cluster. Likewise, knowing if there are other projects proposing to interconnect at the
8 same location could prove relevant – or even dispositive – in determining whether an
9 Interconnection Customer chooses to proceed. For instance, two generators proposing to
10 interconnect in a similar location (*e.g.*, the same substation) may share the upgrade costs
11 instead of bearing all of the costs themselves. Interconnection Customers who submit
12 Interconnection Requests during the DISIS Request Window are, therefore, able to learn
13 what other projects are seeking interconnection in that Cluster, and so are able to refine
14 their estimate of the potential scope of upgrade costs. In the stakeholder process,
15 developers underscored the importance of this phase of project development and
16 expressed support for a process that would position them to better understand their
17 upgrade costs sooner, thereby facilitating more informed decision-making earlier in the
18 process.

19 The length of the Customer Engagement Window is appropriate because an
20 Interconnection Customer may use this time to evaluate a number of “what if” scenarios.
21 For example, they can evaluate what may happen if certain other requests do not move
22 forward into the DISIS process.

23 During the Customer Engagement Window, Interconnection Customers have not

1 yet signed an Interconnection Study Agreement and any study deposit or security
2 provided with the Interconnection Request (except for the application fee) is fully
3 refundable and comes with no penalty. By the end of the Customer Engagement
4 Window, PSCo will enter all Interconnection Customers with a valid Interconnection
5 Request and a signed Definitive Interconnection System Impact Study Agreement into
6 the study phase (*i.e.*, the DISIS) of that Cluster.

7 **Q. CAN AN INTERCONNECTION CUSTOMER HAVE A QUEUE POSITION IN**
8 **BOTH THE DISIS CLUSTER AND RESOURCE SOLICITATION CLUSTER?**

9 A. Yes, but only during the early phases (*i.e.*, Phases 1 and 2) of the Resource Solicitation
10 Cluster Study. A Resource Planning Entity may submit, for inclusion in the Resource
11 Solicitation Process, an Interconnection Request for a Generating Facility that already has
12 a higher Queue Position in a DISIS Cluster. Conversely, a Generating Facility that is
13 initially associated with a Queue Position through the Resource Solicitation Process may
14 also reserve a lower Queue Position separate from the Resource Solicitation Process. In
15 either case, the Interconnection Customer must meet all the requirements associated with
16 maintaining each Queue Position for the Generating Facility (*e.g.*, study deposits,
17 Readiness Milestones, etc.). If a Generating Facility has multiple Queue Positions, it will
18 not be double counted in the study models, but will rather be modeled from the higher of
19 its two Queue Positions.

20 Following receipt of the Phase 2 Report (described below), the Resource Planning
21 Entity must select one of the studied combinations before the Interconnection Customers
22 move forward to the Interconnection Facilities Studies. Once a Generating Facility is
23 rejected in the Resource Solicitation Process, that Generating Facility loses its Queue

1 Position associated with the Resource Solicitation Process (but may maintain its position
2 in the DISIS Cluster). On the other hand, if the Generating Facility is selected as part of
3 the Resource Solicitation Process, then the Generating Facility may no longer maintain a
4 second Queue Position in a DISIS Cluster.

5 **Q. WHY DOES PSCO PROPOSE THAT A SINGLE GENERATING FACILITY**
6 **MAY MAINTAIN TWO QUEUE POSITIONS?**

7 A. Allowing an Interconnection Customer to have two Queue Positions during the
8 evaluation phase of the Resource Solicitation Process was previously required by the
9 Commission, and almost identical language is contained in PSCo's currently-effective
10 LGIP. In the Commission's 2004 PSCo Implementation Orders, the Commission was
11 concerned about requiring the generator to choose between the state resource planning
12 process, but with no guarantee of a Queue Position, or foregoing the resource planning
13 process in exchange for the certainty of a Queue Position.¹³ Allowing two Queue
14 Positions early in the process effectively allows a developer to maintain an alternative
15 business path in the case a particular project is not selected in the Resource Solicitation
16 Process.

17 **2. STUDY PHASES**

18 **Q. YOU MENTIONED EARLIER THAT THE DEFINITIVE INTERCONNECTION**
19 **STUDY PROCESS HAS FOUR MAIN PHASES. PLEASE DESCRIBE THESE**
20 **PHASES.**

21 A. After the Customer Engagement Window, the Definitive Interconnection Study Process
22 is generally divided into four phases: *Phase 1*, a high-level feasibility study that consists

¹³ See PSCo Implementation Order II at PP 22-26.

1 of a power flow and voltage analysis; *Phase 2*, a full system impact study that adds the
2 stability and short circuit analysis; *Phase 3*, system impact restudies, if necessary; and
3 *Phase 4*, individual Interconnection Facilities Studies for each of the projects in the
4 Cluster.

5 Both the DISIS Cluster and the Resource Solicitation Cluster are studied in this
6 same manner. Phase 1 of the DISIS is a high-level power-flow and voltage study that is
7 similar to a Feasibility Study in the FERC *pro forma* LGIP, which generally determines
8 most of the Interconnection Facilities and Network Upgrades required for
9 interconnection. Phase 2 completes the traditional System Impact Study by adding a
10 stability and short circuit analysis to the power-flow analysis from the first phase. To the
11 extent required, for instance if Interconnection Requests were withdrawn from the Cluster
12 before Phase 2, the power-flow and voltage analysis may be updated in Phase 2.

13 If, following the publication of the Phase 2 Study Report, the Cluster is stable
14 (*i.e.*, no changes to the modeling assumptions occur, for example due to the withdrawal
15 of an Interconnection Request), then the Cluster Study will skip the Phase 3 study and
16 will move directly to Phase 4, the Interconnection Facilities Study.

17 By contrast, if a change to the modelling assumptions is necessary (*e.g.* one or
18 more Interconnection Customers withdraw) it will create a need to restudy the Cluster. In
19 this event, the modified Cluster will undergo a system impact re-study (*i.e.*, the power-
20 flow, voltage, stability, and short-circuit analyses are repeated for the modified Cluster).
21 This re-study is considered Phase 3 of the DISIS and the restudies are repeated until the
22 Cluster is stable. I note that one goal of prioritizing ready projects is to reduce, or even
23 eliminate, the need for the Phase 3 Re-study.

1 Once the Cluster is deemed stable, each of the Interconnection Requests in the
2 Cluster advances to Phase 4, which comprises individual Interconnection Facilities
3 Studies based off of the results of the Phase 2 or Phase 3 study, as appropriate. The
4 Interconnection Facilities Study (Phase 4) is followed by LGIA negotiation and
5 execution.

6 The various phases of the Definitive Interconnection Study Process are depicted
7 in Figure 1 (above), Exhibits XES-202 and XES-203, and Appendices A-1 and A-2 to the
8 Revised LGIP.

9 **Q. IS PSCO PROVIDING ANY CLARIFICATIONS TO THE MODELING**
10 **PRACTICES FOR THE DISIS?**

11 A. Yes. The modeling parameters described in the DISIS scope are similar to the Order No.
12 2003 *pro forma* System Impact Study scope, with these additional clarifications:
13 (1) equally queued or higher queued generation (*i.e.*, generation in the same or higher
14 queued Clusters), or generation with an LGIA but not yet in-service, is generally modeled
15 at full output; (2) if the NRIS requests exceed PSCo Network Load, the additional
16 generation will be modeled as sunk to load other than PSCo's Network Load; and
17 (3) although existing generation may be displaced to accommodate new requests, existing
18 generation is generally not modeled at less than its minimum output unless the generation
19 owner determines the existing generation should be modeled as if retired. This approach
20 assumes that some portion of existing Network Resources' output is displaced by the
21 output of Interconnection Customer's Large Generating Facility.

22 PSCo believes that these modeling clarifications not only align with Commission
23 policy, but also: (1) provide transparency to interconnection customers and (2) allow

PSCo to process interconnection requests if there are more NRIS requests than the PSCo BAA's peak Network Load.

C. TIMING OF STUDIES

Q. WHAT ARE THE TIMING CONSIDERATIONS FOR THESE STUDY PHASES?

A. As a general matter, PSCo believes that it will be able to process the Interconnection Requests in a timely fashion and in accordance with the timeline set forth in the Revised LGIP. After experience with performing Cluster Studies as part of the Definitive Interconnection Study Process, PSCo proposes to lengthen or shorten some timelines described in the Revised LGIP as part of its two-year review.

PSCo expects to complete Phase 1 relatively quickly, and will use reasonable efforts to complete the study within 90 days. The Phase 2 analysis is more complicated and time consuming, and PSCo will use reasonable efforts to complete Phase 2 in 150 calendar days. If no restudies are required, Phase 3 is skipped. If the Cluster requires restudy, PSCo will use reasonable efforts to complete each restudy in 150 days. The restudies in Phase 3 are repeated until the Cluster is deemed stable. Therefore, the total length of Phase 3 depends on the degree and number of re-studies required, if any. If any of the studies are completed in less than the relevant time frame, PSCo will publish the study report early and thereby accelerate the overall study process timeline.

For each of Phases 1 through 3, PSCo will hold a report meeting within 10 business days of publishing the applicable phase study report and Interconnection Customers must commit to stay in the study process within 20 calendar days of the report meeting by providing the next applicable Readiness Milestone.

For Phase 4, Interconnection Facilities Study, PSCo will use reasonable efforts to

1 issue a draft Interconnection Facilities Study Report to the individual Interconnection
2 Customer within 90 days after acceptance of the Interconnection Facilities Agreement
3 and satisfaction of Readiness Milestone 4. Following receipt of the draft Interconnection
4 Facilities study report, just as it is for the FERC *pro forma* LGIP, the Interconnection
5 Customer has 30 days to provide written comments on the report and PSCo must issue
6 the final report within 15 days of receiving Interconnection Customer's comments or
7 promptly upon notice from Interconnection Customer that it will not be providing
8 comments.

9 In sum, PSCo anticipates that the study portions of the interconnection study
10 process will be approximately one year (90 days + 150 days + 90 days = 330 days), if no
11 restudies are required. Each restudy adds approximately six months to the timeline.
12 Although this timeline is longer than the current timeline set forth in the *pro forma* LGIP
13 (45 days + 90 days + 90/180 days = 225/315 days), PSCo's proposed process is an
14 improvement over the current process because: (1) the Customer Engagement Window
15 ensures data is sufficient and studies start promptly; (2) Interconnection Requests are not
16 waiting indefinitely until higher queued projects drop out and thus they can be studied far
17 sooner; (3) the Clusters study evaluates multiple Interconnection Requests
18 simultaneously; and (4) the first-ready approach limits restudies and delays in the
19 projected timelines. Said differently, while the timelines in the proposed LGIP are
20 somewhat longer than the study timeliness in the current LGIP, more projects will
21 actually move through the interconnection process under the Revised LGIP in the same
22 time period, thereby leading to a more efficient interconnection process for all affected
23 Interconnection Customers.

D. ALLOCATION OF COSTS

1. STUDY COSTS

Q. WHAT STUDY DEPOSITS DOES PSCO PROPOSE FOR THE DEFINITIVE INTERCONNECTION STUDY PROCESS?

A. The study deposits will be as follows:

Size of Project Associated With Interconnection Request	Amount of Deposit
Less than 50 MW	\$75,000
Greater than 50 MW, but less than 200 MW	\$150,000
200 MW or greater	\$250,000

The study deposit is for the full Definitive Interconnection Study Process, which includes the Interconnection Facilities Study. These are the same amounts that the Commission approved for PNM's DISIS process. PSCo is not requiring the additional \$100,000 deposit for the Interconnection Facilities Study phase that is otherwise required in PSCo's current LGIP (or that is required by PNM).¹⁴ Nevertheless, consistent with Order No. 2003, Interconnection Customers are responsible for the actual costs of the study. After two years of experience, PSCo will evaluate if these study deposits are reasonably consistent with actual costs or should be modified. Consistent with Order No. 2003, all interconnection customers will pay their actual study costs.

Q. HOW THEN WILL ACTUAL STUDY COSTS BE ALLOCATED WITHIN A GIVEN CLUSTER?

A. For the DISIS portion (Phases 1, 2, and 3), study costs will be allocated to individual Interconnection Requests in the Cluster in a manner similar to the allocation method

¹⁴ See PSCo LGIP, Section 8.1.

approved by the Commission in the PNM Queue Reform Order: (1) 50 percent of the applicable study costs are assigned to Interconnection Customers in the Cluster on a per capita basis based on a number of Interconnection Requests included in the applicable Cluster Study; and (2) 50 percent of the applicable study costs are assigned to Interconnection Customers in the Cluster on a pro rata basis based on requested megawatts included in the applicable Cluster Study.

For example, for a 1,000 MW Cluster Study consisting of a 100 MW Interconnection Request and a 900 MW Interconnection Request, the 50 percent of costs allocated on a per capita basis would be allocated equally to each request (25 percent to 100 MW request and 25 percent to the 900 MW request). For the other 50 percent of costs allocated on a pro rata basis, the costs would be allocated 90 percent to the 900 MW request (45 percent total costs) and 10 percent to the 100 MW request (5 percent total costs). This overall allocation results in 30 percent of the study cost allocated to the 100 MW Interconnection Request and 70 percent to the 900 MW Interconnection Request. Please see the table below for a demonstration of the illustrative calculation.

	1,000 MW Capacity in Cluster Study	
	100 MW Interconnection Request	900 MW Interconnection Request
50% per capita allocation	$50\% \times 1/2 = 25\%$	$50\% \times 1/2 = 25\%$
50% pro rata allocation	$50\% \times 1/10 = 5\%$	$50\% \times 9/10 = 45\%$
TOTAL	$25\% + 5\% = \underline{\underline{30\% \text{ total}}}$	$25\% + 45\% = \underline{\underline{70\% \text{ total}}}$

1 **Q. WHAT STUDY COSTS DOES AN INTERCONNECTION CUSTOMER PAY AT**
2 **THE END OF THE STUDY PROCESS?**

3 A. Consistent with the Order No. 2003 *pro forma* LGIP, PSCo proposes to retain the
4 requirement that Interconnection Customers pay actual study costs. The actual cost will
5 be reconciled with the study deposit at the end of the study process.

6 **2. ALLOCATION OF COSTS ASSOCIATED WITH**
7 **TRANSMISSION FACILITIES**

8 **Q. ARE STUDY COST ALLOCATIONS DISTINGUISHABLE FROM FACILITIES**
9 **COST ASSIGNMENT FOR TRANSMISSION FACILITIES WITHIN A**
10 **CLUSTER?**

11 A Yes. It is important to distinguish study deposits, study cost allocation, and queue
12 withdrawal penalties on the one hand, from transmission facilities cost assignment on the
13 other. As a general matter, with regard to transmission facilities cost assignment, PSCo
14 follows the FERC *pro forma* LGIP funding policy set forth in Order No. 2003, and PSCo
15 is not proposing to change its funding policy. In Order No. 2003, the Commission stated
16 that, where the Transmission Provider is not an RTO/ISO, it is appropriate for the
17 Interconnection Customer to “be solely responsible for the costs of Interconnection
18 Facilities” but Network Upgrades are ultimately paid by Transmission Customers.¹⁵
19 Interconnection Customers are responsible for the costs of two types of transmission
20 facilities: Interconnection Customer’s Interconnection Facilities (“ICIF”) and
21 Transmission Provider’s Interconnection Facilities (“TPIF”). Although Interconnection
22 Customers may initially fund Network Upgrades associated with generation

¹⁵ Order No. 2003 at P 676; *pro forma* LGIP Article 11.3.

interconnection, the costs of Network Upgrades are ultimately borne by PSCo network transmission customers.

Q. HOW IS COST ASSIGNMENT FOR TRANSMISSION FACILITIES PROPOSED TO BE ALLOCATED AMONG THE VARIOUS CLUSTERS?

A. As in the current serial study process, Queue Position dictates cost assignment. Interconnection Requests contained in subsequent Clusters are lower queued than Interconnection Requests in earlier Clusters, so available transmission capacity or new upgrades will be allocated to the Cluster that first uses or needs the available or newly-installed capacity. In this fashion, certain Clusters may take advantage of any available transmission capacity. Conversely, if transmission capacity is limited, a new Cluster may require additional facilities to be constructed in order for that Cluster to interconnect.

Q. HOW ARE TRANSMISSION FACILITIES COST ALLOCATED WITHIN A GIVEN CLUSTER?

A. PSCo proposes to allocate the costs of Network Upgrades within a cluster in a manner similar to what was approved for PNM. This allocation separates out the allocation for Network Upgrades into two categories. The first category includes station equipment located in the station to which the generation is connecting and the second category includes all transmission lines, transformers and distantly located breakers. Note that although transformers tend to be inside of stations, transformers are allocated in the second category.

Specifically, Section 4.2.4 of the Revised LGIP states:

- a) Station equipment Network Upgrades, including all switching stations, shall be allocated based on the number of Generating Facilities interconnecting at an individual station on a per capita basis (i.e. on a per Interconnection Request basis). If multiple

1 Interconnection Customers are connecting to the Transmission
2 Provider's System through a single Interconnection Customer's
3 Interconnection Facility (i.e. sharing the Interconnection
4 Customer's Interconnection Facility connecting to the
5 Transmission Provider's Interconnection Facility(ies)), those
6 Interconnection Customers shall be considered one
7 Interconnection Customer for the per capita calculation described
8 in the preceding sentence. Shared Transmission Provider's
9 Interconnection Facilities shall be allocated based on the number
10 of Generating Facilities sharing that Transmission Provider's
11 Interconnection Facility on a per capita basis.

- 12 b) All Network Upgrades other than those identified in Section
13 4.2.4.a shall be allocated based on the proportional impact of each
14 individual Generating Facility in the Cluster Studies on such
15 Network Upgrades. The proportional impact of such Network
16 Upgrades shall be calculated as follows. All transmission lines and
17 transformers identified as Network Upgrades shall be allocated
18 using distribution factor analysis. Voltage support related Network
19 Upgrades shall be allocated using a voltage impact analysis which
20 will identify each Generating Facility's contribution to the voltage
21 violation. Network Upgrades associated with upgrading existing
22 breakers not physically located at the substation to which the
23 Generating Facility is interconnecting or associated with a new
24 transmission facility shall be allocated based on short circuit
25 analysis.

26 **Q. HOW IS STATION EQUIPMENT ALLOCATED?**

- 27 A. New station equipment, including a new station itself, is allocated equally to all
28 customers connecting to that station. An example that illustrates this cost allocation,
29 including specific equipment that would fall into this category, is provided in Exhibit
30 XES – 205.

31 **Q. WHY IS THE PROPOSED ALLOCATION OF STATION EQUIPMENT**
32 **EQUITABLE?**

- 33 A. All requests in a cluster are equally queued. For instance, if two generators require a
34 substation to be built, both generators are equally responsible for the need for that
35 substation, and the substation will be designed to accommodate both generators. As

equally queued generators, neither generator is first causing the substation to be built.
Therefore, it is reasonable to allocate such facilities on a per capita basis.

Q. HOW ARE OTHER NETWORK UPGRADES ALLOCATED?

A. For upgrades where studies can identify the impact of the new generating facility on the new transmission facility, costs will be allocated based off of study results.

Q. HOW WILL TRANSMISSION LINES AND TRANSFORMERS BE ALLOCATED?

A. All transmission lines and transformers identified as Network Upgrades shall be allocated using distribution factor analysis. An illustrative example that describes the detailed distribution factor analysis calculation as well as how this applied to transmission lines and transformers is provided in Exhibit XES – 205.

Q. HOW WILL VOLTAGE SUPPORT RELATED NETWORK UPGRADES BE ALLOCATED?

A. Voltage support related Network Upgrades shall be allocated using a voltage impact analysis which will identify each Generating Facility's contribution to the voltage violation. An illustrative example that describes the voltage impact analysis calculation as well as how this applied to hypothetical voltage support resources is provided in Exhibit XES – 205.

Q. HOW WOULD A BREAKER UPGRADE THAT IS DISTANT FROM THE INTERCONNECTING STATION BE ALLOCATED?

A. Network Upgrades associated with upgrading existing breakers not physically located at a point of interconnection substation or associated with a new transmission facility shall be allocated based on short circuit analysis. An illustrative example that shows how short

1 circuit analysis calculation is used to allocate costs of distant breakers is provided in
2 Exhibit XES – 205.

3 **Q. WILL PSCO INCLUDE THE EXAMPLE OR A SIMILAR EXAMPLE**
4 **PROVIDED IN EXHIBIT XES – 205 AS PART OF A POSTED BUSINESS**
5 **PRACTICE TO PROVIDE CLARITY AND TRANSPARENCY ON NETWORK**
6 **UPGRADE COST ALLOCATION?**

7 A. Yes.

8 **E. READINESS MILESTONES**

9 **Q. EARLIER YOU MENTIONED THAT PSCO WAS IMPLEMENTING A SERIES**
10 **OF READINESS MILESTONES AND SITE CONTROL PROVISIONS IN THE**
11 **DEFINITIVE INTERCONNECTION STUDY PROCESS TO INCENTIVIZE**
12 **CUSTOMERS TO NOT PREMATURELY ENTER THE QUEUE. WILL THE**
13 **READINESS MILESTONES SIMILARLY ALLOW VIABLE PROJECTS TO**
14 **ADVANCE TO COMPLETION?**

15 A. PSCo has developed its proposed Readiness Milestones and Site Control provisions with
16 the goal of creating an effective process that allows viable projects to move through the
17 Queue, while also providing developers with the flexibility to demonstrate their readiness
18 in a variety of ways. The purpose of the Readiness Milestones and Site Control
19 provisions is to require an Interconnection Customer to demonstrate that a specific
20 project is ready to move forward with interconnection and progressing towards
21 interconnection so that it is less likely to withdraw from the Queue and harm other
22 Interconnection Customers. The Readiness Milestone and Site Control helps prioritize
23 ready projects, which is the basis of a first-ready, first-served approach. After starting

1 with PNM's milestones and further consulting with our stakeholders regarding various
2 ways that readiness may be demonstrated, PSCo proposes to offer readiness
3 demonstration options similar to PNM. These are described in Section 7.7 of the Revised
4 LGIP and described in more detail below.

5 **Q. ARE READINESS MILESTONES THE SAME THING AS STUDY DEPOSITS?**

6 A No. It is important to distinguish study deposits and Readiness Milestones. Readiness
7 Milestones are used during the study process to demonstrate readiness to interconnect and
8 study deposits are used to pay for the study process.

9 **Q. HOW DID PSCO DETERMINE THE READINESS MILESTONES?**

10 A. PSCo used the Readiness Milestones approved for PNM as a starting point. During the
11 stakeholder process, PSCo, in concert with stakeholders, refined the Readiness
12 Milestones. Readiness Milestones were likely the most deliberated topic and
13 stakeholders were sometimes divided between less rigorous demonstrations of readiness
14 and more rigorous demonstrations of readiness. More rigorous demonstrations of
15 readiness result in more certainty in the interconnection process. Stakeholders
16 understanding of the generation development business and their experience in other
17 regions helped guide the ultimate choices of Readiness Milestones. For instance,
18 stakeholders felt that some milestones used in PNM would not be a reasonable
19 demonstration of readiness or were not appropriate for PSCo's area. PSCo modified and
20 refined its proposed Readiness Milestones in response to stakeholder feedback.

21 **Q. WHAT ARE PNM'S "READINESS MILESTONES"?**

22 A. PNM requires a number of milestones to enter their DISIS queue in addition to what
23 PSCo terms "Readiness Milestones" in this instant filing. The related PNM milestones

options are:

- a. Security equal to \$2,000/MW of the plant size (refundable at commercial operation or if LGIA is not executed by Interconnection Customer); or
- b. An executed contract (or comparable evidence) for the sale of electric energy or capacity from the Generating Facility; or
- c. Statement signed by an officer or authorized agent of the Interconnection Customer attesting that the Large Generating Facility is included in an applicable state resource plan; or
- d. Other information that the Transmission Provider deems to be reasonable evidence that the Large Generating Facility will qualify as a Designated Network Resource; or
- e. Site specific Purchase Order for generating equipment specific to Queue Position or statement signed by an officer or authorized agent of the Interconnection Customer attesting that the Generating Facility included is to be supplied with turbines with a manufacturer's blanket purchase agreement that Interconnection Customer is a party (and the agreement will be provided to the Transmission Provider).

Upon entry into the Interconnection Facilities Study stage, the financial milestone option increases to:

- a. Letter of Credit or payment of Interconnection Customer's share of estimated Network Upgrades less any amounts provided under Section 7.2.f.i (refundable if LGIA is not executed by Interconnection Customer).

These PNM milestones demonstrate that: (1) the Commission approved a variety of milestones for PNM, and (2) that the PNM queue process includes increasing the financial milestone requirements over the study process, where the financial option equals 100 percent of the Network Upgrade costs to enter the Interconnection Facilities Study. As discussed in more detail below, the Commission's approval for PNM to require security of 100 percent of the Network Upgrade costs provides a solid foundation to support PSCo's proposal, which allows Readiness Milestone 4 to be satisfied by providing seven times the study deposit *in lieu* of a readiness demonstration at this same

stage.

Q. WHAT READINESS MILESTONES ARE PROPOSED IN PSCO'S REVISED LGIP?

A. Under the PSCo Revised LGIP, up until the execution of the LGIA, Readiness Milestones may be any one of the following:

- (a) Contract for sale;
- (b) Inclusion in a Resource Plan; or
- (c) Provisional Interconnection Service.

Security may be provided *in lieu* of one of these demonstrations of readiness. I will provide further detail on each of these options later in my testimony.

For Milestone 5, which is due within 15 business days after receipt of the final LGIA, security is required. Milestone 5 requires the Interconnection Customer to provide nine times (9 x) the study costs as security.

Q. WHY IS IT IMPORTANT TO INCLUDE BOTH FINANCIAL AND NON-FINANCIAL READINESS OPTIONS?

A. By allowing multiple options to satisfy the Readiness Milestone requirements, PSCo's proposal affords the Interconnection Customer the flexibility to employ a variety of business models in the PSCo region and enables developers to pursue multiple business opportunities for a single Generating Facility. PSCo believes that providing customers with multiple options for demonstrating readiness (both financial and non-financial) will maximize flexibility while still providing certainty to Interconnection Customers through a vastly improved interconnection process.

1. CONTRACT FOR SALE OPTION

Q. WHAT ARE THE NON-FINANCIAL DEMONSTRATIONS OF READINESS OPTIONS?

1 A. As I mentioned above, it is important that PSCo provide multiple options to satisfy the
2 Readiness Milestone requirements, including both financial and non-financial options.
3 This affords the Interconnection Customer the flexibility to employ a variety of business
4 models in the PSCo region and enables developers to pursue multiple business
5 opportunities for a single Generating Facility. To this end, PSCo has developed, based
6 on feedback from developers and a majority of stakeholders, three non-financial
7 Readiness Milestone options from which a developer may choose to cover all or a portion
8 of a given project. These three options are: (1) the contract for sale option; (2) inclusion
9 in a Resource Plan option; and (3) Provisional Interconnection Service option. Site
10 Control is considered separately from these three options because a demonstration of Site
11 Control is required at every phase of the study process, regardless of what form of
12 financial or non-financial demonstration of readiness a developer wishes to provide.

13 I note that these non-financial options are available only for the first four
14 Readiness Milestones because security equivalent to nine times the study costs is required
15 at M5 for all requests. Each of these Readiness Milestones becomes increasingly
16 stringent in their requirements as the Interconnection Request progresses through the
17 study process.

18 **Q. PLEASE DESCRIBE THE CONTRACT FOR SALE OPTION.**

19 A. PSCo's proposal would give Interconnection Customers the option to demonstrate
20 increasing readiness through the study process by means of an executed term sheet for the
21 first two milestones (M1 and M2) and by means of an executed contract for the next two
22 milestones (M3 and M4). The term sheet or contract may be for sale of: (i) the
23 constructed Generating Facility; (ii) the Generating Facility's energy and/or capacity; or

(iii) the Generating Facility's ancillary services and capacity if the Generating Facility is an electric storage resource; where the term of sale is not less than five years.

Q. WHY IS IT REASONABLE AND APPROPRIATE TO INCLUDE THIS OPTION AS A DEMONSTRATION OF READINESS?

A. It is PSCo's opinion that if a Generating Facility has a confirmed off taker or a purchaser, it is likely to complete the interconnection process absent some materially unexpected increase in costs. PSCo is not aware of any instance in which an Interconnection Customer with a Generating Facility under contract has withdrawn from the PSCo Queue. PSCo believes that this contract for sale option provides developers maximum flexibility to enter into contracts for the generating facilities and/or energy and other products produced by the Generating Facility. PSCo will not dictate what terms must be included on term sheets or contracts except for a minimum five-year term and sufficient definitiveness of the contractual arrangements.

Q. DID THE COMMISSION PREVIOUSLY FIND THE USE OF A CONTRACT FOR SALE AS A READINESS MILESTONE TO BE CONSISTENT WITH OR SUPERIOR TO THE *PRO FORMA* LGIP?

A. Yes. When the Commission approved PNM's transition to a first-ready, first-served interconnection process, they approved the contract for sale option to be consistent with or superior to the *pro forma* LGIP as part of the holistic reform package.

2. INCLUSION IN A RESOURCE PLAN OPTION

Q. PLEASE DESCRIBE THE INCLUSION IN A RESOURCE PLAN OPTION.

A. PSCo's proposal would allow Interconnection Customers the option to demonstrate increasing readiness by means of being included in a Resource Plan for the first two milestones (M1 and M2) and by means of being included in a Resource Plan that has

1 been approved by the applicable regulatory body for the next two milestones (M3 and
2 M4).

3 **Q. IN WHAT WAY DOES THIS READINESS MILESTONE OPTION PROVIDE**
4 **FLEXIBILITY TO DEVELOPERS?**

5 A. In PSCo's experience, most generating facilities in the PSCo region (and in Colorado
6 specifically) are contracted by LSE's through a Resource Solicitation Process and so
7 inclusion of this option opens a meaningful path to demonstrate readiness for many
8 developers. Also, PSCo is mindful that Resource Plan regulatory approval is often
9 proceeding in parallel to the interconnection study process, so PSCo's proposal requires
10 only inclusion in a Resource Plan up until the end of Phase 2. The next milestones,
11 Readiness Milestones 3 and 4 (M3 and M4) would require that the resources be included
12 in an *approved* resource plan.

13 **Q. DID THE COMMISSION PREVIOUSLY FIND USING THE INCLUSION IN A**
14 **RESOURCE PLAN AS READINESS MILESTONE TO BE CONSISTENT WITH**
15 **OR SUPERIOR TO THE *PRO FORMA* LGIP?**

16 A. Yes. When the Commission approved PNM's transition to a first-ready, first-served
17 interconnection process, they approved the resource plan option to be consistent with or
18 superior to the *pro forma* LGIP as part of the holistic reform package.

19 **3. PROVISIONAL INTERCONNECTION SERVICE OPTION**

20 **Q. PLEASE DESCRIBE THE PROVISIONAL INTERCONNECTION SERVICE**
21 **OPTION.**

22 A. PSCo's proposal considers some Generating Facilities with Provisional Interconnection
23 Service as ready projects. Provisional Interconnection Service is generally intended for
24 projects that are ready to interconnect before the final interconnection study is complete.

PSCo proposes increasing demonstration of readiness in which the first two milestones (M1 and M2) require the Provisional Interconnection Service Agreement to be filed with the Commission and the next two milestones (M3 and M4) also require evidence that the facilities have commenced construction.

Q. COULD INTERCONNECTION CUSTOMERS USE THIS OPTION TO CIRCUMVENT THE FINANCIAL SECURITY REQUIREMENTS OR OTHER NON-FINANCIAL READINESS MILESTONES?

A. To ensure that the use of the Provisional Interconnection Service option is an accurate demonstration of readiness to proceed, PSCo is requiring that Interconnection Customers that use a Provisional LGIA to satisfy the Readiness Milestones to commit to construct the facility and not place their Provisional LGIA in suspension. The commitment to construct may be satisfied by a commitment to fully fund the estimated upgrade costs associated with their projects. PSCo is attempting to avoid creating a situation in which Interconnection Customers utilize a Provisional LGIA as an option to achieve the Readiness Milestones that they can later terminate and withdraw from the Queue with less consequence.

PSCo's inclusion of this option is consistent with the Commission's recent directives in Order No. 845 that "interconnection customers with provisional agreements must still assume all risk and liabilities associated with the required interconnection facilities and network upgrades for their interconnection"¹⁶ While PSCo is not proposing a *pro forma* Provisional Large Generator Interconnection Agreement at this time, the additional language identifies general concepts that are expected to be

¹⁶ Order No. 845 at P 425.

1 incorporated into the appendices of any the non-conforming provisional agreement filed
2 with the Commission that is expected to be used to satisfy a Readiness Milestone. These
3 concepts include: (1) a commitment to achieve interconnection and commercialization,
4 (2) security equal to the total estimated amount of TPIF, Network Upgrades, Distribution
5 Upgrades, and/or System Protection Facilities that may be identified in a future study as
6 required for interconnection; (3) an inability to suspend the agreement or associated
7 interconnection facilities during the phase in the study process in which the agreement is
8 used to demonstrate readiness; and (4) a requirement to meet the Generating Facilities
9 construction deadlines.

10 Such clarifying language is necessary when considering that Provisional
11 Interconnection Service will be used as one of the Readiness Milestone options, but to be
12 clear, PSCo will not require such language for Provisional LGIAs that are not intended to
13 meet a Readiness Milestone.

14 4. SECURITY

15 Q. PLEASE DESCRIBE THE SECURITY OPTION.

16 A. PSCo proposes to allow an Interconnection Customer to provide security *in lieu* of one of
17 the three demonstration of readiness described above. For instances where a customer is
18 not able to provide a demonstration of readiness, this option provides additional
19 flexibility to allow projects that may not be able to provide a demonstration of readiness
20 to proceed through the queue. The security is intended to demonstrate that the project is
21 committed to moving towards interconnection and is refunded upon commercial
22 operation or upon withdrawal after the final invoice is paid. The amount of security
23 required increases as the project progresses through the study phases, prompting an
24 Interconnection Customer to demonstrate its continued and increasing commitment to

construct the Generating Facility. Please note that illustrative examples of security requirements and withdrawal penalties are provided in Exhibit XES-204.

Q. WHAT ARE THE TOTAL SECURITY AMOUNTS FOR EACH PHASE IF A CUSTOMER DOES NOT PROVIDE A DEMONSTRATION OF READINESS?

A. Security may be in the form of cash or an irrevocable letter of credit. As shown in the table below, to enter Phase 1, a total security equal to two times (2 x) the study deposit described in Section 3.1. of the Revised LGIP is required for M1 if a demonstration of readiness is not provided. To enter Phase 2, the total security required for such customers to satisfy M2 is equal to three times (3 x) the study deposit. Thereafter, the milestones increase by 2 times for each incremental phase: M3 = 5 x; M4 = 7 x the study deposit amount. When the customer executes the LGIA, the customer is required to provide M5, which is nine times (9 x) actual study costs. Note that M5 is based on actual study costs as these costs are known at the time and the required security is no longer based on multiples of the study deposit amount.

Readiness Milestone	Security Requirement
M1	2 x Study Deposit
M2	3 x Study Deposit
M3	5 x Study Deposit
M4	7 x Study Deposit
M5	9 x Study Costs

Q. ARE THESE FINANCIAL SECURITY AMOUNTS CUMULATIVE?

A. The amounts in the above table represents the total security required to satisfy a Readiness Milestone. A 100 MW customer using security *in lieu* for both the M1 and M2 readiness milestones would post security of \$300,000 (2 x the study deposit of \$150,000) to enter the queue (i.e. when M1 is due) and, for M2, would be required to post

the additional \$150,000 security required to three times the study deposit amounts. If that customer also used the financial Readiness Milestone option for M3, it would then add the incremental security of \$300,000 (and additional 2 x the study deposit) required to equal a total of five times (5 x) the study deposit. The total amount of security held during Phase 3 for this customer in this example would be 5 times (5 x) the study deposit, or \$750,000 (i.e. \$300,000 + \$150,000 + \$300,000).

Q. HOW ARE THESE FINANCIAL SECURITY AMOUNTS DIFFERENT THAN THOSE ACCEPTED FOR PNM?

A. PNM does not break its study process into as many phases as PSCo proposes, but PNM has financial security options to enter the DISIS and the Interconnection Facilities Study (i.e., similar to M1 and M4). PSCo is proposing a similar requirement as is already accepted for PNM for M1 and is proposing, generally, a smaller amount for M4 than is accepted for PNM. This is shown in the table below.

Study Phase	PNM's Requirement for a 500 MW Generator	PSCo's Proposed Requirement for a 500 MW Generator
DISIS (M1)	\$1,000,000	\$500,000
Interconnection Facilities Study (M4)	Greater than \$15,000,000*	\$1,750,000

*Note that because PNM's proposal is dependent on the allocated upgrade costs, this number may vary significantly. Recent PNM studies indicate this amount may be in excess of \$80,000,000.

The amounts shown for PSCo's proposal are, for M1, two times the study deposit for a project over 200 MW, or two times \$250,000 (\$500,000). The amount for M4 is seven times \$250,000 (\$1,750,000).

Q. COULD YOU PLEASE PROVIDE THE REFERENCE TO POTENTIAL REQUIRED SECURITY FOR PNM?

A. Yes. For the M1 calculation, PNM requires \$2000/MW and 500 MW x \$2000/MW equals \$1,000,000. For M4, Section 7.7.a of PNM's tariff states that the total security required to enter an Interconnection Facilities Study is the cost of the estimated Network Upgrades.¹⁷ The following table is included in PNM's "July 2017 to October 2017 Definitive Interconnection Cluster Window System Impact Study for the Central Study Cluster" report posted to PNM's OASIS in August 2019. It shows the potential security required for IA-PNM-2017-22 McKinley Solar 2 is \$87.63 million.

Table 4 — Total Cost of Network Upgrades

Interconnection Project	Station Costs (Table 2) (\$M)	Percentage of Network Upgrades based upon 4.2.4 b	Cluster Network Upgrades Percentage* Table2 Total (\$M)	Total Project Interconnection Cost (\$M)
IA-PNM-2017-12 Sky Ranch 2	2.0	17.29	49.37	51.37
IA-PNM-2017-16-17 Norton Wind/BESS	15.0	0.0*	0.0*	15.0
IA-PNM-2017-18 Ambrosia Lake	2.4	11.12	31.74	34.14
IA-PNM-2017-19 VSolar	2.0	12.33	35.19	37.19
IA-PNM-2017-20 Bernalillo Solar	10.0	17.29	49.37	59.37
IA-PNM-2017-22 McKinley Solar 2	3.0	29.64	84.63	87.63
IA-PNM-2017-23 Cibola Solar	10.0	12.33	35.19	45.19
Totals	44.4	100%	285.5	329.9

*IA-PNM-2017-16-17 are energy Resources and as such network resources were not constructed for the injection of these two resources.

¹⁷ Section 7.7 and 7.7.a of PNM's tariff states "Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to Transmission Provider within thirty (30) Calendar Days after its receipt, together with the required technical data along with one of the following: Letter of Credit or payment of Interconnection Customer's share of estimated Network Upgrades less any amounts provided under Section 7.2.f.i (refundable if LGIA is not executed by Interconnection Customer); or..."

F. WITHDRAWAL PENALTY

Q. WHAT IS A WITHDRAWAL PENALTY?

A. Under the proposed Revised LGIP, the “withdrawal penalty” is charged to a customer that withdraws, under certain circumstances, from the queue prior to reaching commercial operation.

Q. UNDER WHAT CERTAIN CIRCUMSTANCES IS A CUSTOMER SUBJECT TO A WITHDRAWAL PENALTY?

A. First, the customer has to withdraw from the queue before it reaches commercial operation. If a customer reaches commercial operation, there is no penalty. So, for a withdrawing customer, PSCo would impose the withdrawal penalty only if (1) the withdrawal negatively affects the timing or cost of equal or lower queued projects; (2) the cost responsibility for transmission upgrades identified for the withdrawing Interconnection Customer increased by less than twenty-five (25%) percent between the prior and the current study reports; and (3) the cost responsibility for transmission upgrades identified for the withdrawing Interconnection Customer increased by less than one hundred percent (100%) between the Phase 4 report and the Phase 2 report.

Q. WHY WOULD PSCO PROPOSE A WITHDRAWAL PENALTY?

A. PSCo proposes to apply a withdrawal penalty to encourage companies to fully consider if their project is ready prior to entering and advancing through the queue.

Q. DOES PSCO PROPOSE TO IMPOSE A WITHDRAWAL PENALTY SIMILAR TO WHAT WAS APPROVED IN PNM’S REFORM PROPOSAL?

1 A. Yes. PSCo proposes a withdrawal penalty similar to what was accepted for PNM. The
2 Commission approved the use of a withdrawal penalty for PNM as consistent with or
3 superior to the *pro forma* LGIP.¹⁸

4 **Q. WHAT WITHDRAWAL PENALTY WAS APPROVED IN THE PNM TARIFF**
5 **BY THE COMMISSION?**

6 A. The Commission determined that a withdrawal penalty equal to one times (1 x) the study
7 cost is consistent with or superior to the *pro forma* LGIP.

8 **Q. IS PSCO ALSO PROPOSING TO CALCULATE THE WITHDRAWAL**
9 **PENALTY AS A MULTIPLE OF STUDY COSTS?**

10 A. Yes. The withdrawal penalty is this higher of the study deposit amount or a multiple of
11 actual study costs.

12 **Q. WHY IS PSCO PROPOSING TO USE “THE HIGHER OF” THE STUDY**
13 **DEPOSIT OR A MULTIPLE OF STUDY COSTS?**

14 A. The study deposit represents a reasonable floor for the withdrawal penalty. Without such
15 a floor, the withdrawal penalty may be negligible in the earlier stages of study and may
16 significantly under represent the costs of even the initial restudies of the same cluster.
17 Furthermore, in stakeholder meetings and in response to PSCo’s First Revised LGIP,
18 some stakeholders argued that the entire study deposit amount be at-risk and applied
19 towards study costs if a customer withdrew.

20 **Q. HOW WILL PSCO CALCULATE THE WITHDRAWAL PENALTY FOR**
21 **CUSTOMERS THAT ARE UNABLE TO PROVIDE A DEMONSTRATION OF**
22 **READINESS?**

¹⁸ PNM Queue Reform Order at PP 20, 81.

1 A. For customers that are unable to provide a demonstration of readiness, PSCo will
2 calculate the withdrawal penalty as a multiple of the customer's study costs. If an
3 Interconnection Customer is subject to a withdrawal penalty and a demonstration of
4 readiness *is not* provided, the withdrawal penalty will increase depending on the phase in
5 which they withdraw as discussed below. For these customers that *do not* provide a
6 demonstration of readiness their withdrawal penalty is the greater of the study deposit or
7 (a) two times (2 x) the study cost if the customer withdraws in Phase 1, capped at one
8 million dollars, (b) three times (3 x) the study cost if the customer withdraws in Phase 2,
9 capped at one and one half million dollars, (c) five times (5 x) the study cost if the
10 customer withdraws in Phase 3, capped at two million dollars, (d) seven times (7 x) the
11 study cost if the customer withdraws in Phase 4 capped at two and one half million
12 dollars, or (e) nine times (9 x) the study costs if the customer withdraws after executing
13 the LGIA.

14 **Q. IS THERE A CAP ON THE WITHDRAWAL PENALTY FOR CUSTOMERS**
15 **THAT ARE UNABLE TO PROVIDE A DEMONSTRATION OF READINESS?**

16 A. Yes. The cap on the withdrawal penalty ensures that the penalty is limited if the actual
17 study costs are high.

18 **Q. HOW WILL PSCO CALCULATE THE WITHDRAWAL PENALTY FOR**
19 **CUSTOMERS THAT HAVE PROVIDED A DEMONSTRATION OF**
20 **READINESS?**

21 A. If an Interconnection Customer is subject to a withdrawal penalty and a demonstration of
22 readiness *is* provided, the withdrawal penalty is the greater of the study deposit or one
23 times (1 x) the study cost. Just like what was approved in PNM, the customer pays its

actual study costs and the additional amount (i.e., one times the study cost) is the penalty.¹⁹ If the withdrawal occurs after the LGIA is executed, then the withdrawal penalty is nine times (9 x) the study costs. The withdrawal penalty for customers that provide a demonstration of readiness is not capped.

Q. IS THERE A CAP ON THE WITHDRAWAL PENALTY FOR CUSTOMERS THAT HAVE PROVIDED A DEMONSTRATION OF READINESS?

A. No.

Q. WHY IS IT REASONABLE TO CHARGE CUSTOMER THAT ARE UNABLE TO DEMONSTRATE READINESS A HIGHER WITHDRAWAL PENALTY THAN THOSE THAT ARE ABLE TO DEMONSTRATE READINESS?

A. Customers that are unable to provide a demonstration of readiness are more likely to withdraw and so pose a higher risk to disrupt the interconnection process, causing delays that harm other customers. Customers that are able to provide a demonstration of readiness, on the other hand, have more at risk because their project is more developed. Therefore customers that are able to provide a demonstration of readiness are harmed more than those that are unable to provide a demonstration of readiness.

Q. COULD YOU PLEASE SHOW THE WITHDRAWAL PENALTY IN TABULAR FORM?

A. Yes, the withdrawal penalty amounts are show in the table below:

Phase of Withdrawal	Readiness Demonstration Provided?	Total Withdrawal Penalty (if greater than study deposit)	Study Cost Obligation Cap

¹⁹ Note that although the penalty multiplier does not change for customers that provide a demonstration of readiness until the customer reaches the LGIA phase, the actual cost of the study will increase over the course of the study process. This means that the withdrawal penalty amount will increase as the process continues.

Phase of Withdrawal	Readiness Demonstration Provided?	Total Withdrawal Penalty (if greater than study deposit)	Study Cost Obligation Cap
1	Yes	1 times study costs	No Cap
2	Yes	1 times study costs	No Cap
3	Yes	1 times study costs	No Cap
4	Yes	1 times study costs	No Cap
LGIA	Yes	9 times study costs	No Cap
1	No	2 times study costs	\$1 million
2	No	3 times study costs	\$1.5 million
3	No	5 times study costs	\$2 million
4	No	7 times study costs	\$2.5 million
LGIA	No	9 times study costs	No Cap

1

2 **Q. ARE THESE WITHDRAWAL PENALTY AMOUNTS REASONABLE?**

3 A. Yes. The amount of the withdrawal penalty is significantly less than the potential harm a
 4 withdrawal may cause. The amount of harm the withdrawal causes increases in the later
 5 stages of the study process because the withdrawal impacts more requests and those other
 6 projects have expended more resources as they move towards interconnection.

7 **Q. PLEASE PROVIDE DESCRIBE POTENTIAL HARM THAT A WITHDRAWAL**
 8 **COULD CAUSE.**

9 A. I will provide examples of potential harm associated with restudy costs and delays below.

10 **Q. HOW MUCH INCREASED STUDY COSTS MIGHT OTHER**
 11 **INTERCONNECTION CUSTOMERS INCUR DUE TO A LATE STAGE**
 12 **WITHDRAWAL?**

13 A. The actual increased study costs is dependent on a number of variables. Suppose the cost
 14 to complete the system impact and facilities study is \$100,000. If a customer withdraws
 15 after signing the LGIA and that withdrawal requires a system impact and facilities
 16 restudy for 14 other customer in the same cluster, where the restudy costs to each

customer is \$75,000, then the restudy costs for other customers in the same cluster equal \$1,050,000 or 10.5 times the study costs.

Q. IF A CUSTOMER WITHDRAWALS AFTER SIGNING AN LGIA, WOULD ONLY CUSTOMERS IN THE SAME CLUSTER NEED TO BE RESTUDIED?

A. No. It is likely that all lower queued clusters would need to be restudied. Since PSCo proposes to run a cluster every six months, it is possible that on the order of 2 to 10 clusters would need to be restudied and each of those clusters may be in various phases of the study process. If there were only 15 customers and only 5 clusters needed to be restudied, and each restudy cost \$75,000; then the total cost of restudies to lower queued projects is \$5,625,000 (15 customer x 5 clusters x \$75,000). This illustrative example shows that a withdrawal could cause more than fifty-six times (56 x) the withdrawing customer's study costs. Although this is a hypothetical example, it shows that late stage withdrawals can result in significant increased study costs for lower queued customers.

Q. IN YOUR HYPOTHETICAL EXAMPLE WHAT IS THE TOTAL HARM ASSOCIATED WITH RESTUDIES?

A. In the illustrative example above, the total harm associated with restudies for both equally queued and lower queued restudies is more than sixty-six times (66 x) the study costs. As I said before, the actual impact will depend on a number of factors and is almost impossible to precisely predict ahead of the withdrawal. Even if there were only two lower queued clusters impacted, the potential restudy costs could be approximately 44 times the study costs (14 customers from the same cluster + 15 customers from the next cluster + 15 customers from the third cluster). It is unlikely that the restudy costs alone

1 will be less than the withdrawal penalty because of the potential to harm a number of
2 other customers.

3 **Q. WHAT OTHER TYPES OF HARM ARE THERE?**

4 A. There is harm to both the interconnection customer and the end use customer due to
5 delays in processing interconnection requests.

6 **Q. DID PSCO SOLICIT STAKEHOLDER FEEDBACK ON THE POTENTIAL**
7 **HARMS ASSOCIATED WITH DELAYS?**

8 A. In the stakeholder process, PSCo asked, “As a generation developer, what costs do you
9 incur to develop a facility? Are there any financial harms (development costs, land leases,
10 lost opportunity cost, etc.) that you might experience due to delayed interconnection?
11 Under the first ready design (e.g. where you have demonstrated that your project is ready
12 by achieving site control and other requirements such as participating in an RFP,
13 negotiating a contract for sale, starting construction under provisional interconnection, or
14 providing financial security) please estimate how much costs may have been expended by
15 each milestone date or how much costs might be expended per year?”

16 **Q. WHAT IS COST OF DELAYS DID STAKEHOLDERS PROVIDE?**

17 A. The stakeholder responses are provided in Exhibit XES-206 of my testimony. Generally,
18 developers indicated that the costs of delays could be in the high hundreds of thousands
19 of dollars per year of delay.

20 **Q. PLEASE PROVIDE THE SPECIFIC CUSTOMER’S RESPONSES**

21 A. I provide three examples below:

22 (1) One developer stated, “This is unique to each project and can be impacted by not only
23 leasing arrangements but also the local taxing regime, permitting requirements,

1 environmental issues, project size, access to the POI, etc. These costs can easily be in the
2 upper hundreds of thousands of dollars to a few million.”²⁰

3 (2) Another developer said, “Costs to develop a facility (other than interconnection costs)
4 include site control payments, site due diligence costs (land surveys, environmental
5 surveys, hydrological and geotechnical studies, Phase I environmental site assessments,
6 title investigation and curative work), installation and maintenance of weather stations,
7 preliminary engineering and preparation of site layouts, and permitting costs. The rate of
8 expenditure is highly variable and depends upon the negotiated terms of the site control
9 agreements, the size of the project footprint, the jurisdiction having permitting authority,
10 the complexity of the site/project/title, the length of the gen-tie, and other factors. At the
11 bare minimum, a utility-scale renewable energy project could be expected to incur annual
12 costs on the order of tens of thousands of dollars to maintain site control. If actual due
13 diligence and permitting activities are being carried out, the non-interconnection costs
14 incurred can easily be on the order of hundreds of thousands of dollars per year. In
15 addition to these costs there would be internal overhead costs borne by the developer
16 each year.”²¹

17 (3) A stakeholder group, Interwest Energy Alliance, provided a number costs that could
18 be impacted by delays including lost PTC/ITC value, land leases, legal fees, RFP bid
19 fees, County permitting, FAA permitting, deposits on equipment (turbines or panels).²²

20 **Q. ARE THESE THE LARGEST HARMS CAUSED BY WITHDRAWALS THAT**
21 **DELAY INTERCONNECTION PROCESSES?**

²⁰ Exhibit XES-206 at 8.

²¹ *Id.* at 9.

²² *Id.* at 2-7.

1 A. No, the largest financial harm is the lost viability of a project due to delayed
2 interconnection. This harm includes the total lost opportunity cost of selling the
3 generating facility or the output from the generating facility plus the lost sunk
4 development costs. As NextEra stated, “Delayed interconnection (especially within the
5 current federal PTC and ITC periods) could jeopardize a project’s viability and could
6 jeopardize other commitments with counterparties.”²³

7 **Q. DO DELAYS ONLY IMPACT THE GENERATOR DEVELOPER?**

8 A. No, the lost viability of a project due to delayed interconnection also impacts end use
9 customers. If a low cost generation resource is unable to interconnect, end use customers
10 are not able to purchase low cost energy from the new generator. As Interwest Energy
11 Alliance stated, “Consistent and dependable interconnection timelines are critical for the
12 development of clean renewable energy projects and serving customers at least cost.”²⁴ In
13 short, delayed interconnection cannot only harm developers, it can also result in higher
14 electric rates and thwart competitive generation development.

15 **Q. COULD PSCO CALCULATE THE ACTUAL HARM AND CHARGE THE**
16 **WITHDRAWING CUSTOMER THAT AMOUNT UPON WITHDRAWAL?**

17 A. No. There are many harms and potential harms. The goal of the withdrawal penalty is to
18 encourage an orderly approach to generation interconnection which will avoid the
19 potential harms described above.

20 **Q. WILL YOU PROVIDE HYPOTHETICAL EXAMPLES OF THE SECURITY**
21 **AMOUNTS AND THE POTENTIAL WITH WITHDRAWAL PENALTY?**

²³ *Id.* at 1.

²⁴ *Id.* at 2.

1 A. Yes. I provide examples in Exhibit XES -204 to my testimony.

2 **Q. IS THIS WITHDRAWAL PENALTY CHARGED IN ALL CASES?**

3 A. No. As stated above, PSCo would impose this penalty *only* if (1) the withdrawal does
4 negatively affect the timing or cost of equal or lower queued projects; (2) the cost
5 responsibility identified for that Interconnection Customer in the current study Phase
6 report associated with new upgrades to the Transmission Provider's System increased by
7 less than twenty-five percent (25%) compared to the costs identified in the previous
8 Phase report and (3) if the total study cost responsibility identified in the Phase 4 report
9 increases by less than one hundred percent (100%). Note that this third provision does not
10 apply if the Interconnection Customer withdraws before the Phase 4 report is published.

11 **Q. WHY IS IT REASONABLE TO EXEMPT A WITHDRAWING CUSTOMER**
12 **FROM THE WITHDRAWAL PENALTY?**

13 A. The first exception reflects the fact that if the withdrawal does not affect other
14 Interconnection Requests, the withdrawal will not harm other Interconnection Customers
15 or the study process itself, and so it is reasonable to exempt the withdrawing customer
16 from the withdrawal penalty.

17 The second two exceptions reflect the fact that the upgrade costs assigned to an
18 Interconnection Customer might change and increase significantly during the
19 interconnection process, through no fault of the Interconnection Customer. As discussed
20 above, the Definitive Interconnection Study Process is a phased process in which
21 Interconnection Customers must show continued commitment by providing each
22 successive Readiness Milestone based on a projection of final interconnection costs as
23 calculated in the most recent study report. The commitment to move forward with the

1 study process is based partially on the cost for interconnection, and costs could fluctuate
2 at each phase based on numerous factors. PSCo agreed with stakeholders that a greater
3 than twenty-five percent (25%) increase in interconnection costs could make a specific
4 project uneconomic and so result in a previously “ready” project withdrawing from the
5 Queue. Stakeholders also wanted to ensure that customers could withdraw if there was a
6 significant increase in allocation costs over the process, and not just between successive
7 phases. To address this desire, PSCo proposes the third exception, to not apply the
8 withdrawal penalty if the allocated cost of interconnection increases by more than one
9 hundred percent (100%) between the Phase 2 results and the Phase 4 results. These two
10 allowances make it reasonable to apply the withdrawal penalty in all other instances.

11 **Q. GENERALLY, HOW WILL PSCO DISTRIBUTE THE WITHDRAWAL**
12 **PENALTY REVENUE?**

13 A. PSCo proposes to use the withdrawal penalty revenue to fund other customer’s study
14 costs.

15 **Q. IS PSCO’S PROPOSED DISTRIBUTION METHODOLOGY CONSISTENT**
16 **WITH THE METHODOLOGY THAT THE COMMISSION APPROVED FOR**
17 **PNM?**

18 A. Yes. The Commission approved PNM’s use of withdrawal penalty revenue to fund study
19 costs as consistent with or superior to the *pro forma* LGIP.

20 **Q. HOW DOES PSCO PROPOSE TO DISTRIBUTE ANY WITHDRAWAL**
21 **PENALTY REVENUE?**

22 A. The withdrawal penalty revenue will be distributed to interconnection customers in a
23 specific cluster in a similar way as study costs are allocated. This distribution will appear

as a bill credit on their study invoice(s), where it will not exceed the study amount and will not be distributed to the withdrawing customer. The withdrawal penalty revenue will first be credited against not-yet-invoiced studies for equally queued customers (i.e. customers in the same cluster). To the extent there are additional withdrawal penalty revenues after funding not-yet-invoiced studies (e.g. restudies) for other customers in the same cluster, the penalty revenue will be distributed to not-yet-invoiced studies for subsequent clusters in queue order.

G. SITE CONTROL

Q. TURNING TO THE ISSUE OF SITE CONTROL, PLEASE DISTINGUISH SITE CONTROL FROM THE READINESS MILESTONES.

A. The Revised LGIP will require an Interconnection Customer to demonstrate increasing levels of Site Control in addition to and separate from the Readiness Milestones enumerated above. While the Interconnection Customer could provide security in lieu of a demonstration or readiness to satisfy the Readiness Milestones at each successive stage of the process, an Interconnection Customer may not substitute security in place of demonstrating Site Control. Additionally, PSCo has established different Site Control percentage requirements for the Interconnection Customer's Generating Facility and for the Interconnection Customer's Interconnection Facilities. The increasing percentages for each category of equipment are shown in the table below:

Readiness Milestone	Site Control (Generating Facility)	Interconnection Customer's Interconnection Facilities
M1	50%	0%
M2	50%	0%
M3	60%	0%
M4	75%	0%
M5	90%	50%

1 **Q. HOW DID PSCO DEVELOP THESE READINESS REQUIREMENTS?**

2 A. By working closely with parties during the stakeholder process, PSCo learned about other
3 regions' proposals or processes for requiring demonstrations of site control. PSCo
4 worked with stakeholders to arrive at both a reasonable definition of site control as well
5 as the gradually increasing requirements. Based on stakeholder feedback, PSCo believes
6 these milestones are appropriate and consistent with the development of a project from
7 near-ready to ready through the interconnection process.

8 **Q. PLEASE EXPLAIN THE CONCEPT OF EXCLUSIVITY INCLUDED IN THE**
9 **REVISED DEFINITION OF SITE CONTROL.**

10 A. Exclusivity is commonly reflected in documents used to demonstrate site control. In the
11 Revised LGIP, the concept of exclusivity means an Interconnection Customer has
12 obtained real estate agreements that give them (and only them) effective control of a
13 property or the right to acquire a property, to the exclusion of all other developers or third
14 parties. In the Revised LGIP, the exclusivity requirement applies to the site control for
15 the Generating Facility, but not for the Interconnection Customer's Interconnection
16 Facilities.

17 **Q. WHY IS IT IMPORTANT THAT A DEVELOPER HAS EXCLUSIVE LAND**
18 **RIGHT TO DEVELOP, CONSTRUCT, OPERATE, AND MAINTAIN THE**
19 **GENERATING FACILITY OVER THE TERM OF EXPECTED OPERATION**
20 **OF THE GENERATING FACILITY?**

21 A. It is important that an Interconnection Request representing a ready project have the
22 exclusive land right because a non-exclusive right (where the same land right may be
23 exercised by more than one party) does not carry the same indicia of readiness. If the

land right is not exclusive, and one of the non-exclusive developers exercises the land option, the other projects (with the same non-exclusive right) may now be precluded from moving forward—meaning that they are not ready to proceed after all.

H. LGIA MODIFICATIONS

Q. WHAT MODIFICATIONS ARE PROPOSED TO THE PSCO *PRO FORMA* LARGE GENERATOR INTERCONNECTION AGREEMENT?

A. PSCo is proposing several additional modifications to the LGIA, including, most notably, the following: (1) the modification of the termination procedures; and (2) the modification of certain elements of the suspension provision. Each of these modifications is discussed below.

In addition, PSCo is also proposing separately defining “LGIA Milestones” to distinguish “LGIA Milestones” from “Readiness Milestones”.

1. CLARIFICATION OF TERMINATION PROCEDURES

Q. WHAT CLARIFICATIONS DOES PSCO MAKE TO THE TERMINATION PROCEDURES IN THE LGIA?

A. PSCo proposes to modify the termination procedures in the LGIA (Article 2.3.1). These modifications clarify that, subject to certain conditions, if a Generating Facility (or a portion of the Generation Facility) (a) fails to reach timely commercial operation, or (b) has achieved commercial operation but has ceased commercial operation for the three consecutive years, then the Transmission Provider shall terminate the LGIA or the portion of the LGIA associated with the part of the Generation Facility that does not reach commercial operation or is no longer operating, as applicable.²⁵ Similar

²⁵ Partial termination of the LGIA is amending the LGIA to update the interconnection service amount.

1 modifications have been approved in other regions.²⁶ This important clarification will
2 ensure that generators that do not reach commercial operation or do not operate once
3 having done so do not hold or otherwise utilize scarce interconnection capacity.

4 **Q. WHAT OTHER CLARIFICATIONS ARE MADE IN THE TERMINATION**
5 **PROCEDURES?**

6 A. The termination procedures also clarify that the total cumulative extension between both
7 the LGIP and LGIA is three years, except in the case where the interconnection requires a
8 delayed Contingent Facility. In such cases, commercial operation must be achieved
9 within ninety (90) days after the in-service date of the Contingent Facility.

10 **2. SUSPENSION LANGUAGE**

11 **Q. WHAT MODIFICATIONS DOES PSCO PROPOSE WITH REGARD TO THE**
12 **SUSPENSION LANGUAGE IN ARTICLE 5.16 OF THE LGIA?**

13 A. PSCo proposes no changes to the *pro forma* suspension language in Article 5.16 of the
14 LGIA, but does propose to add two new clarifying sub-articles (5.16.1 and 5.16.2)

15 **Q. PLEASE DESCRIBE THE NEW SUB-ARTICLE 5.16.1, “EFFECT OF MISSED**
16 **INTERCONNECTION CUSTOMER MILESTONES”**

17 A. Sub-article 5.16.1, “Effect of Missed Interconnection Customer LGIA Milestones”
18 simply clarifies that missing an LGIA Milestone in Appendix B of the LGIA constitutes a
19 breach of contract. This clarification is important so that the Interconnection Customer
20 knows that instead of missing a milestone, such as funding the construction of an
21 upgrade, they must instead place the LGIA in suspension.

²⁶ *Midwest Indep. Transmission Sys. Operator, Inc.*, 163 FERC ¶ 61,210 at P 36 (2018); *Midwest Indep. Transmission Sys. Operator, Inc.*, 139 FERC ¶ 61,253 at PP 115, 120-23 (2012); *Midwest Indep. Transmission Sys. Operator, Inc.*, 137 FERC ¶ 61,188 at P 29 (2011), *order on compliance filing*, 139 FERC ¶ 61,197 at P 8 (2012).

1 **Q. PLEASE DESCRIBE THE NEW SUB-ARTICLE 5.16.2, “EFFECT OF**
2 **SUSPENSION; PARTIES OBLIGATIONS”**

3 A. Sub-article 5.16.2 “Effect of Suspension; Parties Obligations” states that (1) LGIA
4 Appendices A and B may be revised to reflect the construction sequencing or modified
5 milestones, (2) a total cumulative extension of the commercial operation date beyond
6 three years may be a Material Modification and (3) customers are required to maintain
7 site control during suspension.

8 **Q. DOES NEW THIS SUB-ARTICLE 5.16.2, “EFFECT OF SUSPENSION; PARTIES**
9 **OBLIGATIONS” MEAN THAT A CUSTOMER THAT HAS ALREADY**
10 **EXTENDED ITS COMMERCIAL OPERATION DATE BY THREE YEARS MAY**
11 **NOT PLACE ITS LGIA IN SUSPENSION?**

12 A. No. Even if a generator has already extended its commercial operation date for three
13 years, it may still place the LGIA in suspension. Placing the LGIA in suspension may
14 delay the construction of Contingent Facilities because the act of placing the LGIA in
15 suspension suspends the Transmission Provider’s work on such facilities. When the
16 customer comes out of suspension, the Transmission Provider will resume such work.
17 The proposed language in Article 2.3 (Termination Procedures) states that to the extent
18 the Contingent Facilities are not yet in-service, the customer has up to ninety days after
19 such facilities are in-service to reach commercial operation.

20 **Q. PLEASE PROVIDE AN EXAMPLE OF A CUSTOMER THAT EXTENDED ITS**
21 **COMMERCIAL OPERATION DATE BY THREE YEARS AND LATER**
22 **PLACED ITS LGIA IN SUSPENSION.**

23 A. Suppose there is an interconnection customer that requests a Commercial Operation Date

1 (“COD”) of 2020 in their initial request. During the study process, the customer requests
2 to extend their COD to 2022. Once they execute the LGIA, they further extend the COD
3 to 2023. Now the customer has reached the total cumulative extension of three years. In
4 2022, right before PSCo starts construction of the required Contingent Facilities, the
5 customer places the LGIA in suspension, thereby suspending the construction of the
6 required Contingent Facilities. The customer places the LGIA in suspension for three
7 years, or until 2025. In 2025, the customer exits suspension, and authorizes PSCo to start
8 construction of the required Contingent Facilities. It takes PSCo 2 years to complete the
9 construction of the Contingent Facilities, and the facilities are in-service in 2027. In this
10 example, the customer must achieve commercial operation within 90 days of the in-
11 service date of the Contingent Facilities; the customer must achieve commercial
12 operation in 2027. In this example, the actual achieved commercial operation is extended
13 seven (7) years from the originally requested date.

14 **I. TRANSITIONAL PROCESS**

15 **Q. WHAT IS THE GOAL OF PSCO’S TRANSITION PROPOSAL?**

16 A. As I indicated throughout my testimony, this queue reform proposal represents a change
17 from a first-come, first-served approach to a first-ready, first-served approach. PSCo is
18 currently unable to process approximately fifty percent (50%) of its Interconnection
19 Requests because the amount of NRIS requests exceeds Network Load. In the current
20 serial study process, projects that are lower in the Queue cannot be studied until higher
21 queued projects withdraw from the Queue or terminate their Interconnection Agreements.
22 PSCo believes that speculative, non-viable projects with higher Queue Positions are
23 barring lower queued ready projects from being studied or from advancing to

1 interconnection and are leading to inaccurate study results.

2 Therefore, if those higher queued projects were allowed to retain their Queue
3 Position during the transition to the new cluster study process, the same problems that
4 have given rise to this queue reform proposal would continue. Thus, the goal of PSCo's
5 transition proposal is to transition only ready projects (and not speculative projects) so
6 that PSCo would be able to study and interconnect those Interconnection Customers in a
7 timely and effective manner.

8 **Q. WHY IS IT IMPORTANT FOR PSCO'S QUEUE REFORM TO INCLUDE AN**
9 **EFFECTIVE TRANSITION MECHANISM?**

10 A. PSCo's attempt at reforming the Queue will not be successful unless speculative or
11 unready projects are removed from the Queue. Even if an Interconnection Customer first
12 entered the PSCo Queue with a business model that assumed that it would not need to
13 decide whether to interconnect for years into the future, because of the current and
14 pressing issues with the PSCo interconnection process summarized above and the
15 accompanying testimony of Mr. Benson, it is unjust and unreasonable to allow these
16 Interconnection Customers to harm ready projects by creating a barrier to
17 interconnection. I note also that the entire proposed redesign assumes that the transitional
18 projects are ready to go forward and that none will withdraw. If this assumption proves
19 false, then cascading restudies and inaccurate study results will undermine the entire
20 queue reform proposal. For these reasons and for this one-time transition only, PSCo will
21 not allow security *in lieu* of a demonstration of readiness and will impose a nine times (9
22 x) study cost withdrawal penalty for transitional projects that do not reach commercial
23 operation.

Q. HOW WOULD PSCO CARRY OUT THIS PROCESS?

A. PSCo proposes an expedited process for ready projects that have been delayed in PSCo's current Queue. PSCo has established three options for projects in the current PSCo Queue: (1) the transitional serial process; (2) the transitional cluster process; and (3) withdrawal from the Queue and reenter the Queue in a DISIS Cluster.

To enter either the transitional serial or the transitional cluster processes, a project must successfully demonstrate readiness. If a currently-queued Interconnection Customer elects not to transition using either the transitional serial or transitional cluster process, then that Interconnection Customer may reenter the Queue through a future DISIS Cluster.

1. TRANSITIONAL SERIAL PROCESS

Q. WHAT PROJECTS QUALIFY TO PARTICIPATE IN THE TRANSITIONAL SERIAL PROCESS?

A. An Interconnection Customer may opt to enter the transitional serial process provided that the Interconnection Customer has: (a) a final System Impact Study Report that identifies the Interconnection Request is feasible and identifies facilities required to interconnect; and (b) an Interconnection Facilities Study Agreement that was executed prior to September 27, 2019.²⁷ The transitional serial process essentially allows ready projects in the Interconnection Facilities Study process to continue with that study, enter into a LGIA, and interconnect. The only material difference between the current and proposed process for these transitional serial projects is that they are truly ready to interconnect.

²⁷ This date is approximately three weeks after the filing date.

1 **Q. HOW DOES AN INTERCONNECTION CUSTOMER IN THE TRANSITIONAL**
2 **SERIAL PROCESS DEMONSTRATE THAT IT IS TRULY READY TO**
3 **INTERCONNECT?**

4 A. To qualify for the transitional serial process, an Interconnection Customer must:
5 (1) provide a deposit for TPIF and Network Upgrades that is equal to 100 percent of the
6 costs identified in the System Impact Study report; (2) demonstrate exclusive Site Control
7 (100 percent) for both the Generating Facility and the Interconnection Customer
8 Interconnection Facilities; (3) sign a transitional interconnection study agreement; and
9 (4) provide one additional demonstration of readiness. Additional readiness
10 demonstration may be any one of the following: (a) an executed contract for sale in
11 excess of five years for the Generating Facility's energy, or for the entire constructed
12 Generating Facility; (b) evidence that the Generation Facility is included in an approved
13 Resource Plan; or (c) an executed and unsuspended Provisional LGIA filed with the
14 Commission that includes a commitment by the Interconnection Customer to construct
15 the Generating Facility. These requirements must be provided to PSCo by
16 Interconnection Customers wishing to transition during a 30-day window from the
17 effective date of this Tariff (December 5, 2019 – January, 6, 2020). Note the window is
18 extended from January 4, 2020 to January 6, 2020 because January 4 falls on a weekend.

19 **Q. ARE TRANSITIONAL SERIAL PROJECTS SUBJECT TO A WITHDRAWAL**
20 **PENALTY?**

21 A. Yes. If a Transitional Serial Project withdraws, it is subject to a withdrawal penalty of
22 nine times (9 x) the study costs. Exempting the Interconnection Customer from a
23 withdrawal penalty in the two narrow and specific instances where the estimate costs

1 unexpectedly increase or where the withdrawal does not harm others is appropriate and
2 provides just allowances for applying a withdrawal penalty to projects that had previously
3 determined they were ready. Note that the Transitional Cluster discussed below and the
4 first DISIS Cluster will be considered lower queued compared to the transitional serial
5 projects.

6 2. TRANSITIONAL CLUSTER PROCESS

7 **Q. WHAT PROJECTS QUALIFY TO PARTICIPATE IN THE TRANSITIONAL** 8 **CLUSTER PROCESS?**

9 A. Any project in the PSCo Queue that executed an Interconnection Facilities Study
10 Agreement by September 27, 2019, including those eligible for the serial process, may
11 enter the transitional cluster process. Some current requests may have infeasible
12 commercial operation dates, and PSCo will allow a one-time modification of the
13 requested commercial operation date upon entry into the transitional cluster process.²⁸
14 All Interconnection Requests that opt for this path will be studied in a single transitional
15 cluster. The costs of identified facilities will be allocated like the costs are allocated for
16 the DISIS Clusters. The transitional cluster will be subject to an expedited combined
17 system impact and interconnection facilities study.

18 **Q. HOW DOES AN INTERCONNECTION CUSTOMER IN THE TRANSITIONAL** 19 **CLUSTER PROCESS DEMONSTRATE THAT IT IS TRULY READY TO** 20 **CONNECT?**

21 A. Specifically, an Interconnection Customer must: (1) provide a \$5 million deposit for

²⁸ PSCo requests a waiver, to the extent one is required to allow a one-time change in any project's Commercial Operation Date upon entry into the transitional cluster.

1 TPIF and Network Upgrades; (2) demonstrate exclusive Site Control (100 percent) for
2 the Generating Facility (but not for the Interconnection Customer Interconnection
3 Facilities because the results of the transitional Cluster Study may influence the optimal
4 location of the ICIF); and (3) provide one additional demonstration of readiness.
5 Additional readiness demonstration may be any one of the following: (a) a contract for
6 sale in excess of five years for the Generating Facility's energy, or for the entire
7 constructed Generating Facility; (b) evidence that the Generation Facility is included in
8 an approved Resource Plan; or (c) an executed Provisional Large Generator
9 Interconnection Agreement filed with the Commission. If a Provisional Large Generator
10 Interconnection Agreement is used, the agreement must include: (1) a commitment to
11 construct the facility, (2) a Commercial Operation Date no later than 2023, and (3) a
12 security deposit in addition to the \$5 million identified in 5.1.1.2, where the total security
13 deposit represents a reasonable estimation of the potential costs that could be ultimately
14 allocated to the project in the transitional cluster study.

15 **Q. UNDER WHAT CIRCUMSTANCES IS THE \$5 MILLION DEPOSIT**
16 **REFUNDABLE?**

17 A. The \$5 million deposit is fully refundable once the final invoice for study costs and
18 withdrawal penalty is settled.

19 **Q. WHAT WITHDRAWAL PENALTY IS APPLIED TO A CUSTOMER THAT HAS**
20 **EXECUTED A TRANSITIONAL SERIAL STUDY AGREEMENT?**

21 A. If the withdrawal negatively affects equally or lower queued projects, a withdrawal
22 penalty of nine times (9 x) the study costs is applied to projects that withdrawal or
23 otherwise do not reach commercial operation after executing a serial cluster study

1 agreement. Any Withdrawal Penalty will be used to pay for equal or later-queued
2 customer's interconnection studies.

3 **Q. HOW DID PSCO DETERMINE THAT A \$5 MILLION DEPOSIT WOULD BE**
4 **REASONABLE TO DEMONSTRATE READINESS FOR THE PURPOSE OF**
5 **THE TRANSITIONAL CLUSTER PROCESS?**

6 A. To help ensure that such Interconnection Customers are truly ready to move forward,
7 projects in the transitional cluster must make a deposit on TPIF and Network Upgrades
8 that are required for interconnection. However, since PSCo does not yet know how many
9 projects will enter the transitional cluster and has not yet completed the transitional
10 cluster study that would identify the TPIF and Network Upgrades and the cost
11 responsibility for such facilities, PSCo must estimate the potential costs. Though the
12 stakeholder process, PSCo has established \$5 million as a reasonable deposit for the TPIF
13 and Network Upgrades cost that might be allocated to an Interconnection Customer,
14 although \$5 million is likely on the low end of the potential cost.

15 There are numerous reference points that support the reasonableness of a \$5
16 million deposit.

17 *First*, and as discussed above, since 2003 PSCo's estimated TPIF costs have
18 averaged \$2.3 million per Interconnection Request, with a range from \$0 to \$14 million.
19 That range is not dependent on the size of the Generating Facility but is rather dependent
20 on the currently available direct interconnection capacity at a given Point of
21 Interconnection. If a significant number of Interconnection Customers desire to
22 interconnect in a particular location, it is likely that new substations will be required,
23 which will drive likely TPIF costs closer to the approximately \$14 million range.

1 *Second*, Network Upgrade costs historically identified on the PSCo system
2 average about \$2.9 million per Interconnection Request for ERIS projects, plus an
3 additional approximately \$28.9 million for NRIS.

4 This means that the historically identified average total ERIS upgrade cost (TPIF
5 plus Network Upgrades) is \$5.2 million and the historically identified average total NRIS
6 upgrade cost is \$31.2 million. If there are significant amount of requests in the
7 transitional cluster, PSCo expects a number of network facilities to be required for
8 interconnecting the cluster.

9 *Third*, in PSCo's Resource Planning Process, PSCo estimated that \$175 million to
10 \$200 million in transmission investment would be required to interconnect between
11 450 MW and 1,110 MW of additional generation. This estimate translates to a range of
12 approximately \$0.16 million per MW to \$0.44 million per MW. Accordingly, a 100 MW
13 Interconnection Request might reasonably expect \$16 million to \$44 million in
14 interconnection costs if the transitional cluster were between 450 MW and 1,110 MW.²⁹
15 PSCo notes that 1,007 MW of the third-party resources selected in PSCo's 2016
16 approved Resource Plan responded that they intend to enter the transitional cluster.
17 Therefore, PSCo expects that the transitional cluster will identify at least \$175 million
18 dollars in upgrades in the transitional cluster study.

19 Therefore, PSCo believes that \$5 million represents a reasonable deposit on TPIF
20 and Network Upgrades that may be allocated to any specific generator in the transitional
21 cluster study process. Stakeholders generally agree that a \$5 million deposit for potential

²⁹ PSCo estimated these costs and did not perform a full interconnection study that would identify actual costs for interconnection.

upgrades is an appropriate deposit that will help to ensure readiness and discipline for potential Interconnection Customers who wish to enter the transitional cluster.

The \$5 million is a deposit on the upgrades the Interconnection Customer will fund. The deposit shall be reconciled with and applied towards future construction costs described in the LGIA. Any amounts in excess of the actual construction costs shall be returned to the customer. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, the deposit is fully refundable once the final invoice for study costs and Withdrawal Penalty is settled.

Q. HOW MANY PROJECTS DOES PSCO ANTICIPATE WILL ENTER THE TRANSITIONAL CLUSTER?

A. At this time, PSCo does not know how many projects are ready and will opt to enter the transitional cluster. Although over 8,800 MW of projects have expressed intent to enter the transitional cluster, after discussing these requests with customers, it is clear that not all of these projects will ultimately request to be studied in the transitional cluster.

3. TIMING CONSIDERATIONS

Q. HOW LONG DOES AN INTERCONNECTION CUSTOMER HAVE TO ENROLL IN EITHER THE TRANSITIONAL SERIAL OR TRANSITIONAL CLUSTER PROCESS?

A. Interconnection Customers who wish to enter either the transitional serial process or the transitional cluster process must provide satisfy all of the requirements and provide all necessary information for a valid request during a 30-day window from the effective date of this Tariff (December 5, 2019 – January 6, 2020).

If a currently-queued Interconnection Customer elects not to transition using either the transitional serial or transitional cluster process, then that Interconnection

1 Customer will be withdrawn from the Queue and will have the option to reenter the
2 Queue through a future DISIS Cluster. The first DISIS Request Window will open
3 shortly after the window to request transition closes. The first DISIS Request Window
4 will be from February 1, 2020 through March 16, 2020. This DISIS Request Window is
5 followed by a 75-day Customer Engagement Window, which means that the Phase 1
6 study will start on or before June 1, 2020. This timeline means that the first DISIS
7 Cluster Study will commence less than six months the start of the transitional cluster
8 study. Transitional serial projects will be considered higher queued than the transitional
9 cluster and the first DISIS Cluster. The transitional cluster will be considered higher
10 queued compared to the first DISIS Cluster. The transitional Cluster will utilize an
11 expedited study process for the currently queued ready projects and is expected to be
12 complete by fall 2020.

13 **V. CONCLUSION**

14 **Q. DOES THIS CONCLUDE YOUR PREPARED PRE-FILED TESTIMONY?**

15 **A. Yes.**

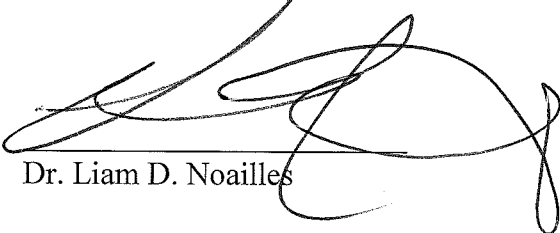
UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Public Service Company of Colorado

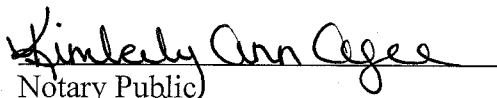
)
)
)
Docket No. ER19-__-000

AFFIDAVIT

Dr. Liam D. Noailles, being duly sworn, deposes and states: The Direct Testimony of Liam D. Noailles was prepared by me or under my direct supervision and the statements contained therein and the Exhibits attached thereto are true and correct to the best of my knowledge and belief.


Dr. Liam D. Noailles

Subscribed and sworn to before me
This 6th day of September 2019.


Notary Public
My Commission expires Feb 24, 2022

KIMBERLY ANN AGEE
Notary Public – State of Colorado
Notary ID 20144008609
My Commission Expires Feb 24, 2022

Exhibit XES-201:

PNM Queue Reform Outcomes



XES-201: PNM QUEUE REFORM OUTCOMES OVERVIEW

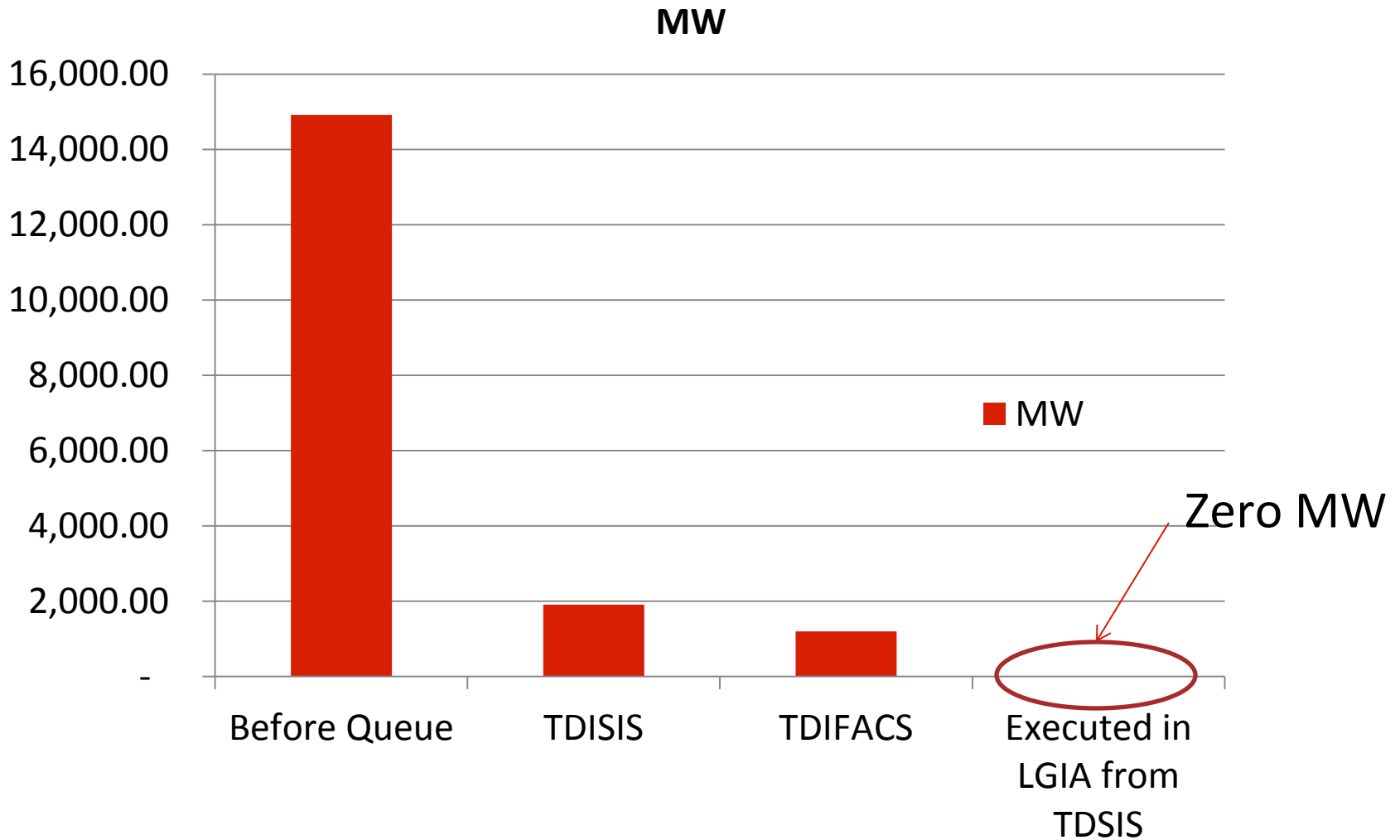


PNM QUEUE REFORM



- PNM's queue reform significantly decreased the size of the queue and resulted in a more manageable number and volume of requests
 - 15,000MW of requests in the initial queue
 - 2,000 MW opted for the transitional queue
 - 0 MW from transitional queue resulted in LGIAs
- The first few DISIS clusters were small, but now the size of the PNM DISIS clusters are increasing rapidly
- The DISIS cluster generally decreases in size between the initial system impact study and the facilities study
- Results of PNM's reformed LGIA on the next slides demonstrate why PSCo is not just proposing to copy PNM

PNM: BEFORE AND AFTER QUEUE REFORM



PNM DISIS CLUSTER SIZES



MW

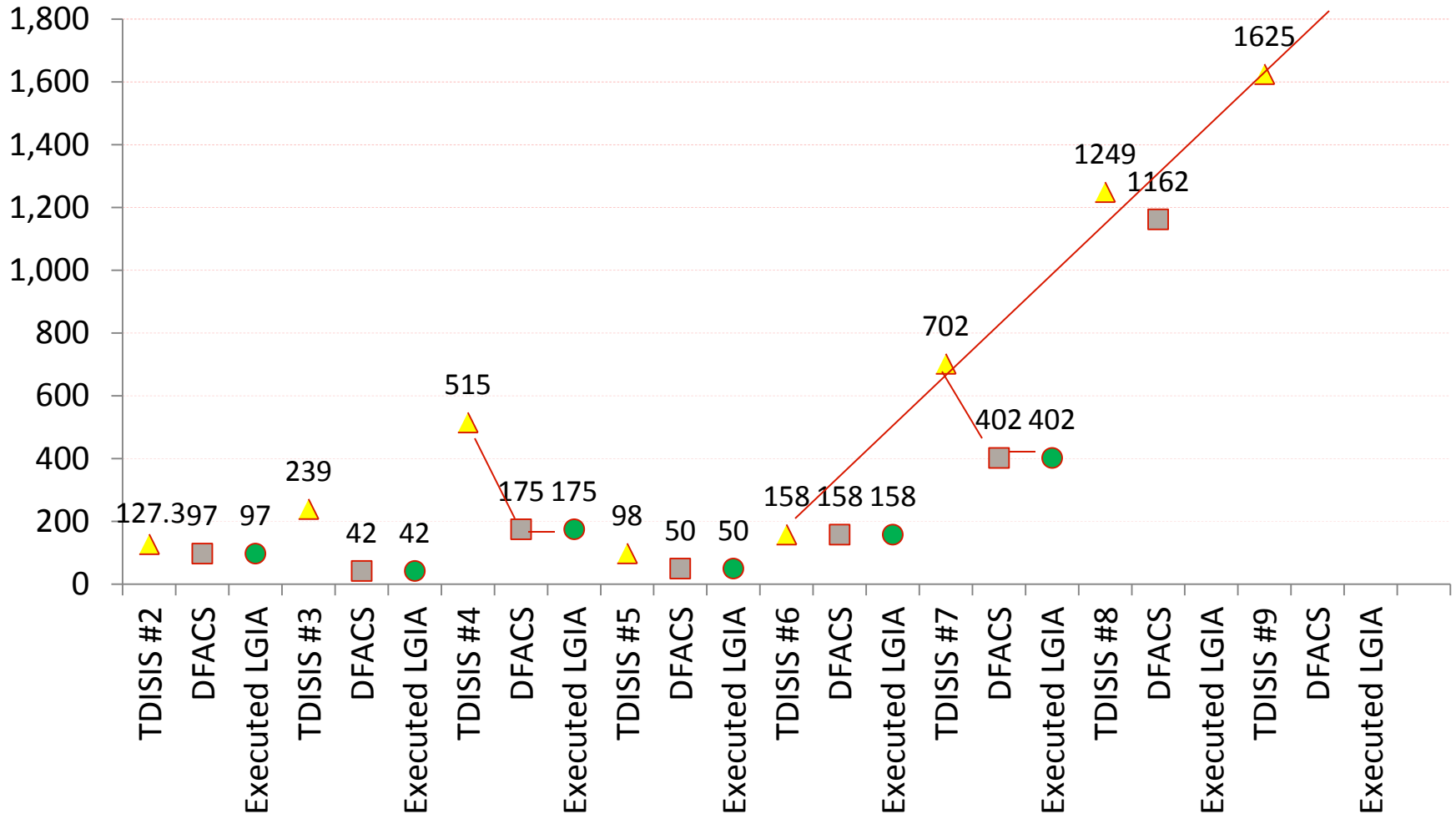
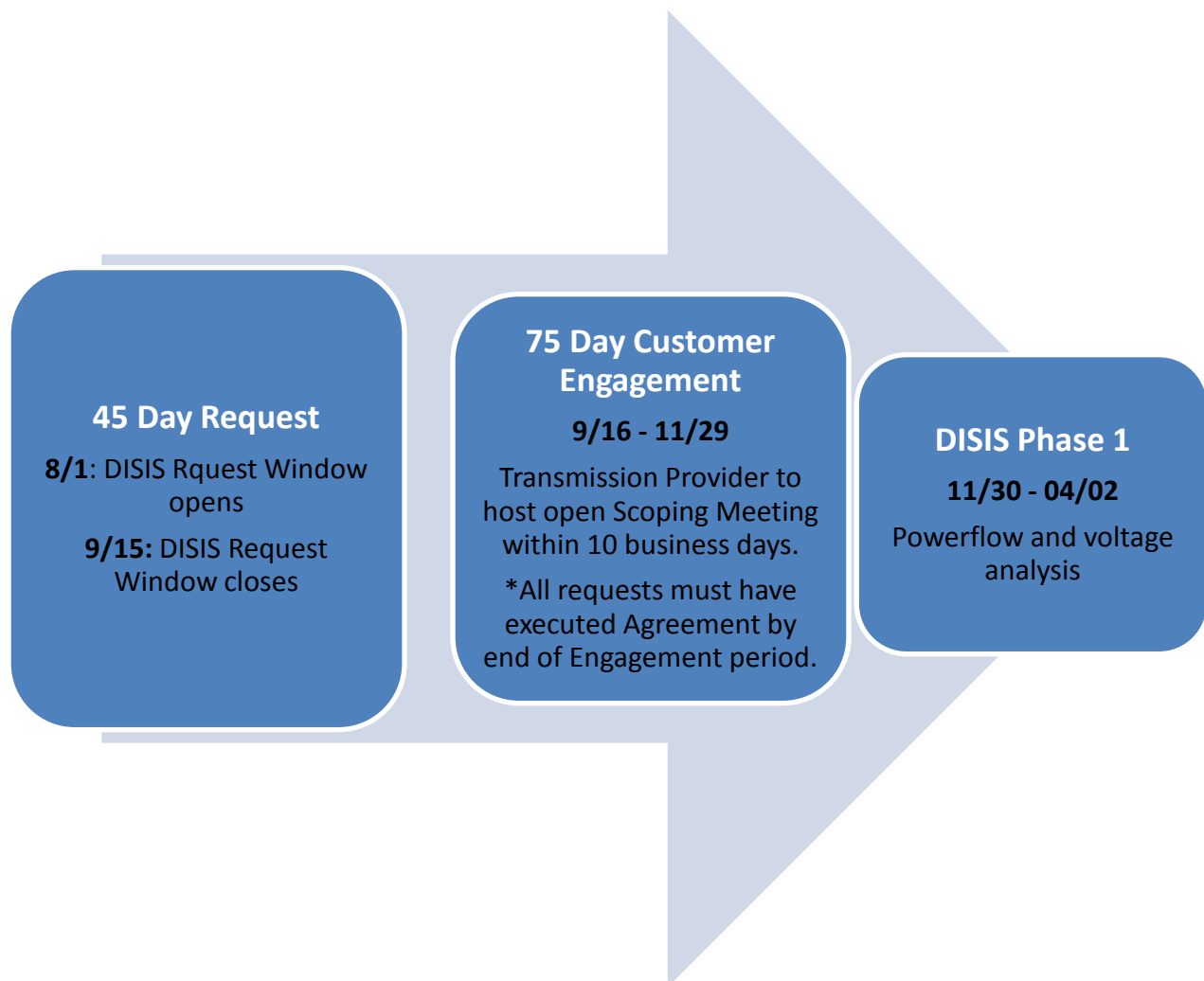


Exhibit XES-202:

PSCo GI Process Reform Timeline

Timeline: Appendix A-1 - Fall Window

These dates are for illustrative purposes only



Timeline: Appendix A-1 – Spring Window

These dates are for illustrative purposes only

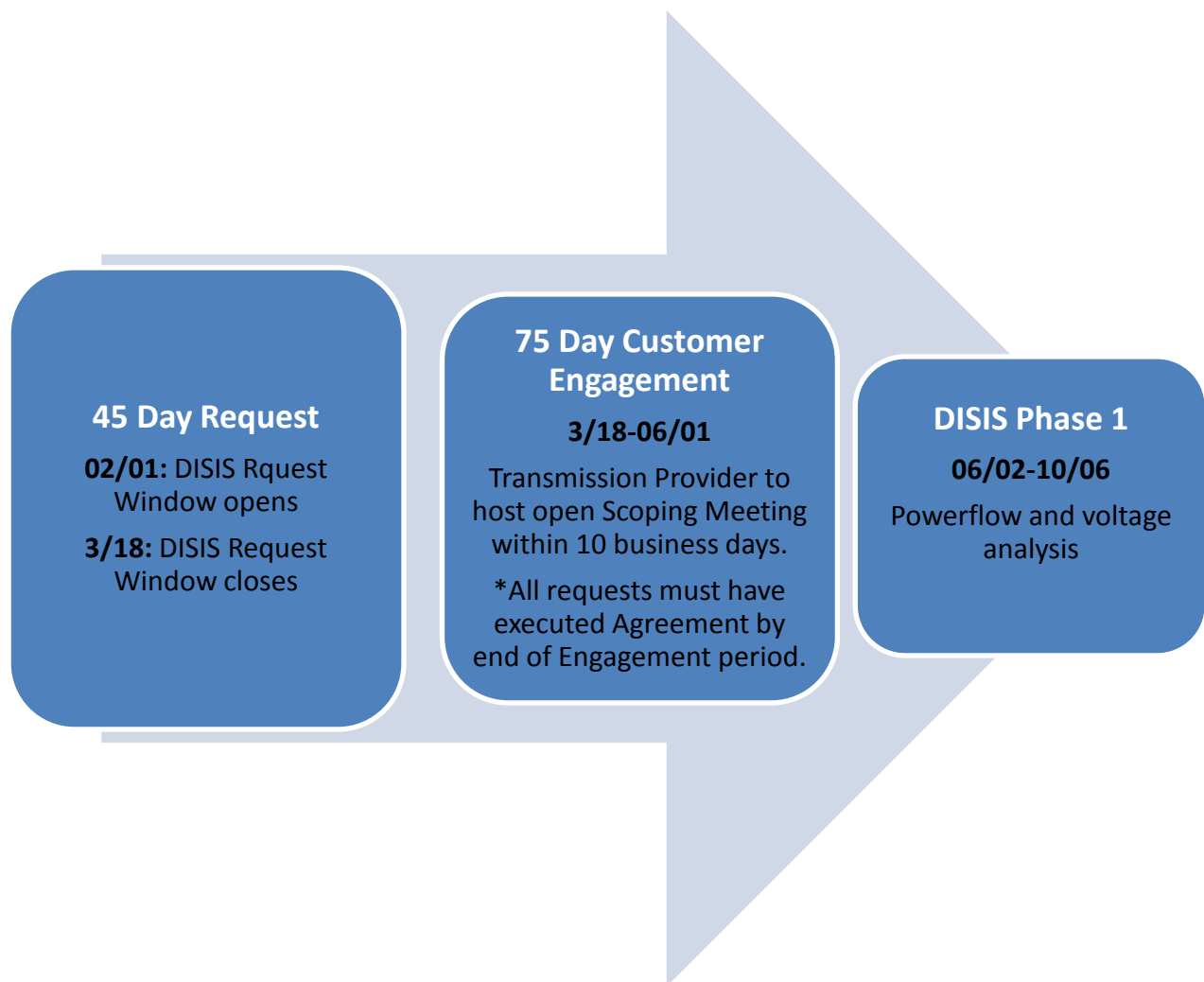
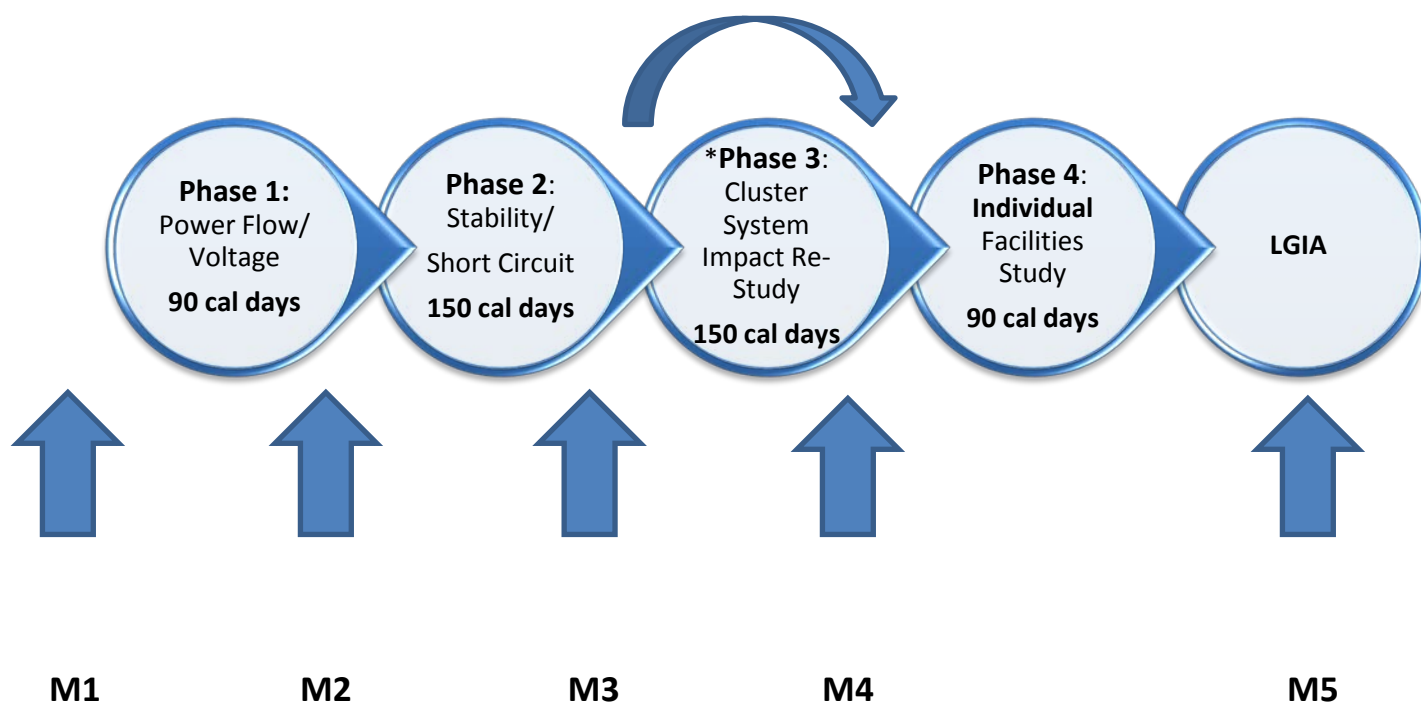


Exhibit XES-203:

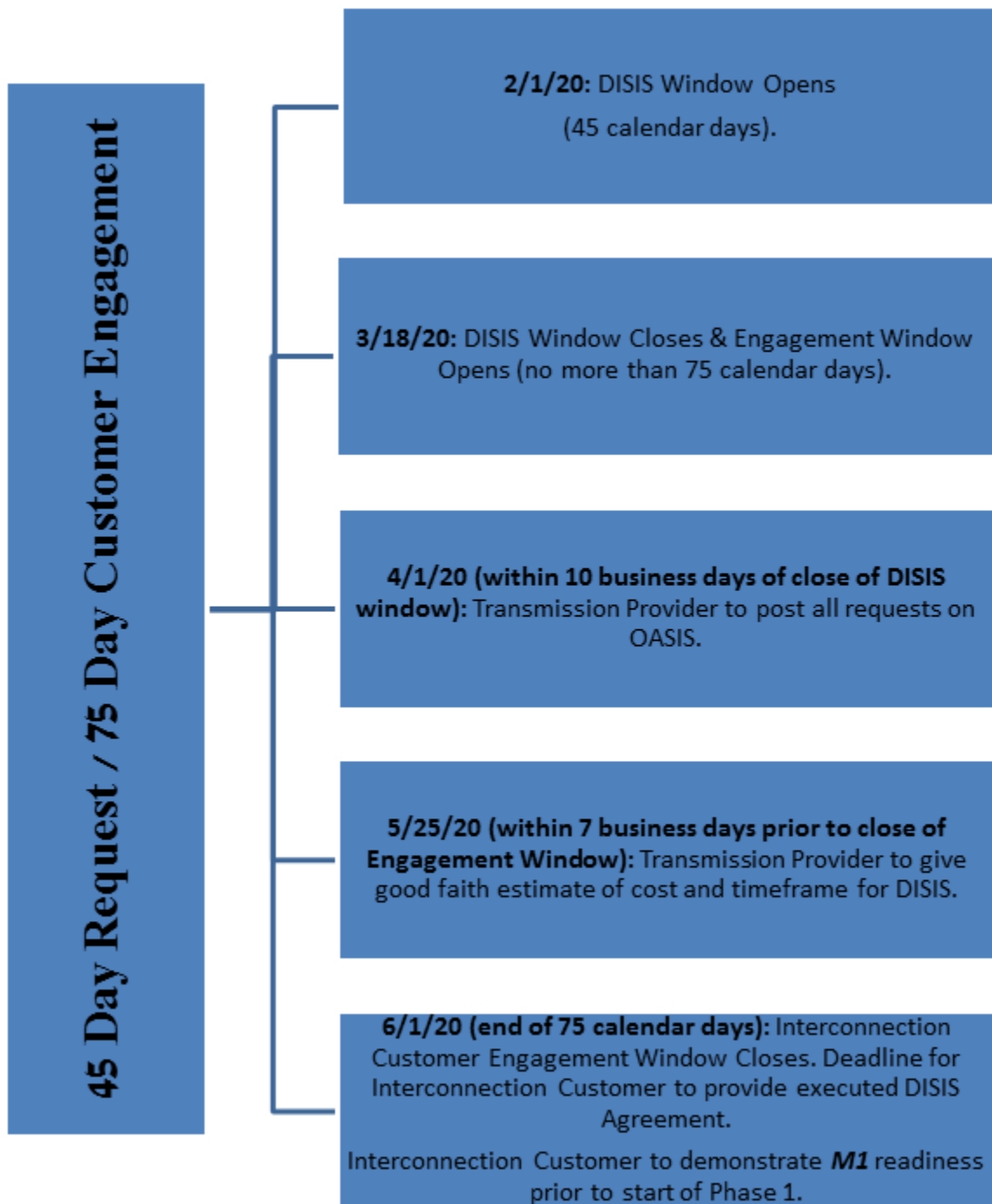
Definitive Interconnection Study Process

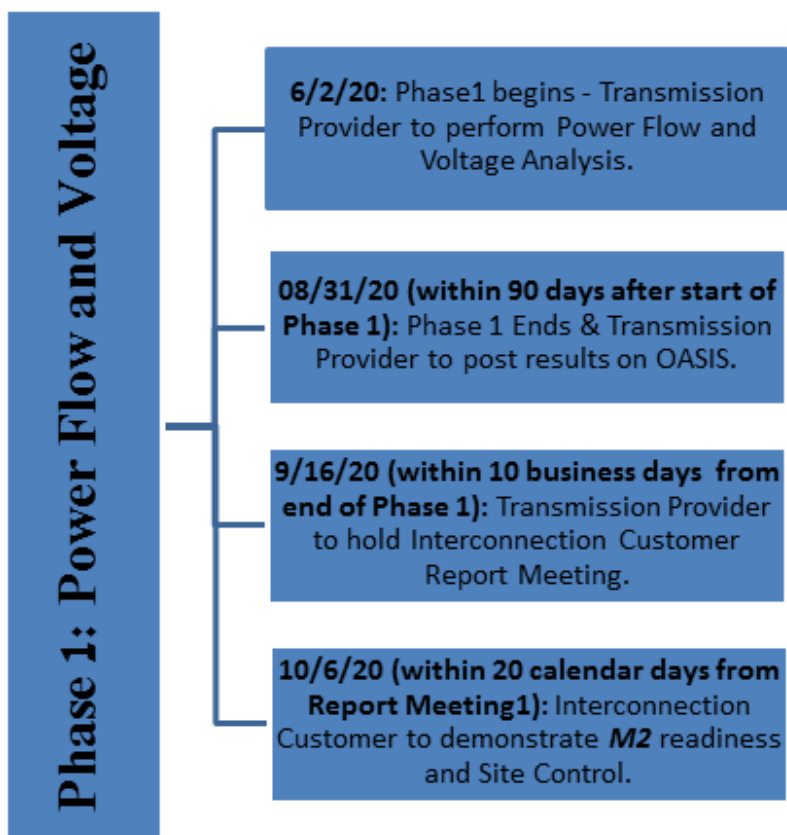
Definitive Interconnection Study Process and Approximate Timeline for the First DISIS Cluster

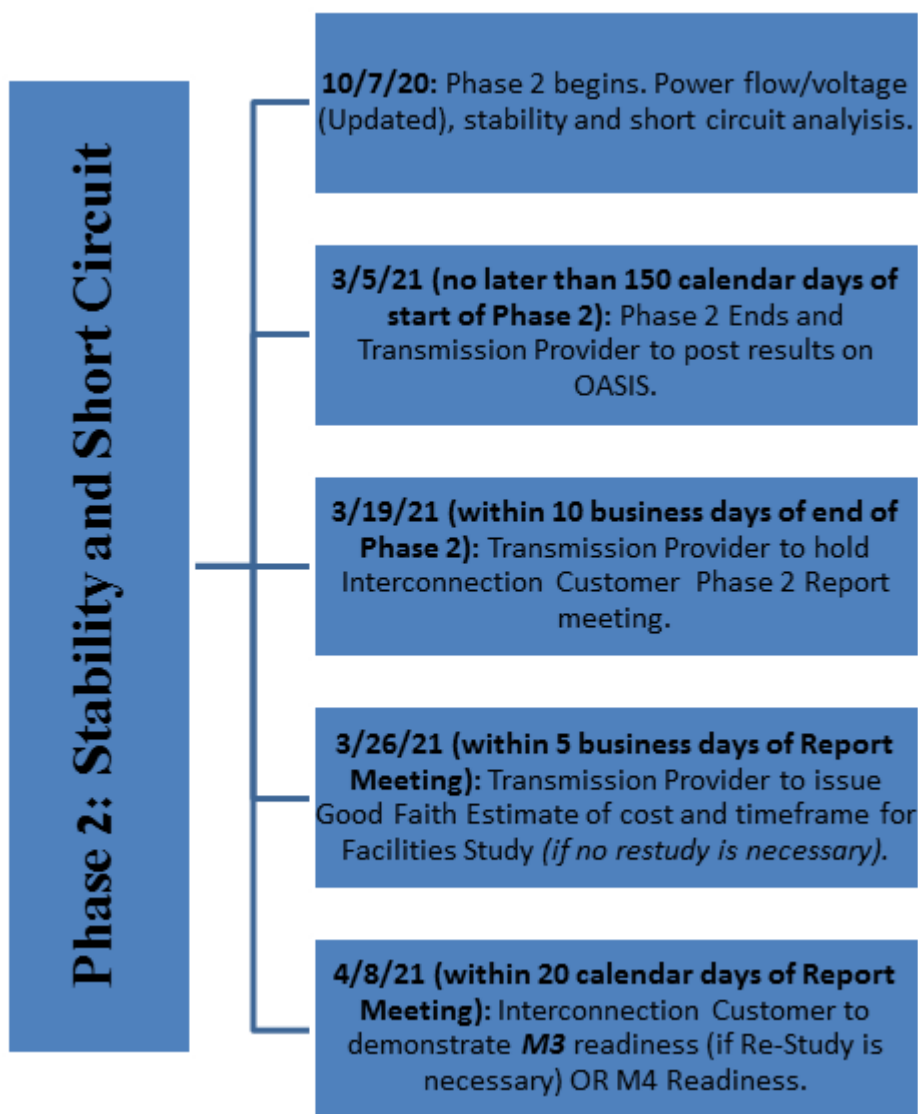


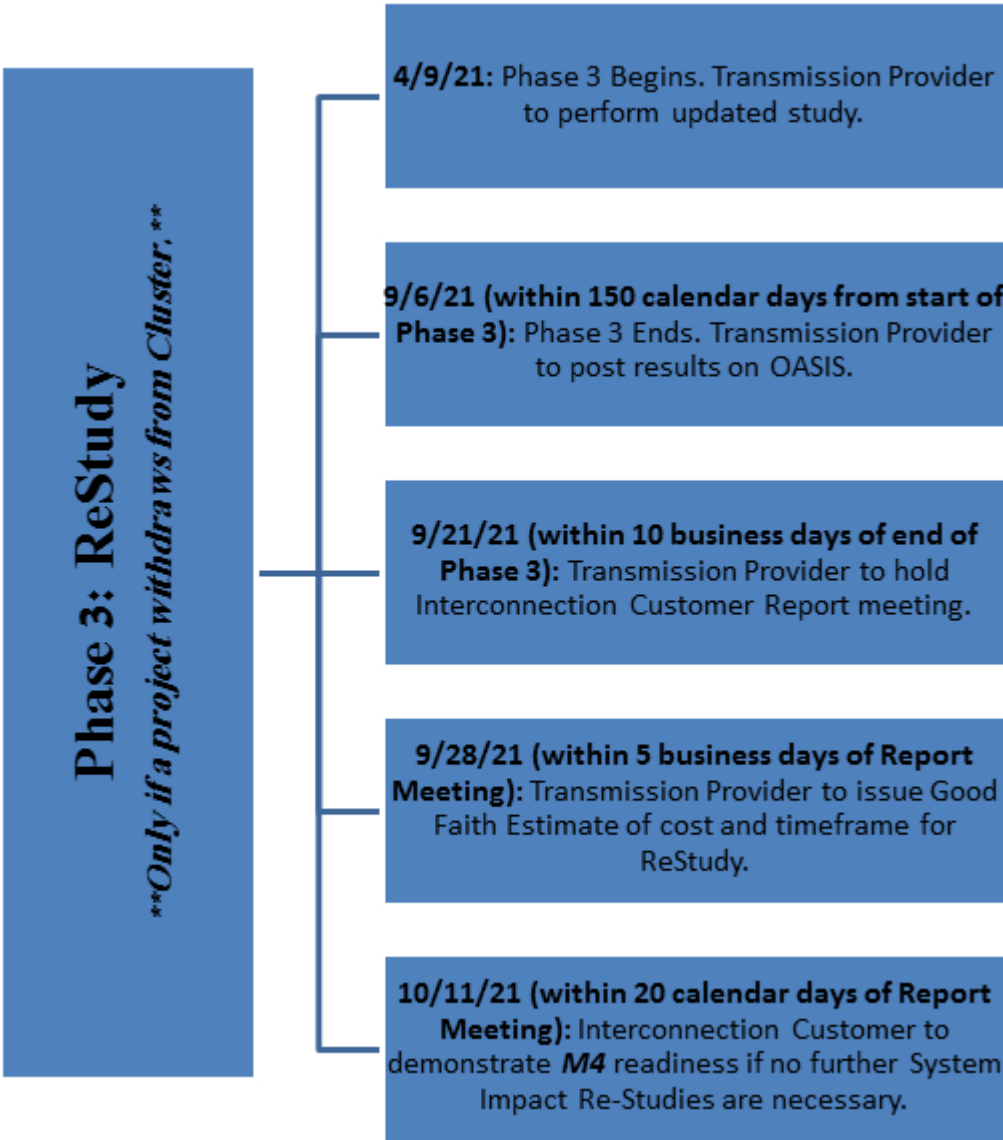
Milestone	Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness <u>IS</u> Provided	Total Security Required (Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness <u>IS</u> <u>NOT</u> Provided	Demonstration of Site Control for All Fuel Types	Site Control of ICIF's
M1	1x	2x	50%	0%
M2	1x	3x	50%	0%
M3	1x	5x	60%	0%
M4	1x	7x	75%	0%
M5	9x	9x	90%	50%

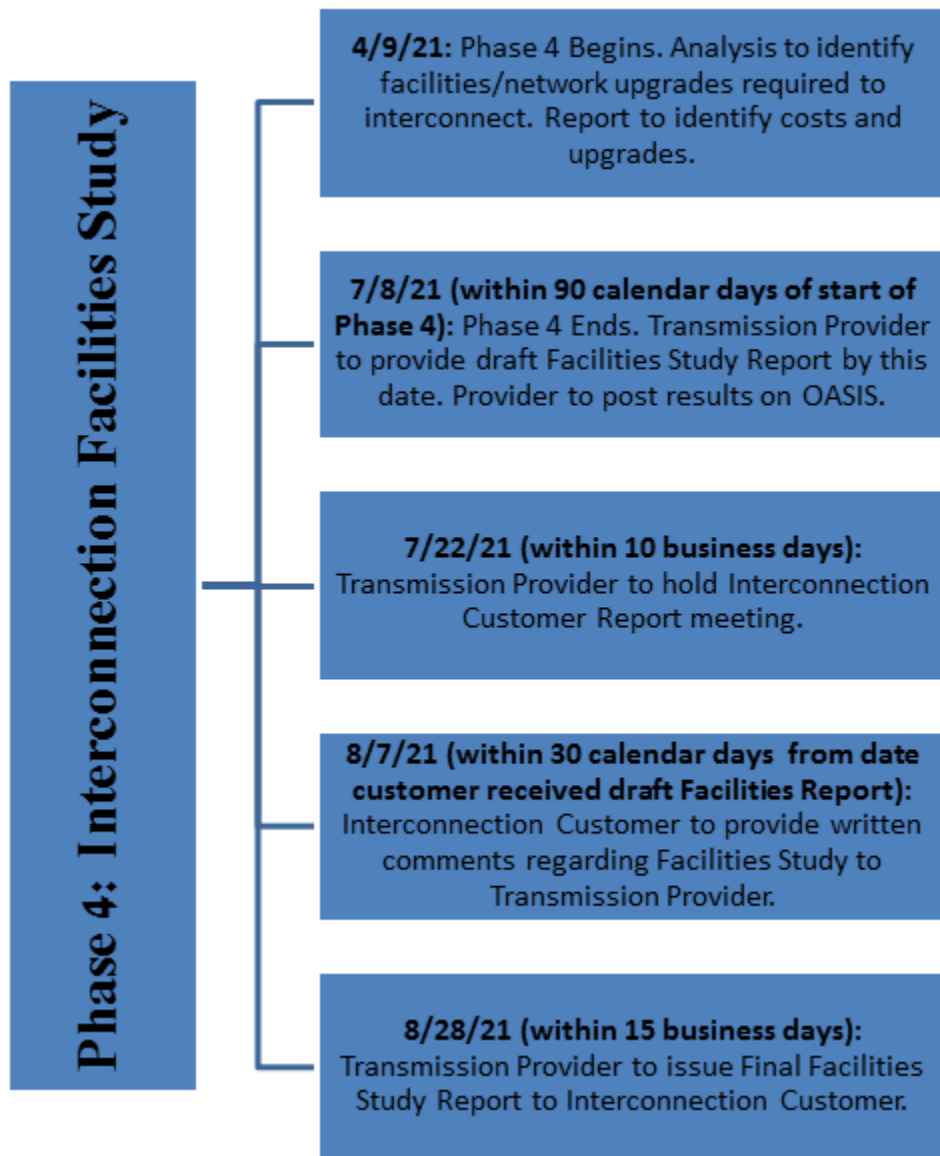
Spring 2020 Cluster











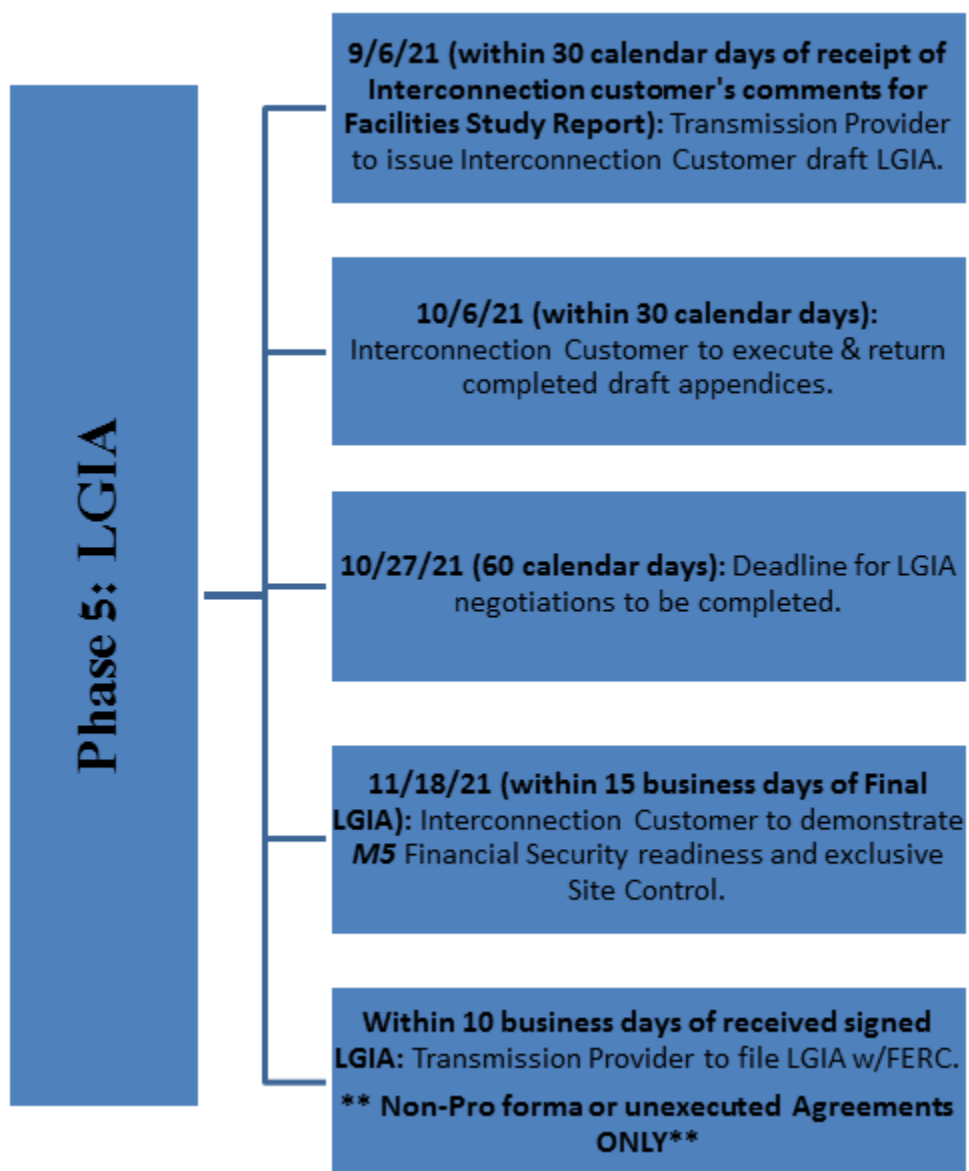


Exhibit XES-204:

Examples of Financial Security Readiness

Examples of Security and Withdrawal Penalties

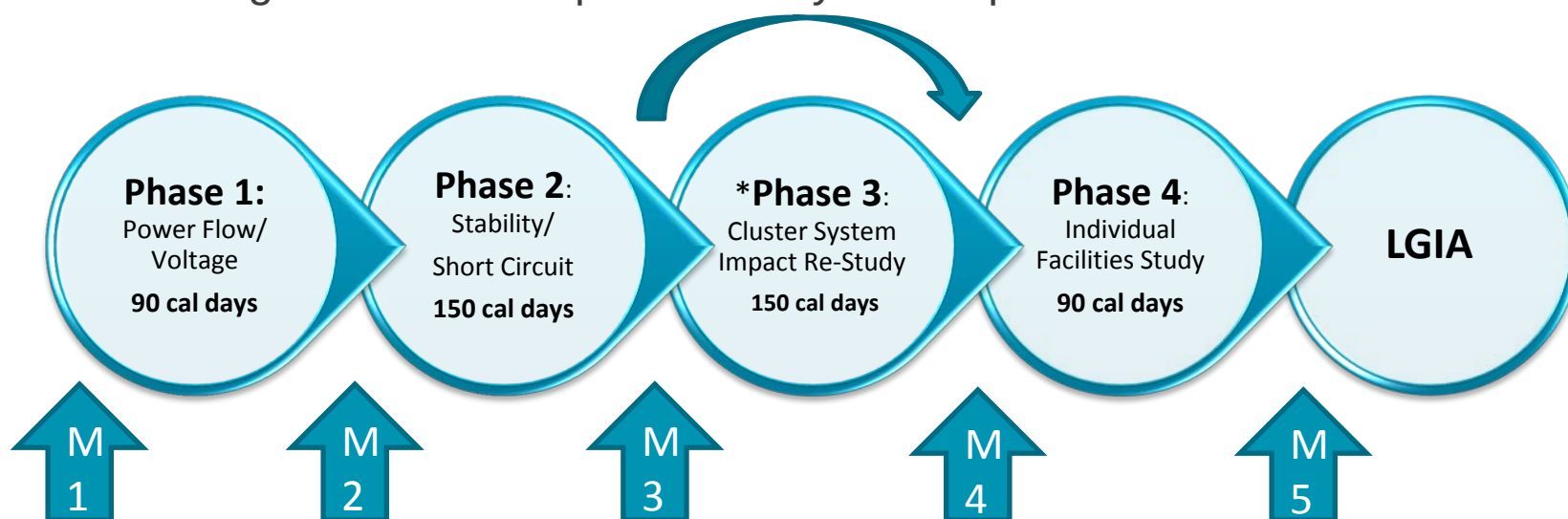
XES-204



Proposal Overview: First-Ready, First-Served

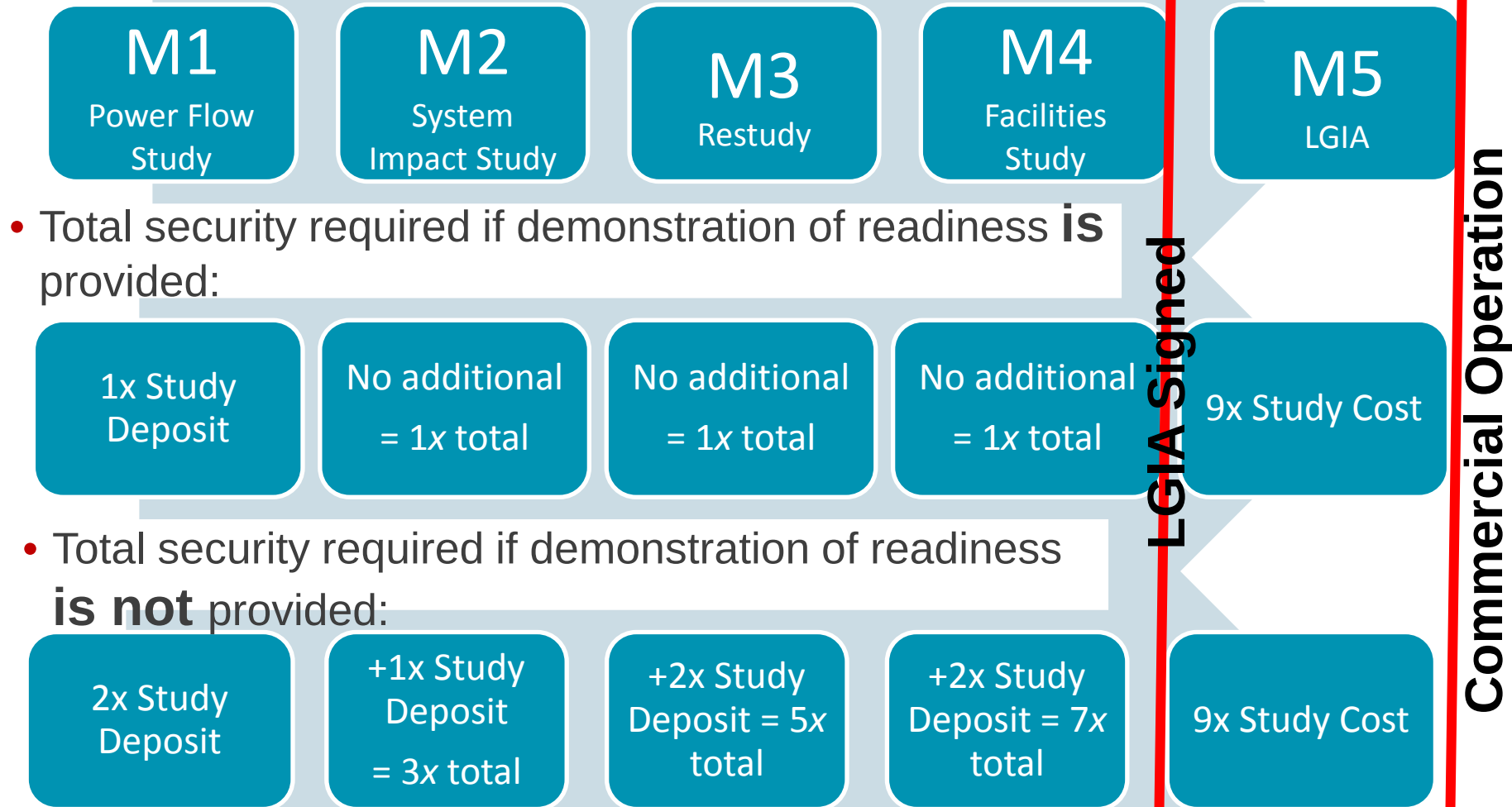
Intent of re-design: Timely interconnection of ready projects

1. Informational Interconnection Process may be used ahead of entering the Queue
2. First-ready, first-served “Definitive Interconnection Study Process” with increasing milestones required to stay in the queue

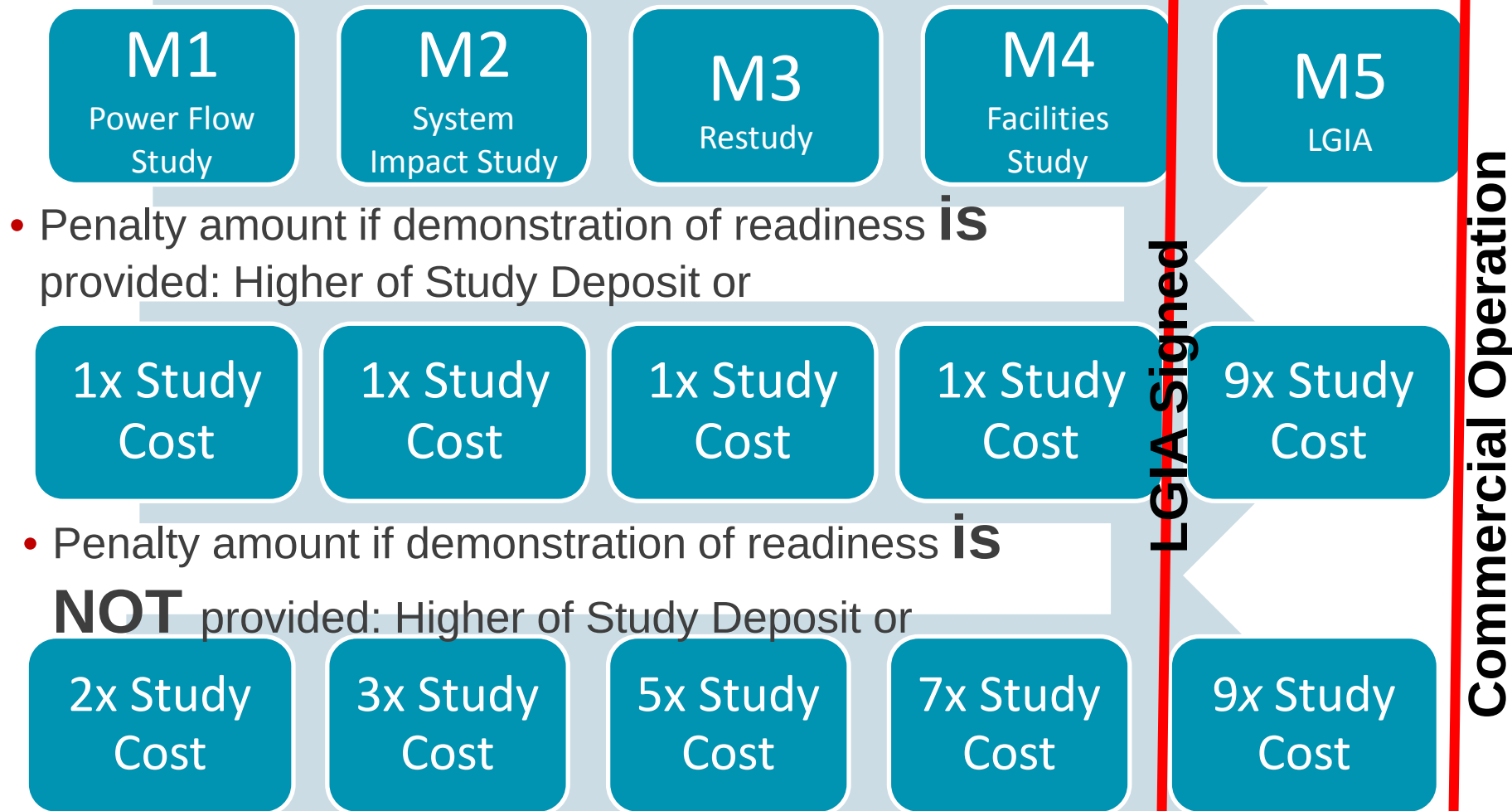


* Phase 3 is skipped if restudies are not required

Security Required



Withdrawal Penalty



Distribution of Study Revenue/Withdrawal Penalty

- All Withdrawal Penalty Revenue is applied toward study costs
 - Applied toward not-yet invoiced studies, first within the same cluster, then to later clusters
 - Will appear as a bill credit to non-offending customers
 - May result in some customers having no net study costs
- Withdrawal Penalty distribution has no impact on study deposits or readiness requirements

Example 1: 100 MW Project, No Withdrawal, No Readiness Milestone is Provided

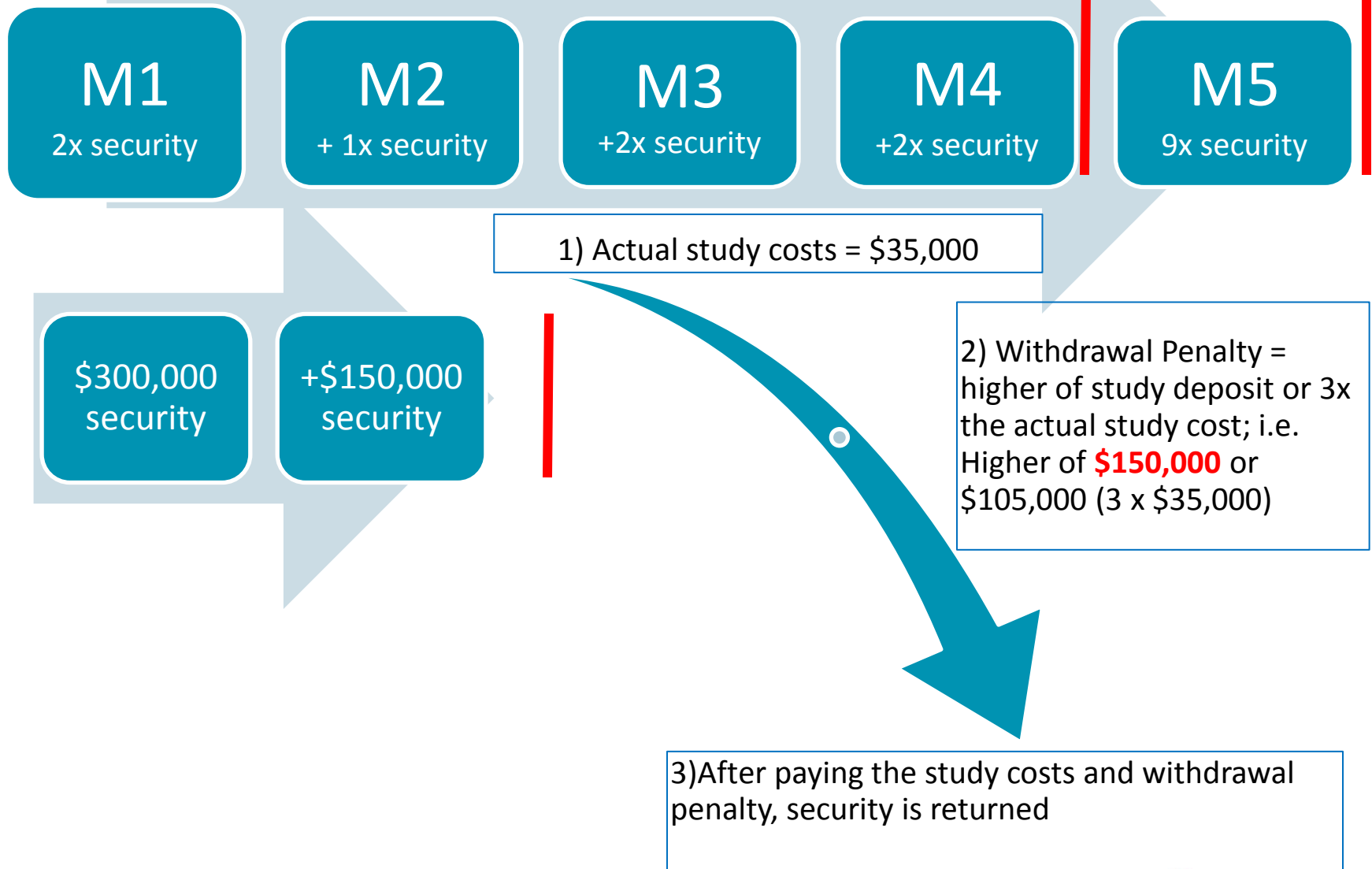


- Increased Security required *in lieu* of non-financial milestones

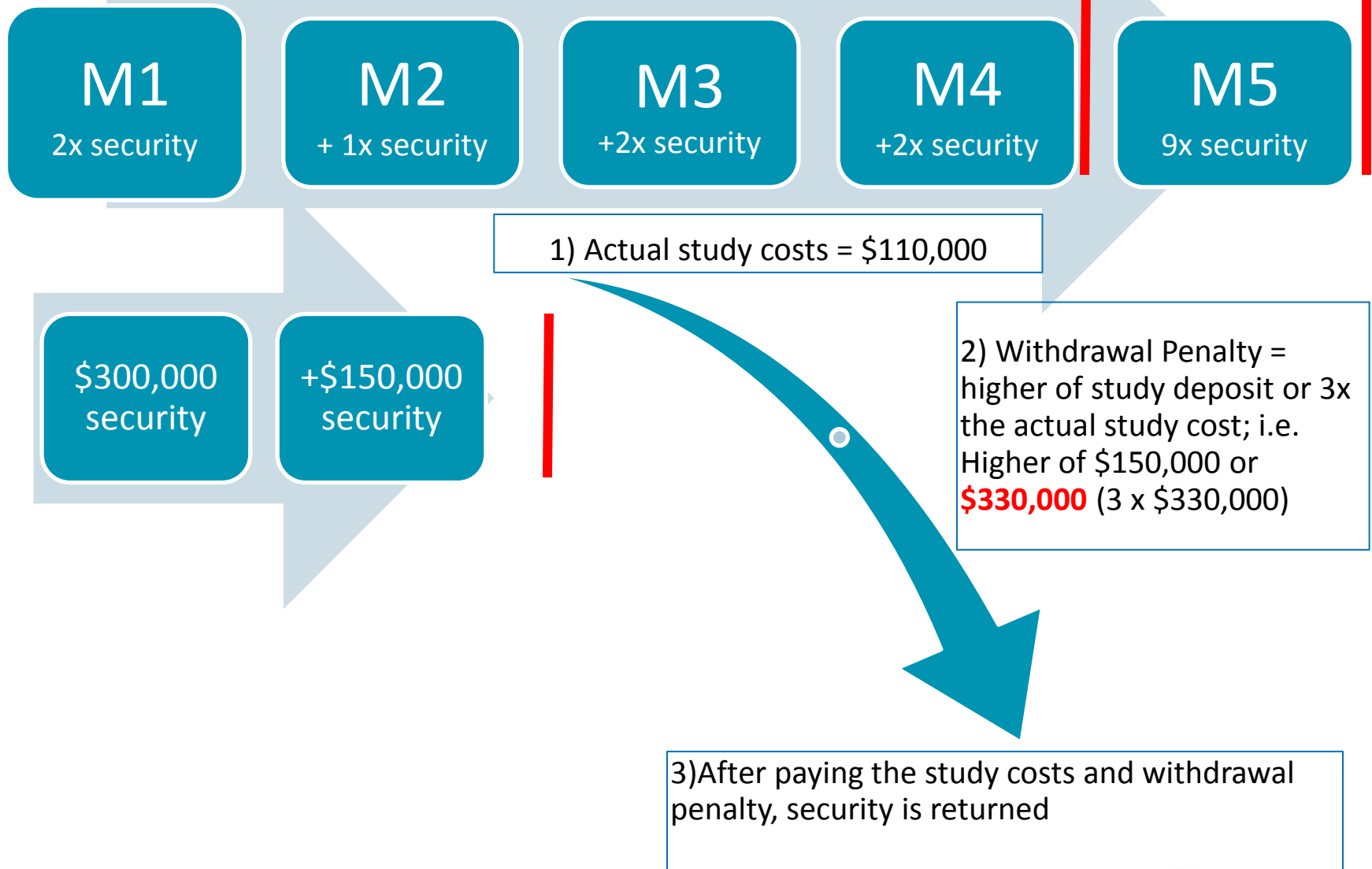


- M5 is dependent on customer's actual allocated study costs
 - If actual study costs is \$150,000; total security at M5 = \$1,350,000
 - If actual study costs is \$90,000; total security at M5 = \$810,000
- All security is refunded to customer upon commercial operation

Example 2: 100 MW Project, Phase 2 Withdrawal, No Readiness Milestone is Provided



Example 3: 100 MW Project, Phase 2 Withdrawal, No Readiness Milestone is Provided



Example 4: 100 MW Project, Phase 2 Withdrawal, A Readiness Milestone is Provided

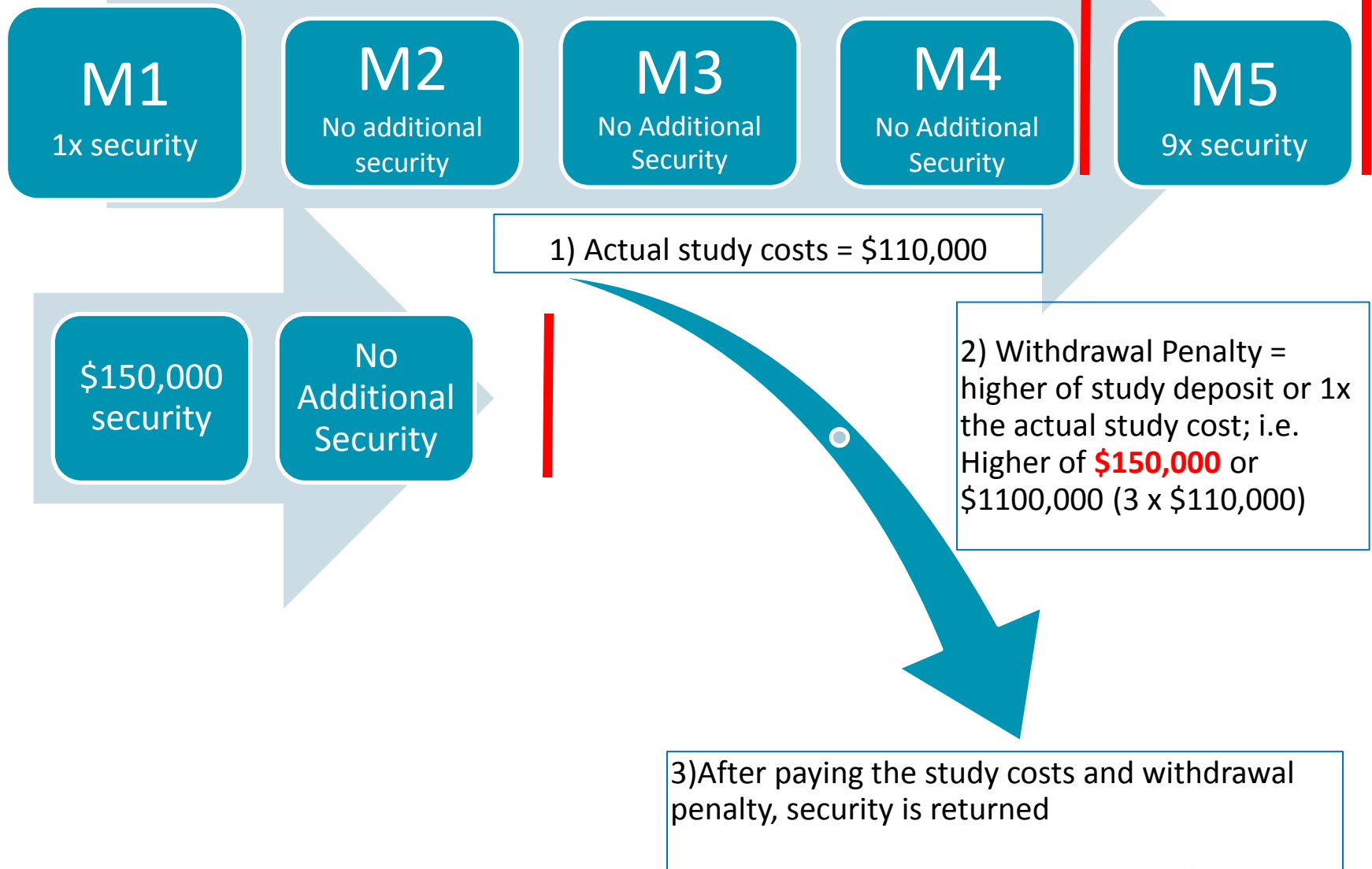


Exhibit XES-205:

Example of Network Upgrade Cost Allocation

This Exhibit XES-205 is an excerpt from the draft Business Practice Manual that PSCo is developing. The text and examples below are expected to be further fleshed out as the Business Practice Manual is finalized. PSCo expects to post this or a similar example on OASIS. It provides an example of the cost allocation for interconnection facilities proposed under the Revised LGIP.

---Excerpt from the Draft Business Practice Manual ---

Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation

The upgrade costs allocated to the Interconnection Customer at the end of each study are apportioned based on the upgrades needed for interconnecting the generator. The upgrades that are typically required for Generator Interconnection as defined in the LGIP are:

- **Transmission Provider's Interconnection Facilities (TPIF)** shall mean all facilities and equipment owned, controlled, or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Transmission Provider's Interconnection Facilities may be shared by more than one Generating Facility in a given Study. The cost allocation associated with these facilities are described in Section 4.2.4(c) of the Tariff.
- **Network Upgrades (NU)** shall mean the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System. There are two cost allocation concepts associated with these facilities which are described in Section 4.2.4 (a and b) of the Tariff.

Cost Allocation of Interconnection Facilities as defined in LGIP

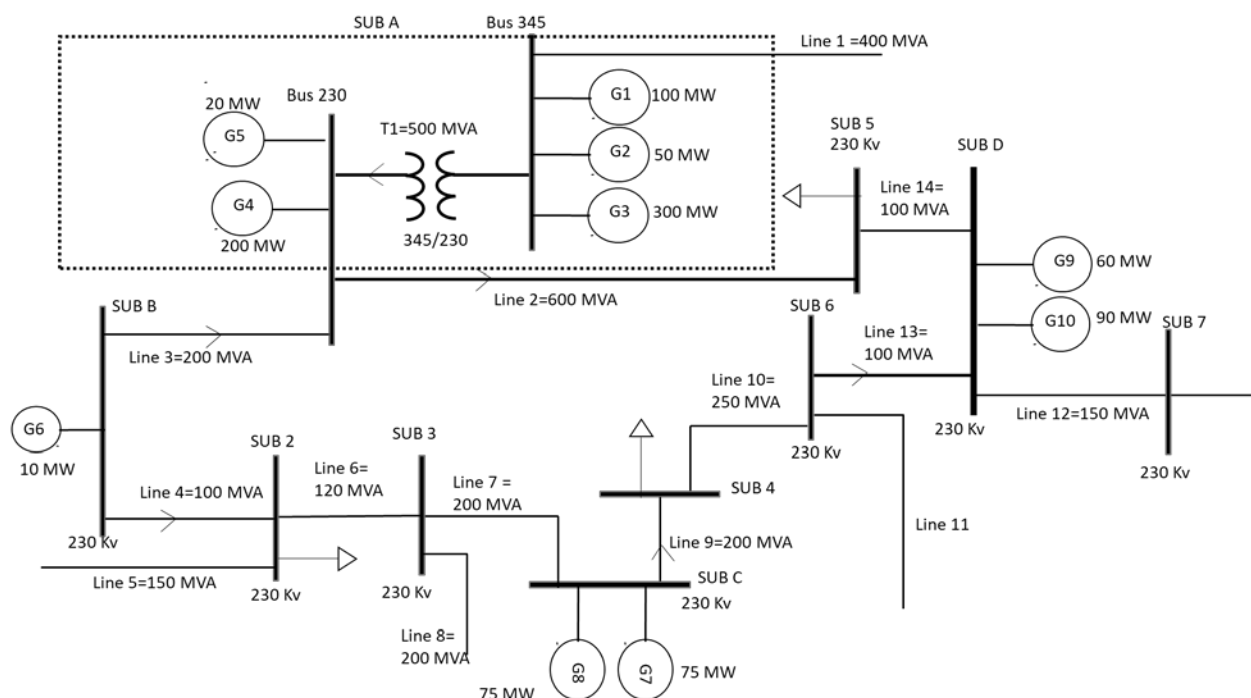
The cost allocation of facilities defined above is included in PSCO LGIP section 4.2.4, which is provided below.

4.2.4 Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation.

For Transmission Provider's Interconnection Facilities and Network Upgrades identified in Cluster Studies, Transmission Provider shall calculate each Interconnection Customer's share of costs in the following manner:

- a) Station equipment Network Upgrades, including all switching stations, shall be allocated based on the number of Generating Facilities interconnecting at an individual station on a per capita basis (i.e. on a per Interconnection Request basis). If multiple Interconnection Customers are connecting to the Transmission Provider's System through a single Interconnection Customer's Interconnection Facility (i.e. sharing the Interconnection Customer's Interconnection Facility connecting to the Transmission Provider's Interconnection Facility(ies)), those Interconnection Customers shall be considered one Interconnection Customer for the per capita calculation described in the preceding sentence. Shared Transmission Provider's Interconnection Facilities shall be allocated based on the number of Generating Facilities sharing that Transmission Provider's Interconnection Facility on a per capita basis.
- b) All Network Upgrades other than those identified in Section 4.2.4.a will be allocated based on the proportional impact of each individual Generating Facility in the Cluster Studies on such Network Upgrades. The proportional impact of such Network Upgrades shall be calculated as follows. All transmission lines and transformers identified as Network Upgrades shall be allocated using distribution factor analysis. Voltage support related Network Upgrades shall be allocated using a voltage impact analysis which will identify each Generating Facility's contribution to the voltage violation. Network Upgrades associated with upgrading existing breakers not physically located at the substation to which the Generating Facility is interconnecting or associated with a new transmission facility shall be allocated based on short circuit analysis.
- c) Costs of Transmission Provider's Interconnection Facilities are directly assigned to the Interconnection Customer(s) using such facilities.

An illustrative example of the cost allocation method described in section 4.2.4 of the Tariff is provided below. We start with a representative power system as shown in Figure 1. The single line diagram represents a 10-bus system with new generators (1-5) interconnecting at Substation A (SS A), new generator 6 interconnecting at new Substation B (SS B), new generator 7 and 8 interconnecting at new Substation C (SS C) and new generator 9 and 10 interconnecting at Substation D (SS D). In this example SS B, SS C, and SS D are new substations, and the detailed ratings of the equipment are included in Appendix A. Note that SS A is comprised of a 345/230 kV transformer and two buses which are Bus 345 and Bus 230 representing the 345 and 230 kV level, respectively. Figure 1 depicts the existing system and does not represent the new Transmission Provider's Interconnection Facilities or Network upgrades required for the interconnection of the 10 new generators.

Figure 1 – One-line diagram of example 10 bus system

All 10 generators are studied as part of the same cluster. The studies conducted in various phases of the study process will identify the relevant reliability study steps and mitigation requirements for any concerns revealed in the studies as stated below:

- **Power Flow and Voltage Analysis** – Identifies the thermal and voltage violations which are network upgrades identified in section 4.2.4(b) of the Tariff.
- **Stability Analysis** – Identifies network upgrades needed for mitigating stability and voltage issues identified in section 4.2.4(b) of the Tariff.
- **Short Circuit Analysis** – Identifies the upgrades needed to circuit breakers to mitigate the fault current contribution on the facilities. These breaker upgrades can be cost allocated under section 4.2.4 (b) or 4.2.4 (a) of the Tariff.

Note that general substation design will start in Phase 1 of the study process and subsequent studies will refine the facilities required. Therefore, upgrades described in section 4.2.4 (a) of the Tariff will be identified throughout the study process. Interconnection Facility studies, among other things, refine the 4.2.4 (a) and (c) upgrades which are needed to reliably interconnect the generator at the POI.

Example Part 1: Network Upgrades Cost Allocation (4.2.4 (b))

The Part 1 of the example describes the cost allocation and types of facilities that could be allocated under section 4.2.4(b) of the Tariff.

This first section describes the allocation associated with this sentence in the Tariff, “All transmission lines and transformers identified as Network Upgrades shall be allocated using distribution factor analysis.” This means that the costs of those facilities are allocated proportionally to the amount of flow each generator contributes on the new facilities.

For each identified Network Upgrade, the allocated share is in proportion to the flow impacts (“MW Impact”) on the new facility under normal conditions. A distribution factor analysis will be conducted to allocate the costs of these facilities to the Interconnection Customer’s (“IC”) generator in the cluster. The MW Impact is proportional to the generator interconnection MW and can be calculated as

$$MW\ Impact = DF_{ax} * Study\ Generator\ Output \quad (1)$$

The cost of a Network Upgrade allocated to each request shall be proportional to the average positive incremental impact of each new interconnection request on such Network Upgrade divided by the total positive incremental impact of all requests included in the Cluster Study on such Network Upgrade.

$$Cost\ Allocation\ Factor = \frac{MW\ Impact\ of\ each\ study\ generator}{\sum MW\ Impact\ in\ the\ set} \quad (2)$$

$$Cost\ Allocated = Cost\ Allocation\ Factor * Cost\ of\ Network\ Upgrade \quad (3)$$

The cost allocated for each upgrade is proportional to the cost allocation factor which is calculated from MW Impact factor. Incremental flows having a negative impact (counter flow) on a Network Upgrade are ignored.

Consider, for example, the Steady State analysis is performed on the Cluster with 10 generators interconnecting to the 10-bus system. The thermal constraints observed are on the 1) 500 MVA 345kV/230kV transformer, 2) 600 MVA “Line 2” and 3) the 100 MVA “Line 13” transmission facilities as shown in Figure 2. A low voltage violation is observed at SS D as highlighted in the Figure 2.

Figure 2 – Thermal and Voltage violations in the 10-bus system. Colored facilities are overloaded and require mitigation.

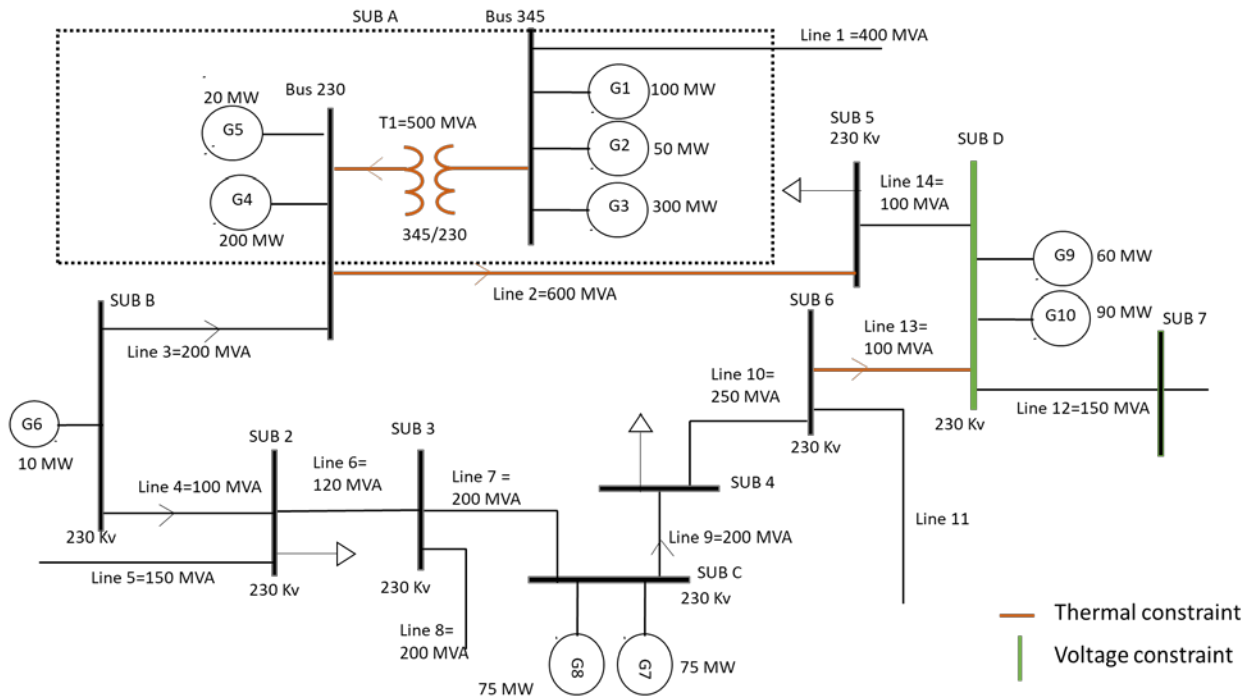
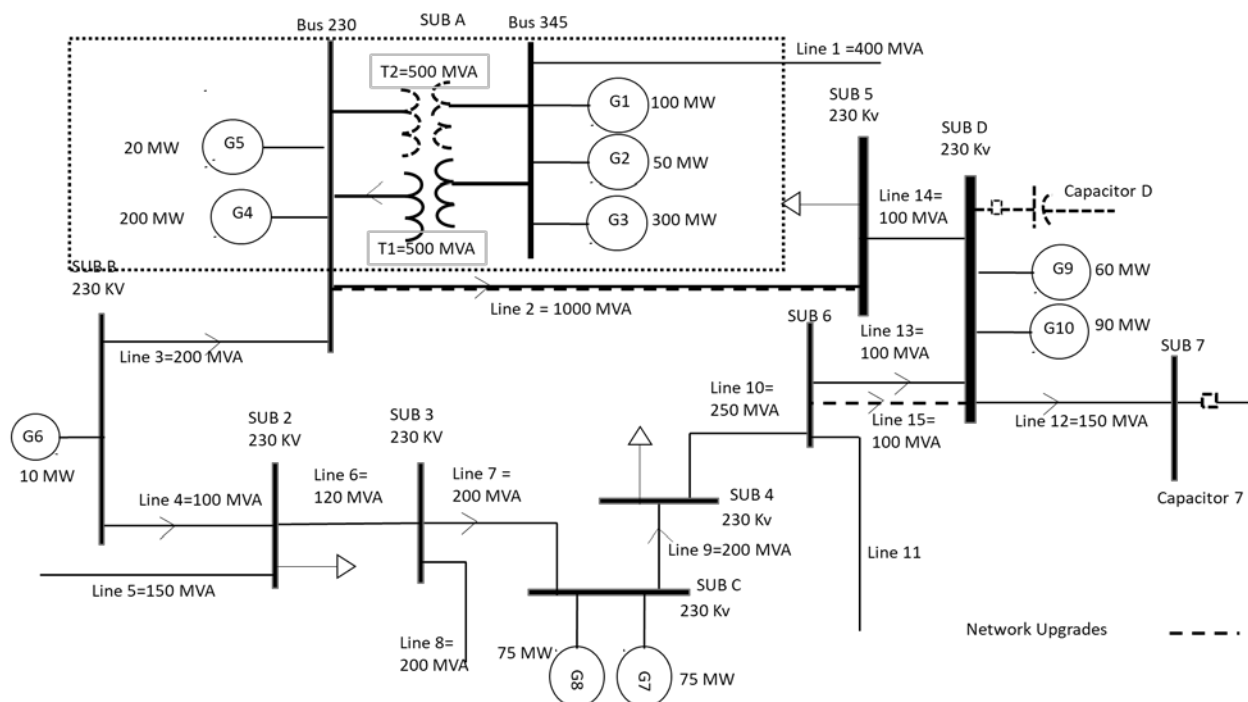


Figure 3 - Example System with Reinforcements. Dashed Lines represent new facilities.

Studies identify the following violations and mitigations. These mitigations are shown in Figure 3 as dashed lines:

A. Thermal violations and mitigations

- i. **Transformer 1** – The transformer T1 is overloaded due to cumulative flows from the L1 and the generators G1, G2 and G3. The identified mitigation needed is to add another transformer T2 of rating 500 MVA.
- ii. **Line 2** – The line L2 is overloaded and the mitigation identified is to upgrade line to 1000 MVA to carry the additional power from the generators G1 – G6.
- iii. **Line 13** – The line L13 is overloaded and the mitigation identified is to develop a parallel 100 MVA to carry the additional power from the generators G7 & G8.

B. Voltage violation and mitigation

- iv. **Sub Station D** - The voltage at the SS D is below 0.95 threshold at 0.86 p.u. To mitigate the voltage issue reactive devices should be installed.

C. Short Circuit violation and mitigation

- v. **Sub Station 7** – The short circuit analysis indicates the heavy fault current through the circuit breaker in SS 7 after interconnection of the study generators. To mitigate the issue the circuit breaker in the station should be upgraded along with the capacitor bank.

Cost Allocation of Transformer T2:

The cost to add the transformer T2 (Figure 3) of 500 MVA is \$7.5 million which includes both

345 kV and 230 kV equipment. The detailed breakdown of this new equipment and related costs are included in the Table 1.

Table 1- Addition of new Transformer T2 in SS A

Element	Description	Cost Est. (millions)
Substation A 345/230kV Bus	The new equipment includes: • One 560MVA 345/230kV Autotransformer • Five 345kV gang switches • Two 345kV Gas Circuit Breakers • Three 345kV CCVT's • Six 230kV gang switches • Three 230kV Gas Circuit Breakers • Three 230kV CCVT's • Station Controls • Associated foundations and structures • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures	\$7.500
	Total Cost Estimate for Network Upgrades for Delivery	\$7.500

Based on the distribution factor analysis the distribution factor (DFax) for the generators G1, G2 and G3 is 33.33%, the contribution to the overload is the same from these 3 generators. The impact of generators G4 and G5 is negative due to reverse flow and therefore the cost allocation is zero. Distribution factor analysis does not indicate an impact from G6, G7, G8, G9, or G10. Table 2 below shows the MW Impact and cost share calculated for each generator. As indicated in the table, though the DFax is the same the cost is shared proportional to the impact on the transformer considering the injected MW at the POI.

Table 2 - Cost Allocation for the 3 generators for T1 Upgrade

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
Project	MW Output	DFax	MW Impact = $B * C$	Cost Allocation Factor = $D / \sum D$	Cost Allocation = $E * \text{Cost of Network Upgrade}$
G1	100	0.33	33	.222	1.67
G2	50	0.33	16.5	.111	0.83
G3	300	0.33	99	.667	5
G4	200	-0.5	-100	0	
G5	20	-0.5	-10	0	
G6	10	0	0	0	
G7	75	0	0	0	
G8	75	0	0	0	
G9	60	0	0	0	
G10	90	0	0	0	
			148.5	1	7.5

Cost Allocation of Line L2: The line L2 is overloaded due to flows coming from SS A, and SS B as shown in Figure 2. The generators G1 through G6 contribute to the flows on the line. The cost for upgrading line is \$30 million, the detailed equipment list and associated costs are included in the Table 3. Table 4 below shows the MW Impact and cost share calculated for each generator on the new 1000 MVA line which is estimated to be \$30 million. As indicated in the cost allocation calculations in Table 3, the impact of G6 is minimal due to the size and the location of the generator. Therefore, no cost is allocated to generator G6 for building new upgraded line L2.

Table 3- Upgrade of Line L2 to 1000 MVA

Element	Description	Cost Est. (millions)
Upgrade of Line 2	• Upgrade 230kV terminals between SS 1 and SS 5 • Two 230kV Gas Circuit Breakers • • Station Controls • Associated foundations and structures • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures	\$30
	Total Cost Estimate for Network Upgrades for Delivery	\$30

Table 4 - Cost Allocation for 6 generators for L2 Upgrade

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
Project	MW Output	DFax	MW Impact = B * C	Cost Allocation Factor = D / $\sum D$	Cost Allocation = E * Cost of Network Upgrade
G1	100	0.15	15	0.12	\$3.60
G2	50	0.15	7.5	0.06	\$1.80
G3	300	0.15	45	0.37	\$11.10
G4	200	0.25	50	0.41	\$12.30
G5	20	0.25	5	0.04	\$1.20
G6	10	0.05	0.5	0	
G7	75	0	0	0	
G8	75	0	0	0	
G9	60	0	0	0	
G10	90	0	0	0	
			123	1	\$30.00

Cost Allocation of Line L13: The line L13 is overloaded due to flows coming from SS C, SS 4 and SS 6 as shown in Figure 2. The generators G7 & G8 contribute to the flows on the line L13 while G9 & G10 inject reverse flows. The cost of mitigation for building a parallel line with similar parameters as existing line on the same Right of Way is \$60 million. Table 5 below shows the MW Impact and cost share calculated for each generator on the new 100 MVA line L15, which is estimated to be \$60 million. As indicated in the cost allocation calculations in Table 5 the impact of G9 & G10 is minimal due to the location of the generator on downside of constraint. Therefore, no cost is allocated to generator G9 & G10 for building new parallel line L15.

Table 5 - Cost Allocation for 6 generators for L2 Upgrade

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
Project	MW Output	DFax	MW Impact = B * C	Cost Allocation Factor = D / $\sum D$	Cost Allocation = E * Cost of Network Upgrade
G1	100	0	0	0	
G2	50	0	0	0	
G3	300	0	0	0	
G4	200	0	0	0	
G5	20	0	0	0	
G6	10	0	0	0	
G7	75	0.2	15	0.5	\$30
G8	75	0.2	15	0.5	\$30
G9	60	-0.1	0	0	
G10	90	-0.1	0	0	
			30	1	\$60.00

Cost Allocation of Voltage Support at SS D – The voltages in SS 4, SS 5, SS 6 are normally in acceptable range, but tend to be at the lower end of the range due heavy load connections. Interconnection of generators G7 through G10 in this area decreases voltages further to unacceptable voltage levels. Studies identify the need to mitigate voltage issues by adding capacitance in the new SS D. Costs for this new voltage support resource are allocated by removing a generator from the model (each in turn) and evaluating the impact of that generator on the voltage. If the voltage stays constant or decreases when the generator is removed, it is considered a “Helper” generator. If the removal of a generator from the model elevates the contingent voltage and increases it, then such generator is called “Harmer”.

In this example, when all generations are connected and on-line, the contingent voltage is 0.87. To evaluate the voltage impact, each generator is individually removed from the cluster study

model and the amount of harm or help is identified as shown in Table 6.

Table 6 - Voltage Support Impact Analysis for Sub Station D

Project	Contingent Voltage	Delta Voltage removing Project	New Contingent Voltage	Type
G1	0.87	-0.07	0.8	Helper
G2		-0.07	0.8	Helper
G3		-0.07	0.8	Helper
G4		-0.06	0.81	Helper
G5		-0.06	0.81	Helper
G6		-0.06	0.81	Helper
G7		-0.03	0.84	Helper
G8		-0.04	0.83	Helper
G9		0.03	0.9	Harmer
G10		0.06	0.93	Harmer

The cost for VAR support for SS D is \$6 million. Generators G9 and G10 contribute to increasing the voltage and the mitigation costs are allocated in proportion to the voltage impact as shown in Table 8. This evaluation is called “voltage impact analysis”.

Table 7 - Cost for VAR support in SS D

Element	Description	Cost Est. (millions)
New 230kV Substation D - VAR Support	The new equipment includes: • Eight 230kV gang switches • Three 230kV Gas Circuit Breakers • Six 230kV CCVT's • Two 20MVAR Reactors • Station Controls • Associated foundations and structures • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures	\$6.000
	Total Cost Estimate for Network Upgrades for Delivery	\$6.000

Table 8 - Cost Allocation for Voltage Support

Project	Type	Delta Voltage removing Project	Cost Allocation Factor	Cost Allocation \$6 million
G1	Helper		0	0
G2	Helper		0	0
G3	Helper		0	0
G4	Helper		0	0
G5	Helper		0	0
G6	Helper		0	0
G7	Helper		0	0
G8	Helper		0	0
G9	Harmer	0.03	0.333	\$2
G10	Harmer	0.06	0.667	\$4
		0.09	1	\$6

Cost Allocation of upgraded breaker at SS 7: Upgrades to existing breakers identified as required in the short circuit analysis that are (1) not connected to the study generator substation or (2) part of any new transmission line are cost allocated based on the short circuit duty contribution of each Generating Facility. Generally, the fault current at the breaker is determined in the final study case (with all new generators and new transmission facilities). The fault current is then measured after individually removing each generator, while keeping the remaining generators on. The contribution is measured as a decrease in fault current when the generator is removed.

In the example shown below, let's assume breaker at SS 7 has a short circuit duty of 10,000 A in the pre-project case and the breaker duty is not exceeded. However, analysis on the post-project case indicates a short circuit duty of 10,500 A and that short circuit duty is exceeded (thereby requiring an upgrade). As indicated in the Table 9, generators G7 and G8 contribute 50 A, G9 contributes 150 A and G10 contributes 250 A resulting in the total impact of 500 A. The identified mitigation is upgrade of the circuit breaker which costs \$1 million. Table 10 shows cost allocation to the impacting generators which is proportional to their fault current

contribution.

Table 9 – Results of short circuit analysis Study Generator	Short Circuit Current after removing study generator interconnection (A)	Change in short circuit current after study generator interconnection is removed (i.e. Fault Current Impact) (A)
G1	10,500	0
G2	10,500	0
G3	10,500	0
G4	10,500	0
G5	10,500	0
G6	10,500	0
G7	10,450	50
G8	10,450	50
G9	10,350	150
G10	10,250	250

Table 10 - Cost Allocation for Upgraded Breaker at SS 7

Study Generator	Fault Current Impact (A)	% Impact (Individual Fault Current Impact /Total Fault Current Impact)	Cost Allocation of Breaker Upgrade (% Impact x total \$)
G7	50	10%	\$100,000
G8	50	10%	\$100,000
G9	150	30%	\$300,000
G10	250	50%	\$500,000
Total	500	100%	\$1,000,000

The total 4.2.4.b-type Network Upgrade costs allocated to the individual generators is shown in Table 9.

Table 11- Cost Allocation to the generators in the cluster

Project	Total Cost Allocated to each generator (Millions)	Network Upgrade Allocated to Generator	Cost Allocation for Network Upgrades (Millions)
G1	\$5.95	T1	\$1.67
		L2	\$4.28
G2	\$2.26	T1	\$0.83
		L2	\$1.43
G3	\$16.43	T1	\$5.00
		L2	\$11.43
G4	\$11.43	L2	\$11.43
G5	\$1.43	L2	\$1.43
G6	\$0		\$0
G7	\$30.1	L15	\$30
		CB 7	\$0.1
G8	\$30.1	L15	\$30
		CB7	\$0.1
G9	\$2.3	Capacitor D	\$2
		CB7	\$0.3
G10	\$6.5	Capacitor D	\$6
		CB7	\$0.5

Example Part 2: 4.2.4 (a) and (c) Cost Allocation; Network Upgrades and Transmission Provider Interconnection Facilities (TPIF) Cost Allocation

The generators G1 through G10 need additional facilities, including station equipment, to connect to the Transmission Providers system. There are two types of facilities required for this direct interconnection to the Transmission provider's Transmission System.

- Transmission Provider's Interconnection Facilities (TPIF) are facilities on the customer side of the Point of Interconnect (POI) that are directly assigned to the customer or customers connected to that POI. Note that 1) TPIF are usually assigned to a single customer, and would only be assigned to multiple customers if multiple customers share a gen-tie (e.g. are connected over shared Interconnection Customer's Interconnection Facilities) and 2) at times PSCo uses short hand naming convention for the Point of

- The Network Upgrades for the new station equipment on the Transmission Provider's side of the POI. These are considered to be Network Upgrades and are allocated on per capita basis and so the costs are distributed evenly to all generators newly interconnecting to the substation. The examples below illustrate the equipment and costs allocation for both TPIF and shared Network Upgrades-type facilities.

This example explains the cost allocation of TPIF (4.2.4 (c)) and shared Network Upgrades (4.2.4 (a)) in the SS A which includes generators G1, G2, G3 connected to Bus 345 and G4, G5 connected to Bus 230 as shown the Figure 4.

[illegible]

TPIF Costs - The “**blue bubbles**” in Figure 4 indicates the TPIF needed for interconnecting the generation. These include typical equipment such as switches, arresters metering, line taps, and

station controls at the appropriate voltage level. Similar equipment is required for each generator based on the kV level and POI. **Table 12** summarizes the TPIF equipment and the total TPIF cost estimate of **\$1.82 million** for each individual generator G1, G2, and G3 connecting at Bus 345 in SS A. As the facilities required are the same for all the 3 generators, the cost estimate of TPIF is the same for each generator. In a similar fashion, the TPIF and associated costs are the same for each G4 and G5. summarizes the TPIF equipment and total TPIF cost estimate of **\$1.27 million** assigned to each generator G4 and G5 which are interconnecting to Bus 230 kV.

Table 12 – TPIF Costs for Generators G1, G2, and G3

Element	Description	Cost Est. (millions)
Substation A - New 345kV Terminal for G #1, 2, 3	• One 345kV gang switch • Three 345kV arresters • Three 345kV Metering CT Units • Three 345kV Metering PT Units • Two 345kV Line Traps • Two 345kV CCVTs • Power Line Carrier System • Station controls • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures • Associated transmission line communications, fiber, relaying and testing.	\$1.750
	Transmission line tap into substation.	\$0.050
	Siting and Land Rights support for siting studies, land and ROW acquisition and construction	\$0.020
	Total Cost Estimate for Transmission Providers Interconnection Facilities	\$1.820

Table 13 - TPIF Costs for Generators G4, and G5

Element	Description	Cost (millions)	Est.
Substation A - New 230kV Terminal for G #4, 5	The new equipment includes: • One 230kV gang switch • Three 230kV arresters • Three 230kV Metering CT Units	\$1.200	

Element	Description	Cost (millions)	Est.
	• Three 230kV Metering PT Units • Station controls • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures • Associated transmission line communications, fiber, relaying and testing.		
	Transmission line tap into substation.	\$0.050	
	Siting and Land Rights support for siting studies, land and ROW acquisition and construction	\$0.020	
	Total Cost Estimate for Transmission Providers Interconnection Facilities	\$1.270	

Shared Network Upgrade Costs - The “purple bubble” in the Figure 4 indicates the facilities which are allocated according to Section 4.2.4. (a) of the Tariff. These 345 kV and 230 kV facilities are shared on per capita basis by the generators interconnecting to the same station. Table 12 lists the 345 kV and 230 kV equipment which are needed network upgrades in substation A, which totals to \$18.335 million. These network upgrades are shared between generators G1 through G5, with each generator allocated one fifth of the \$18.335 million which will be **\$3.67 million**.

Table 14 - 4.2.4 (a) Network Upgrades for G1 through G5

Element	Description	Cost Est. (millions)
Substation A	The new equipment includes: • Twelve 345kV gang switches • Six 345kV Gas Circuit Breakers • Six 345kV CCVT's • Eight 230kV gang switches • Four 230kV Gas Circuit Breakers • Six 230kV CCVT's • Station Controls • Associated foundations and structures • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures	\$18.000

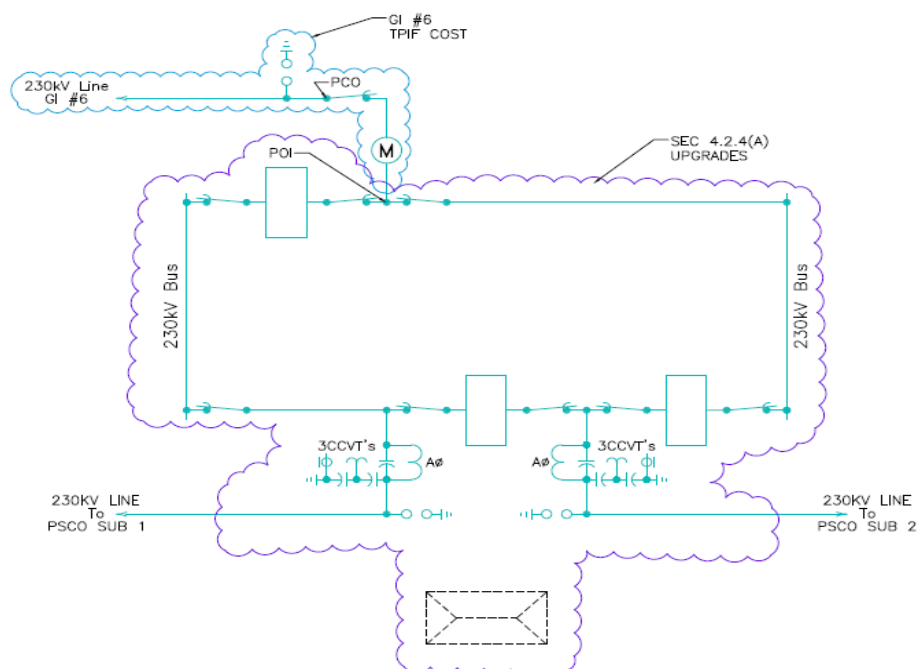
Element	Description	Cost Est. (millions)
	Siting and Land Rights support for substation construction	\$0.335
	Total Cost Estimate for Network Upgrades for Interconnection	\$18.335

Cost Allocation of Substation B

TPIF Costs - The “blue bubble” in Figure 5 indicates the TPIF needed for interconnecting the generation. These include typical equipment such as switches, arresters metering, line taps, and station controls and are listed in Table 13. The cost of this new equipment is \$1.27 million.

Shared Network Upgrade Costs - Only one single generator is interconnected to SS B (G6) and so all new station equipment costs (i.e the Network Upgrades described in Section 4.2.4.a of the Tariff) are allocated to that single customer. These Network Upgrades are shown in the “purple bubble” (Figure 5) and described in Table 13. Table 13 lists the Network Upgrades at the station needed to interconnect the G6 which totals to \$9.34 million and which are 100% assigned to G6.

Figure 5 – Substation B Upgrades



The detailed list of the equipment for interconnection and the cost estimates are included in the Table 14. The cumulative cost estimate for TPIF for **G6 is \$10.61 million.**

Table 15 – TPIF for G6

Element	Description	Cost (millions)	Est.
New 230kV Substation B - Terminal for G #6	The new equipment includes: • One 230kV gang switch • Three 230kV arresters • Three 230kV Metering CT Units • Three 230kV Metering PT Units • Station controls • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures • Associated transmission line communications, fiber, relaying and testing.	\$1.200	
	Transmission line tap into substation.	\$0.050	
	Siting and Land Rights support for siting studies, land and ROW acquisition and construction	\$0.020	
	Total Cost Estimate for Transmission Providers Interconnection Facilities	\$1.270	

Table 16 – 4.2.4 (a) Network Upgrade Cost

Element	Description	Cost (millions)	Est.
New 230kV Substation B	The new equipment includes: • Eight 230kV gang switches • Three 230kV Gas Circuit Breakers • Six 230kV CCVT's • Two 230kV Wave Traps • Two powerline carrier system • One 27x55 EEE • Station Controls • Associated foundations and structures • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures	\$8.000	
PSCo Sub 1	Remote end relay upgrade	\$0.500	
PSCo Sub 2	Remote end relay upgrade	\$0.500	
	Siting and Land Rights support for substation	\$0.335	

	construction	
	Total Cost Estimate for Network Upgrades for Interconnection	\$9.335

Cost Allocation of Substation C

Two new generators (G7 and G8) are tapping an existing 230 kV transmission line. Both facilities require construction of a new substation.

TPIF Costs - The “blue bubbles” in Figure 6 indicate the TPIF for the generators interconnecting to this substation. Both require the same equipment as is summarized in Table 16 and each generator (G7 and G8) is allocated \$1.27 million for the TPIF.

Shared Network Upgrade Costs - The Network Upgrades station equipment required to interconnect the two generators is shown in the “purple bubble”. The 230 kV facilities such as switches, circuit breakers, CCVTs, wave traps, carrier system, station control and structures are summarized in Table 15. The cost for installation of these devices is \$10.34 million which is split between the two generators equally. Each generator G7 and G8 is allocated cost of \$5.17 million as Network Upgrades according to 4.2.4.a of the Tariff.

The total 4.2.4.c and 4.2.4.a type costs for G7 and G8 are **\$6.44 million for each generator**.

Figure 6- Substation C Upgrades

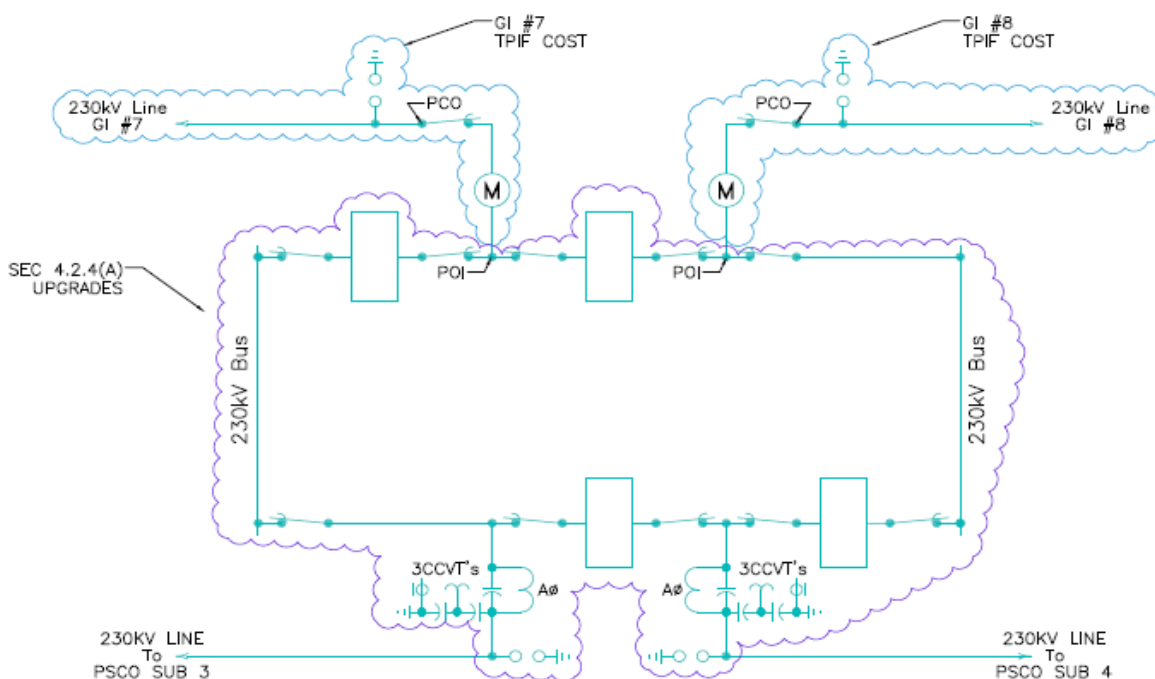


Table 17 – TPIF Cost for G7 and G8

Element	Description	Cost Est. (millions)
New 230kV Substation C	The new equipment includes: • Ten 230kV gang switches • Four 230kV Gas Circuit Breakers • Six 230kV CCVT's • Two 230kV Wave Traps • Two powerline carrier system • One 27x55 EEE • Station Controls • Associated foundations and structures • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures	\$9.000
PSCo Sub 3	Remote end relay upgrade	\$0.500
PSCo Sub 4	Remote end relay upgrade	\$0.500
	Siting and Land Rights support for substation construction	\$0.335
	Total Cost Estimate for Network Upgrades for Interconnection	\$10.335

Table 18 – TPIF for individual cost allocation for G7 and G8

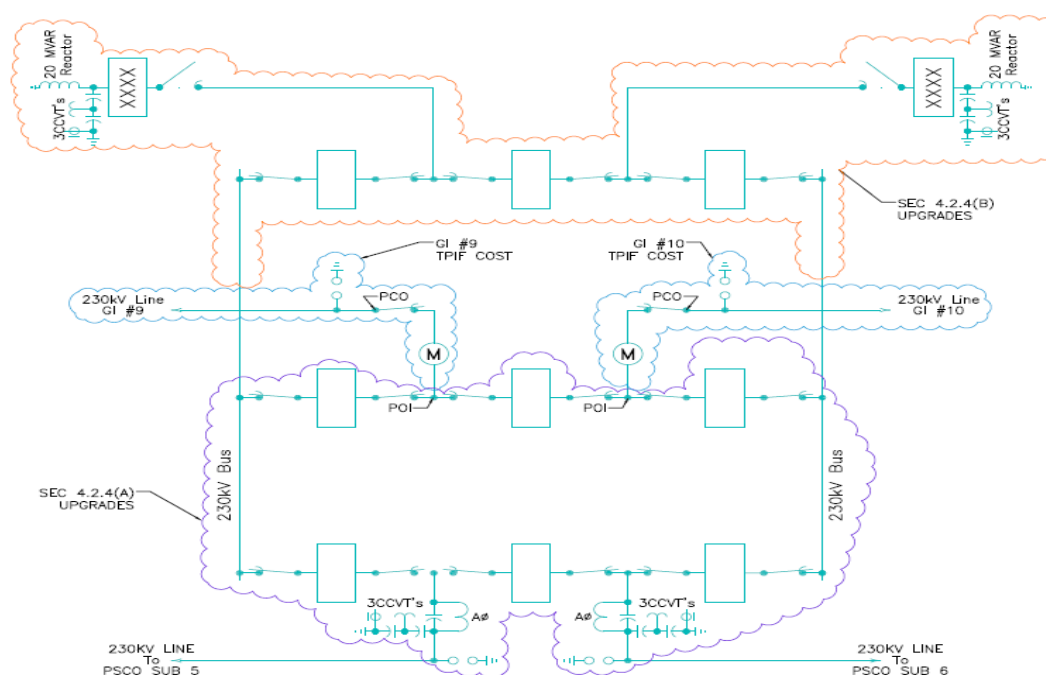
Element	Description	Cost Est. (millions)

New 230kV Substation C - Terminal for GI #7	The new equipment includes: • One 230kV gang switch • Three 230kV arresters • Three 230kV Metering CT Units • Three 230kV Metering PT Units • Station controls • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures • Associated transmission line communications, fiber, relaying and testing.	\$1.200
	Transmission line tap into substation.	\$0.050
	Siting and Land Rights support for siting studies, land and ROW acquisition and construction	\$0.020
	Total Cost Estimate for Transmission Providers Interconnection Facilities	\$1.270

Cost Allocation of Substation D

Two new generators (G9 and G10) are tapping a new 230 kV line and require construction of a new substation. Note that the “orange bubble” in Figure 7 indicates the voltage support resources which are allocated according to Section 4.2.4.b of the Tariff and the cost allocation of these facilities (i.e. Cap D) is described above.

Figure 7 - Substation D Upgrades



TPIF Costs - The “blue bubble” in Figure 7 indicates the TPIF needed for interconnecting the generation. *Table 18* summarizes the equipment and the cost estimate of \$1.27 million for interconnecting each individual generator G9, and G10 to in SS D.

Table 19 – TPIF costs for Generators G9 and G10

Element	Description	Cost Est. (millions)
New 230kV Substation D - Terminal for GI #9	The new equipment includes: • One 230kV gang switch • Three 230kV arresters • Three 230kV Metering CT Units • Three 230kV Metering PT Units • Station controls • Associated electrical equipment, bus, wiring and grounding	\$1.200

	• Associated foundations and structures • Associated transmission line communications, fiber, relaying and testing.	
	Transmission line tap into substation.	\$0.050
	Siting and Land Rights support for siting studies, land and ROW acquisition and construction	\$0.020
	Total Cost Estimate for Transmission Providers Interconnection Facilities	\$1.270

Shared Network Upgrade Costs - The generators G9 and G10 connect to 230 kV facilities of the system as shown “purple bubble” of Figure 7. Like SS C, the 230 kV Network Upgrades are allocated according to 4.2.4.a including switches, circuit breakers, CCVTs, wave traps, carrier system, station control and structures, as listed in Table 18. The cost for the installation of these facilities is \$11.35 million and is allocated equally ($\frac{1}{2}$) for each generator in the station (i.e. pro rata to each of the two generators connecting to that station). Each of the generators G9 and G10 are allocated costs of **\$5.67 million** as network upgrades.

The total upgrade costs for each facility G9 and G10 is **\$6.94 million**.

Table 20 – 4.2.4.a type Network Upgrade Cost SS D

Element	Description	Cost Est. (millions)

New 230kV Substation D	The new equipment includes: • Twelve 230kV gang switches • Six 230kV Gas Circuit Breakers • Eight 230kV CCVT's • Two 230kV Wave Traps • Two powerline carrier system • One 27x55 EEE • Station Controls • Associated foundations and structures • Associated electrical equipment, bus, wiring and grounding • Associated foundations and structures	\$10.000
PSCo Sub 5	Remote end relay upgrade	\$0.500
PSCo Sub 6	Remote end relay upgrade	\$0.500
	Siting and Land Rights support for substation construction	\$0.335
	Total Cost Estimate for Network Upgrades for Interconnection	\$11.335

Example Part 3: Cost Allocation Summary Report

Summary of 4.2.4.a and 4.2.4.c type costs

In summary, the total interconnection costs (sum of 4.2.4.a and 4.2.4.c) for the generators G1 through G10 is provided in the Table 19.

Table 21 – Total 4.2.4.a Network Upgrade and TPIF costs for G1 through G10

Generator	4.2.4.a Network Upgrade Cost (\$ millions)	TPIF Costs (4.2.4.c) (\$ millions)
G1	3.67	1.82
G2	3.67	1.82
G3	3.67	1.82
G4	3.67	1.27
G5	3.67	1.27
G6	9.34	1.27
G7	5.17	1.27
G8	5.17	1.27
G9	5.67	1.27
G10	5.67	1.27

Table 20 through Table 29 below illustrates the cost allocation to each generator.

Table 22 – Summary of Costs allocated to G1

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	Substation A 345 kV bus	\$3.67
4.2.4 (b)	Network Upgrade Cost	Substation A 345/230 kV Transformer	\$1.67
		Upgrade of Line 2 from Sub A to Sub 5	\$4.28
4.2.4 (c)	TPIF Cost	Substation A - New 345kV Terminal for GI #1	\$1.82
			\$11.44

Table 23 – Summary of Costs allocated to G2

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)

4.2.4 (a)	Network Upgrade Cost	Substation A 345 kV bus	\$3.67
4.2.4 (b)	Network Upgrade Cost	Substation A 345/230 kV Transformer	\$0.83
		Upgrade of Line 2 from Sub A to Sub 5	\$1.43
4.2.4 (c)	TPIF Cost	Substation A - New 345kV Terminal for GI #2	\$1.82
			\$7.75

Table 24 – Summary of Costs allocated to G3

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	Substation A 345 kV bus	\$3.67
4.2.4 (b)	Network Upgrade Cost	Substation A 345/230 kV Transformer	\$5
		Upgrade of Line 2 from Sub A to Sub 5	\$11.43
4.2.4 (c)	TPIF Cost	Substation A - New 345kV Terminal for GI #3	\$1.82
			\$21.92

Table 25 – Summary of Costs allocated to G4

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	Substation A 230 kV bus	\$3.67
4.2.4 (b)	Network Upgrade Cost	Upgrade of Line 2 from Sub A to Sub 5	\$11.43
4.2.4 (c)	TPIF Cost	Substation A - New 230 kV Terminal for GI #4	\$1.27
			\$16.37

Table 26 – Summary of Costs allocated to G5

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)

4.2.4 (a)	Network Upgrade Cost	Substation A 230 kV bus	\$3.67
4.2.4 (b)	Network Upgrade Cost	Upgrade of Line 2 from Sub A to Sub 5	\$1.43
4.2.4 (c)	TPIF Cost	Substation A - New 230 kV Terminal for GI #5	\$1.27
			\$6.37

Table 27 – Summary of Costs allocated to G6

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	New 230kV Substation B	\$9.34
4.2.4 (b)	Network Upgrade Cost		
4.2.4 (c)	TPIF Cost	New 230kV Substation B - Terminal for GI #6	\$1.27
			\$10.61

Table 28 – Summary of Costs allocated to G7

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	New 230kV Substation C	\$5.17
4.2.4 (b)	Network Upgrade Cost	Upgrade of Line 15 from Sub 6 to Sub D, Circuit Breaker Upgrade Sub 7	\$30.1
4.2.4 (c)	TPIF Cost	New 230kV Substation C - Terminal for GI #7	\$1.27
			\$36.44

Table 29 – Summary of Costs allocated to G8

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	New 230kV Substation C	\$5.17
4.2.4 (b)	Network Upgrade Cost	Upgrade of Line 15 from Sub 6 to Sub D, Circuit Breaker Upgrade Sub 7	\$30.1
4.2.4 (c)	TPIF Cost	New 230kV Substation C - Terminal for GI #8	\$1.27
			\$36.44

Table 30 – Summary of Costs allocated to G9

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	New 230kV Substation D	\$5.67
4.2.4 (b)	Network Upgrade Cost	Capacitor Bank at SS D, Circuit Breaker Upgrade Sub 7	\$2.3
4.2.4 (c)	TPIF Cost	New 230kV Substation D - Terminal for GI #9	\$1.27
			\$8.94

Table 31 – Summary of Costs allocated to G10

Tariff Section	Type of Upgrade	Description of the Upgrade	Cost Allocated (million)
4.2.4 (a)	Network Upgrade Cost	New 230kV Substation D	\$5.67
4.2.4 (b)	Network Upgrade Cost	Capacitor Bank at SS D, Circuit Breaker Upgrade Sub 7	\$6.5
4.2.4 (c)	TPIF Cost	New 230kV Substation D - Terminal for GI #10	\$1.27
			\$12.94

APPENDIX A

The equipment in the one-line diagram and their ratings are as listed below

- 1) Generator 1 (G1) = 100 MW
- 2) Generator 2 (G2) = 50 MW
- 3) Generator 3 (G3) = 300 MW
- 4) Generator 4 (G4) = 20 MW
- 5) Generator 5 (G5) = 200 MW
- 6) Generator 6 (G6) = 10 MW
- 7) Generator 7 (G7) = 75 MW
- 8) Generator 8 (G8) = 75 MW
- 9) Generator 9 (G9) = 60 MW
- 10) Generator 10 (G10) = 90 MW
- 11) Transformer 1 (T1) = 500 MVA
- 12) Line 1 (L1) = 400 MVA
- 13) Line 2 (L2) = 600 MVA
- 14) Line 3 (L3) = 200 MVA
- 15) Line 4 (L4) = 100 MVA
- 16) Line 5 (L5) = 150 MVA
- 17) Line 6 (L6) = 120 MVA
- 18) Line 7 (L7) = 200 MVA
- 19) Line 8 (L8) = 200 MVA
- 20) Line 9 (L9) = 200 MVA
- 21) Line 10 (L10) = 250 MVA
- 22) Line 11 (L11) = 200 MVA
- 23) Line 12 (L12) = 150 MVA
- 24) Line 13 (L13) = 100 MVA
- 25) Line 14 (L14) = 100 MVA

Exhibit XES-206:

Stakeholder Comments

The following are excerpts from stakeholder feedback forms. All written feedback is posted on PSCO's OASIS site.

Name: David Gil

Company/Affiliation: NextEra Energy Resources

Email Address: david.gil@nexteraenergy.com

Date: June 14, 2019

Q2: As a generation developer, what costs do you incur to develop a facility? Are there any financial harms (development costs, land leases, lost opportunity cost, etc.) that you might experience due to delayed interconnection? Under the first ready design (e.g. where you have demonstrated that your project is ready by achieving site control and other requirements such as participating in an RFP, negotiating a contract for sale, starting construction under provisional interconnection, or providing financial security) please estimate how much costs may have been expended by each milestone date or how much costs might be expended per year? Developers incur a number of costs developing facilities, including land lease costs, permitting costs, site resource and capacity analysis costs, early stage engineering/design costs, etc. Delayed interconnection (especially within the current federal PTC and ITC periods) could jeopardize a project's viability and could jeopardize other commitments with counterparties. Each project and circumstance is unique so it's difficult to make these types of estimates.

Name: Interwest Energy Alliance

Company/Affiliation:

Email Address: c/o Lisa Tormoen Hickey, Tormoen Hickey LLC, [lisahickey@newLawgroup.com](mailto:lisahickey@newlawgroup.com)

Date: June 19, 2019

Q2: As a generation developer, what costs do you incur to develop a facility? Are there any financial harms (development costs, land leases, lost opportunity cost, etc.) that you might experience due to delayed interconnection? Under the first ready design (e.g. where you have demonstrated that your project is ready by achieving site control and other requirements such as participating in an RFP, negotiating a contract for sale, starting construction under provisional interconnection, or providing financial security) please estimate how much costs may have been expended by each milestone date or how much costs might be expended per year?

Yes, there are negative financial implications associated with delayed interconnections. Consistent and dependable interconnection timelines are critical for the development of clean renewable energy projects and serving customers at least cost.

One of the most significant financial implications is the loss of the value of the PTC and ITC tax incentives as projects are pushed later into time due to queue delays. Also, the "first ready" design concept outlined above should be expanded to contemplate the need to obtain FAA approval (in the case of wind projects) or County permits, or do wildlife studies required by state and federal agencies. As time goes by, these studies and permits need to be renewed or updated, adding cost.

- Costs below assume a 100 MW project: This is a range of costs, can be higher or lower
 - Solar:
 - Land Lease Range of \$50,000/year increasing to \$120,000/year over time
 - Internal and external legal: \$20,000 to \$40,000
 - Financial security: low to 2% of LC amount
 - PPA RFP: \$50,000 (internal costs) plus bid fee
 - Preliminary environmental assessment: \$25,000 to \$130,000
 - Geotech: minimal
 - County permitting: \$150,000
 - Purchase of panels – deposits – not quantified, but a significant expense
 - Lost ITC value: see attached
 - Wind:
 - Land lease dev stage: \$40,000/year increasing to \$140,000/year over time
 - Internal and external legal: \$25,000 to \$40,000
 - Measurement towers: \$200,000 (fixed cost)
 - Financial security: minimal to 2% of LC amount
 - PPA RFP: \$50,000 (internal costs) plus bid fee
 - Preliminary environmental assessment: \$25,000 to \$120,000
 - County permitting: \$150,000
 - Purchase of turbines – deposits – not quantified, but a significant expense
 - Lost PTC value: see attached

Investment Tax Credit - timing

Type of Energy Property	Date Construction Begins	Placed in Service Date	ITC Amount
Solar	Before 1/1/2020	Before 1/1/2024	30%
	Calendar 2020	Before 1/1/24	26%
	Calendar 2021	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	10%
	On or after 1/1/22	Any	10%
Fiber-Optic Solar	Before 1/1/20	Before 1/1/24	30%
	Calendar 2020	Before 1/1/24	26%
	Calendar 2021	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	0%
	On or after 1/1/22	N/A	0%
Qualified Fuel Cell	Before 1/1/20	Before 1/1/24	30%
	Calendar 2020	Before 1/1/24	26%
	Calendar 2021	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	0%
	On or after 1/1/22	N/A	0%

Copyright © 2018 Deloitte Development LLC. All rights reserved.

2018 Deloitte Renewable Energy Seminar

Investment Tax Credit - timing

Type of Energy Property	Date Construction Begins	Placed in Service Date	ITC Amount
Qualified Small Wind	Before 1/1/2020	Before 1/1/2024	30%
	Calendar 2020	Before 1/1/24	26%
	Calendar 2021	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	0%
	On or after 1/1/22	N/A	0%
Qualified Microturbine	Before 1/1/22	Any	10%
	On or after 1/1/22	N/A	0%
Combined Heat and Power (CHP)	Before 1/1/22	Any	10%
	On or after 1/1/22	N/A	0%
Geothermal Heat Pump	Before 1/1/22	Any	10%
	On or After 1/1/22	N/A	0%
Geothermal	Any	Any	10%

Copyright © 2018 Deloitte Development LLC. All rights reserved.

2018 Deloitte Renewable Energy Seminar 6

Production Tax Credit and ITC in lieu of PTC

Qualified Resources/Facilities	Credit Amount for 2018	Construction Beginning...	Phase-out (PTC Amount)	30% ITC Election
Wind	2.4 cents/kwh	Before 1/1/2017	100%	30%
		Calendar 2017	80%	24%
		Calendar 2018	60%	18%
		Calendar 2019	40%	12%
Geothermal	2.4 cents/kwh	Before 1/1/2018	None	30%
Closed-loop biomass	2.4 cents/kwh	Before 1/1/2018	None	30%
Open-loop biomass	1.2 cent/kwh	Before 1/1/2018	None	30%
Municipal solid waste (landfill gas, trash)	1.2 cent/kwh	Before 1/1/2018	None	30%
Hydropower	1.2 cent/kwh	Before 1/1/2018	None	30%
Marine and hydrokinetic renewables (including small irrigation power)	1.2 cent/kwh	Before 1/1/2018	None	30%

Copyright © 2018 Deloitte Development LLC. All rights reserved.

2018 Deloitte Renewable Energy Seminar

Overall Comparison of PTC and ITC

	PTC	ITC
Amount	2.4 cents (or 1.2 cents) per kWh	One-time tax credit (30% or 10% of eligible basis)
Timing	10-year credit period for qualified resources	One-time (placed in service date)
Specific Restrictions	• Credit reduction for subsidized or tax-exempt financing • Third-party sales requirement • Ownership requirement • No basis reduction in property	• No credit reduction for subsidized or tax-exempt financing after 12/31/08 • No third-party sales requirement • Original use only; no ownership requirement • 50% of ITC basis reduction of property • Tax-exempt use prohibition • Normalization required
Recapture	No Recapture	Five year recapture period
Structure	• Flip	• Flip • Sale-Leaseback • Capital Lease • Lease Pass-Through

Copyright © 2018 Deloitte Development LLC. All rights reserved.

2018 Deloitte Renewable Energy Seminar 8



Begun construction background

- To satisfy the begun construction requirement, IRS guidance requires that the taxpayer prove that prior to the statutory credit deadline, it commenced “physical work of a significant nature” on the facility (physical work test) or incurred at least five percent of the total cost of the facility (Five Percent Safe Harbor).
- Thereafter, and until the facility is placed in service, the taxpayer must also prove that it maintained a “continuous program of construction” to satisfy the physical work test or made “continuous efforts to advance towards completion of the facility” to satisfy the Five Percent Safe Harbor (collectively, the Continuity Requirement).
 - A taxpayer was previously deemed to satisfy the Continuity Requirement if a project was placed in service within two years of the begun construction deadline
 - Recent IRS guidance provides that the continuity requirement is deemed satisfied if a project is placed in service within four years of the end of the calendar year in which construction begins (Continuity Safe Harbor)

Example 1: Purchase Turbines

Taxpayer is developing a 300 MW wind project with a total capex of \$400 million. The wind project is slated to have 100 turbines. Taxpayer enters into a turbine supply agreement with Manufacturer to acquire 10 wind turbines at a cost of \$25 million. The turbine supply agreement is executed on December 1, 2016, and requires all turbine components (e.g., tower, nacelle, and blades) to be completed with title transferring to the Taxpayer by April 15, 2017. Taxpayer is on the accrual method of accounting and makes payment of the \$25 million purchase price on December 31, 2016.

Has Taxpayer Begun Construction for purposes of the PTC?

YES!

- 5% Safe-Harbor / continuous efforts to advance toward completion
- Economic performance and the 3 ½ month rule
- Cost overrun rule
- Tax ownership of turbine components
- Permissible transfers

Example 2: On-Site Physical Work

Taxpayer is developing a 300 MW wind project with a total capex of \$400 million. The wind project is slated to have 100 turbines. Taxpayer has leased land rights and developed an initial site design. On December 1, 2016, Taxpayer enters into an agreement with Contractor to begin on-site physical construction through the excavation of ten wind turbine foundations. Before the end of 2016, Contractor begins work on a single wind turbine foundation ("Foundation #1") and by starting to build a road between Foundation #1 and another planned wind turbine foundation ("Foundation #2") for purposes of operating and maintaining the wind turbines once placed in service. Contractor's excavates and lays the mud mat for the single turbine foundation before January 1, 2017 at a cost of \$50,000, and then completes the excavation and laying of the mud mats for the remaining nine turbine foundations pursuant to the agreement in early 2017. Contractor's work on the road in 2016 included clearing the land, building embankments using cuts and fills, leveling the dirt and bumps, and placing gravel on the road bed at a cost of an additional \$50,000.

Has Taxpayer Begun Construction for purposes of the PTC?

YES!

- Physical work of a significant nature / continuous program of construction
- How much physical work is enough?
- Permissible transfers

Example 3: Off-Site Physical Work

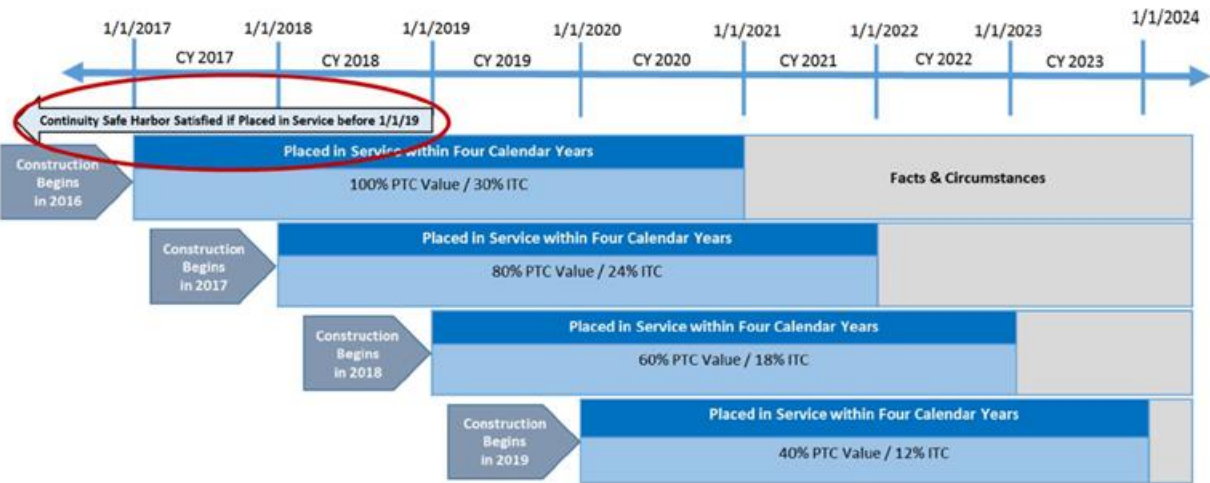
Taxpayer is developing a 300 MW wind project with a total capex of \$400 million. The wind project is slated to have 100 turbines. On December 1, 2016, Taxpayer enters into a binding written contract with Manufacturer, to purchase a custom-designed step-up transformer. The total transformer purchase price is \$1,900,000. The contract includes a penalty of 5% of the purchase price if cancelled/terminated. The initial down payment is \$100,000 which is paid in 2016 upon execution of the purchase order. Manufacturer fabricates a radiator tank, a component of the transformer not commonly held in inventory. This component has a serial number, was not previously held in inventory and was manufactured after execution of the contract for the specific custom-designed transformer that will be incorporated into the wind project.

Has Taxpayer Begun Construction for purposes of the PTC?

YES!

- Physical work of a significant nature / continuous program of construction
- How much physical work is enough?
- Inventory rule
- Permissible transfers

Continuity Safe Harbor
Begun construction guidance after Notice 2016-31 with retroactive "fix"



Name: Derek Sunderman

Company/Affiliation: Savion LLC

Email Address: dsunderman@savionenergy.com

Date: 6/20/2019

Q2: As a generation developer, what costs do you incur to develop a facility? Are there any financial harms (development costs, land leases, lost opportunity cost, etc.) that you might experience due to delayed interconnection? Yes, holding costs for leased land normally increases over time and may require an additional bonus payment to extend the lease(s). We also risk losing site control if the lease expires and landowner is unwilling to renew. Under the first ready design (e.g. where you have demonstrated that your project is ready by achieving site control and other requirements such as participating in an RFP, negotiating a contract for sale, starting construction under provisional interconnection, or providing financial security) please estimate how much costs may have been expended by each milestone date or how much costs might be expended per year? This is unique to each project and can be impacted by not only leasing arrangements but also the local taxing regime, permitting requirements, environmental issues, project size, access to the POI, etc. These costs can easily be in the upper hundreds of thousands of dollars to a few million.

Name: Anuj Dixit

Company/Affiliation: E.ON

Email Address: anuj.dixit@eon.com

Date: 06/21/2019

Q2: As a generation developer, what costs do you incur to develop a facility? Are there any financial harms (development costs, land leases, lost opportunity cost, etc.) that you might experience due to delayed interconnection? Under the first ready design (e.g. where you have demonstrated that your project is ready by achieving site control and other requirements such as participating in an RFP, negotiating a contract for sale, starting construction under provisional interconnection, or providing financial security) please estimate how much costs may have been expended by each milestone date or how much costs might be expended per year?

- Costs to develop a facility (other than interconnection costs) include site control payments, site due diligence costs (land surveys, environmental surveys, hydrological and geotechnical studies, Phase I environmental site assessments, title investigation and curative work), installation and maintenance of weather stations, preliminary engineering and preparation of site layouts, and permitting costs. The rate of expenditure is highly variable and depends upon the negotiated terms of the site control agreements, the size of the project footprint, the jurisdiction having

permitting authority, the complexity of the site/project/title, the length of the gen-tie, and other factors. At the bare minimum, a utility-scale renewable energy project could be expected to incur annual costs on the order of tens of thousands of dollars to maintain site control. If actual due diligence and permitting activities are being carried out, the non-interconnection costs incurred can easily be on the order of hundreds of thousands of dollars per year. In addition to these costs there would be internal overhead costs borne by the developer each year.

Exhibit XES-300:

Marked Tariff Comparing 2nd Revised LGIP with 1st
Revised LGIP

ATTACHMENT N

Standard Large Generator Interconnection Procedures – Revised (“Revised LGIP”)

Applicable to Generating Facilities that exceed 20 MWs connecting to the Transmission System

of

Public Service Company of Colorado

Note: For further information regarding a large generation interconnection to the transmission system of any of the Xcel Energy Operating Companies, please consult the currently effective “Interconnection Guidelines For Transmission Interconnected Producer-Owned Generation Greater than 20 MW” available at the Xcel Energy Inc. website

TABLE OF CONTENTS

Page

Section 1.	Definitions	
Section 2.	Scope and Application	
2.1	Application of Revised LGIP.	
2.2	Comparability.	
2.3	Base Case Data.	
2.4	No Applicability to Transmission Service.	
Section 3.	Interconnection Requests.	
3.1	General.	
3.2	Identification of Types of Interconnection Services.	
3.2.1	Energy Resource Interconnection Service.	
3.2.1.1	The Product.	
3.2.1.2	The Study.	
3.2.2	Network Resource Interconnection Service.	
3.2.2.1	The Product.	
3.2.2.2	The Study.	
3.3	Utilization of Surplus Interconnection Service.	
3.3.1	Surplus Interconnection Service Requests.	
3.3.2	Process for Evaluating and Obtaining Surplus Interconnection Service Requests	
3.4	Valid Interconnection Request. <u>3.3.</u>	
3.4.1	Initiating an Interconnection Request.	
3.4.2	Acknowledgment of Interconnection Request.	
3.4.3	Deficiencies in Interconnection Request.	
3.4.4	Scoping Meeting.	
3.5	OASIS Posting.	
3.5.1	<u>OASIS Posting</u>	
3.5.1.1	<u>Definitive Study Phase 1 processing time.</u>	
3.5.1.2	<u>Definitive Interconnection System Impact Studies Processing Time.</u>	
3.5.1.3	<u>Interconnection Facilities Studies Processing Time.</u>	
3.5.1.4	<u>Interconnection Service Requests Withdrawn from Interconnection Queue.</u>	
3.5.2	<u>Requirement to Post Interconnection Study Metrics</u>	
3.6	Coordination with Affected Systems.	
3.7	Withdrawal.	
3.7.1	<u>Withdrawal Penalty</u>	
3.7.1.1	<u>Calculation of the Withdrawal Penalty</u>	
3.7.1.2	<u>Distribution of the Withdrawal Penalty</u>	
3.8	<u>Identification of Contingent Facilities.</u>	
Section 4.	Interconnection Request Evaluation Process.	
4.1	Queue Position.	
4.1.1	<u>Assignment of Queue Position</u>	
4.1.2	<u>Higher Queue Position</u>	
4.2	General Study Process	
4.2.1	<u>Initiation of a Definitive Interconnection System Impact Study Cluster.</u>	
4.2.2	<u>Initiation of a Resource Solicitation Cluster.</u>	

- 4.2.3 Study Cost Allocation.
 - 4.2.4 Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation.
 - 4.3 Transferability of Queue Position.
 - 4.4 Modifications.
 - ~~4.4.6~~ Technological Change Procedure.
 - 4.4.6.1 Technological Change Request
 - 4.4.6.2 Technological Change Request Evaluation
 - 4.4.6.3 Transmission Provider Technological Advancement Study Process
- Section 5. Transition Procedures
 - 5.1 Procedures for Transitioning to the First-Ready, First-Served Revised LGIP
 - ~~5.1.1~~
 - ~~5.1.1.1~~ Transitional Serial Projects
 - ~~5.1.1.2~~ Combined System Impact and Interconnection Facilities Transitional Cluster Study
 - 5.2 New Transmission Provider.
- Section 6. Informational Interconnection Study
 - 6.1 Informational Interconnection Study Agreement.
 - 6.2 Scope of Informational Interconnection Study.
 - 6.3 Informational Interconnection Study Procedures.
- Section 7. Phase 1 through 3 of the Definitive Interconnection Study Process
 - 7.1 Definitive Interconnection System Impact Study Agreement.
 - 7.2 Execution of Definitive Interconnection System Impact Study Agreement.
 - 7.3 Scope of Definitive Interconnection System Impact Study.
 - 7.4 Definitive Interconnection System Impact Study Procedures
 - 7.5 Meeting with Transmission Provider.
 - 7.6 Re-Study.
 - 7.7 Readiness Milestones and Site Control
 - ~~7.7.1~~ ~~Financial Security Option~~ Readiness Milestone 1 ("M1")
 - ~~7.7.2~~ Readiness Milestone ~~1~~ ("M1")
 - ~~7.7.3~~ Readiness Milestone ~~2~~ ("M2")
 - ~~7.7.4~~ Readiness Milestone ~~3~~ ("M3")
 - ~~7.7.5~~ Readiness Milestone ~~4~~ ("M4")
 - ~~7.7.6~~ Readiness Milestone ~~5~~ ("M5")
 - Security Requirements
 - ~~7.7.7~~ Site Control
- Section 8. Interconnection Facilities Study
 - 8.1 Interconnection Facilities Study Agreement.
 - 8.2 Scope of Interconnection Facilities Study.
 - 8.3 Interconnection Facilities Study Procedures.
 - 8.4 Meeting with Transmission Provider.
 - 8.5 Re-Study.
- Section 9. Engineering & Procurement (~~"E&P"~~) ("E&P") Agreement.
- Section 10. Standard Large Generator Interconnection Agreement (LGIA)
 - 10.1 Tender.
 - 10.2 Negotiation.
 - 10.3 Execution and Filing.
 - 10.4 Commencement of Interconnection Activities.

Section 11. Construction of Transmission Provider's Interconnection Facilities and _____
_____ Network Upgrades

11.1 Schedule.

11.2 Construction Sequencing

11.2.1 General.

11.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer.

11.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of the Transmission Provider.

11.2.4 Amended Definitive Interconnection System Impact Study.

Section 12. Miscellaneous

12.1 Confidentiality.

12.1.1 Scope.

12.1.2 Release of Confidential Information.

12.1.3 Rights.

12.1.4 No Warranties.

12.1.5 Standard of Care.

12.1.6 Order of Disclosure.

12.1.7 Remedies.

12.1.8 Disclosure to FERC, its Staff, or a State.

~~12.1.9~~

~~12.1.10~~

12.2 Delegation of Responsibility.

12.3 Obligation for Study Costs ~~and Readiness Milestone Payments~~

12.4 Third Parties Conducting Studies.

12.5 Disputes.

12.5.1 Submission.

12.5.2 External Arbitration Procedures.

12.5.3 Arbitration Decisions.

12.5.4 Costs.

12.5.5 Non-Binding Dispute Resolution Procedures.

12.6 Local Furnishing Bonds.

12.6.1 Transmission Providers That Own Facilities Financed by Local Furnishing Bonds.

12.6.2 Alternative Procedures for Requesting Interconnection Service.

Appendix A-1 – Overview and timeline of initiation of a DISIS Cluster: the ~~Interconnection~~ DISIS Request Window, Customer Engagement Window, and Phase 1 of the DISIS

Appendix A-2 – Overview and Timeline of Definitive Interconnection Study Process, Including the DISIS Process.

Appendix 1 – Interconnection Request for a Large Generating Facility

Appendix 2 – Definitive Interconnection System Impact Study Agreement

Appendix 3 – Interconnection Facilities Study Agreement

Appendix 4 – Transitional Serial Interconnection Facilities Study Agreement

Appendix 5.1– Transitional Cluster Study Agreement

Appendix 5.2 –Provisional Interconnection Study Agreement

Appendix 5.3 – Surplus Interconnection Study Agreement

Appendix 5.4 – Informational Interconnection Study Request

Appendix 5.5 – Informational Interconnection Study Agreement

Appendix 6 – Standard Large Generator Interconnection Agreement

Appendix 6.1 – Interconnection Procedures For A Wind Generating Plant

Section 1.- Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Transmission System to which the Generating Facility is directly interconnected.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday. If a requirement due date lands on a Saturday, Sunday or Federal Holiday, the requirement is due the next Business Day.

Cluster shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies.

Cluster Study shall mean an Interconnection Study evaluating one or more Interconnection Requests.

Clustering shall mean the process whereby a group of Interconnection Requests is studied together, instead of serially, for the purpose of conducting the Interconnection Studies.

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Contingent Facilities shall mean those unbuilt Interconnection Facilities and Network Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for Re-Studies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

Control Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation of the interconnection. A Control Area must be certified by an Applicable NERC Regional Reliability Entity. Control Area shall have the same meaning as Balancing Authority Area as defined by NERC.

Customer Engagement Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Definitive Interconnection Study Process ("Definitive Interconnection Study") shall mean the complete definitive study process inclusive of the DISIS Request Window, Customer Engagement Window, Definitive Interconnection System Impact Study, and the Interconnection Facilities Study. Both the Resource Solicitation Cluster and the DISIS Cluster are processed under the Definitive Interconnection Study.

Definitive Interconnection System Impact Study (“DISIS”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of the Transmission System and, if applicable, an Affected System.

Definitive Interconnection System Impact Study Agreement (“DISIS Agreement”) shall mean the form of agreement contained in Appendix 2 of the Revised LGIP for conducting the Definitive Interconnection System Impact Study.

Definitive Interconnection System Impact Study Cluster (“DISIS Cluster”) shall mean an engineering study that evaluates the impact of the proposed interconnection(s) on the safety and reliability of Transmission System and, if applicable, an Affected System.

DISIS Request Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of a Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which the Transmission Provider's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's

Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission Provider's Transmission System on an available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

Financial Security shall have the meaning set forth in Section 7.7.1 of the Revised LGIP.

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or

power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Informational Interconnection Study shall mean an analysis based on assumptions specified by Interconnection Customer in the Informational Interconnection Study Agreement.

Informational Interconnection Study Agreement shall mean the form of agreement contained in Appendix [75.5](#) of the Revised LGIP for conducting the Informational Interconnection Study.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities (e.g. for generator interconnection).

Interconnection Facilities shall mean the Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities (e.g. for generator interconnection)- and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Interconnection Facilities may be shared by more than one Generating Facility in a Cluster.

Interconnection Facilities Study shall mean a study conducted by the Transmission Provider or a third party consultant for the Interconnection Customer to determine a list of facilities

(including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Definitive Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Provider's Transmission System. The scope of the study is defined in Section 8 of the Revised LGIP.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 3 of the Revised LGIP for conducting the Interconnection Facilities Study.

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Revised LGIP, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Informational Interconnection Study, the Definitive Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

Interconnection Study Agreement shall mean any of the following agreements: the Informational Interconnection Study Agreement, the Definitive Interconnection System Impact Study Agreement, or the Interconnection Facilities Study Agreement described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with a later or equal Queue Position.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

OASIS shall mean the Transmission Provider's Open Access Same-Time Information System.

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Permissible Technological Advancement shall mean modification to equipment that (1) results in electrical performance that is equal to or better than the electrical performance expected prior to the technology change, (2) does not cause any reliability concerns, (3) does not degrade the electrical characteristics of the generating equipment (e.g., the ratings, impedances, efficiencies, capabilities, and performance of the equipment under steady-state and dynamic conditions) and (4) does not have a material impact on the cost or timing of any Interconnection Request with a later queue priority date, and is therefore not a Material Modification. A Permissible Technological Advancements is a change in equipment that may achieve cost or grid performance efficiencies that may include turbines, inverters, plant

supervisory controls or other devices that may affect a generating facility's ability to provide ancillary services but does not include changes in generation technology type ~~or~~of fuel type.

Phase (“Phase 1, Phase 2, Phase 3, or Phase 4”) shall mean a distinct part of the Definitive Study Process as described in Section 7.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Provider's Transmission System.

Provisional Interconnection Service shall mean interconnection service provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Interconnection Study shall mean an analysis based on assumptions specified in the Provisional Interconnection Study Agreement.

Provisional Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.2 of the Standard Large Generator Interconnection Procedures for conducting the Provisional Interconnection Study.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or the Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes.

Queue shall mean a queue for valid Interconnection Requests for the Definitive Interconnection Study Process.

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Interconnection Study Process. The Queue Position is established based upon the date and time Interconnection Customer satisfies all of the requirements of Section 7.2 of this Attachment N to enter the Definitive Study Process.

Readiness Milestone(s) shall have the meaning set forth in Section 7.7 of the Revised LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Revised LGIP shall mean the Large Generator Interconnection Process as described in this Attachment N.

Resource Plan shall mean any process authorized or required by Applicable Laws and Regulations for, *inter alia*, the selection of Generating Facilities ~~interconnected to the Transmission System of Transmission Provider.~~

Resource Planning Entity shall mean any entity ~~subject~~required to develop a Resource Plan or ~~conducting~~conduct a Resource Solicitation Process.

Resource Solicitation Cluster shall mean a Cluster Study associated with a Resource ~~Solicitation Process~~Plan or related process.

Resource Solicitation Process shall mean any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources ~~by an entity interconnecting to the Transmission System of Transmission Provider.~~

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer and Transmission Provider conducted for the purpose of discussing the proposed interconnection request, alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to affect such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection ~~facilities~~Facilities. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities; or (3) any other documentation that clearly demonstrates the right of the Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider must provide

the Interconnection Customer a written technical explanation outlining why the Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Provider's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

Surplus Interconnection Study shall mean an analysis based on assumptions specified by the Interconnection Customer in the Surplus Interconnection Study Agreement.

Surplus Interconnection Study Agreement shall mean the form of agreement contained in Appendix 5.3 of the Standard Large Generator Interconnection Procedures for conducting the Surplus Interconnection Study.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Provider's Transmission System or on other delivery systems or other generating systems to which the Transmission Provider's Transmission System is directly connected.

Tariff shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled, or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large

Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Transmission Provider's Interconnection Facilities may be shared by more than one Generating Facility in a given ~~Cluster~~ Study.

Transmission System shall mean the facilities owned, controlled or operated by the Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Withdrawal Penalty shall have the meaning set forth in Section 3.7.1 of the Revised LGIP.

Section 2. Scope and Application.

2.1 Application of Revised LGIP.

Sections 2 through 12 apply to processing an Interconnection Request pertaining to a Large Generating Facility. As provided in Attachment P to the Tariff, Small Generating Facilities that are not eligible for the fast track process will be processed in a single Queue with Large Generating Facilities. Additionally, Small Generating Facilities requesting NRIS shall be processed under this Revised LGIP.

2.2 Comparability.

Transmission Provider shall receive, process and analyze all Interconnection Requests in a timely manner as set forth in this Revised LGIP. Transmission Provider will use the same Reasonable Efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Generating Facilities are owned by Transmission Provider, its subsidiaries or Affiliates, or others.

2.3 Base Case Data.

Transmission Provider shall maintain base power flow, short circuit and stability databases, including all underlying assumptions, and contingency list on either its OASIS site or a password-protected website subject to confidentiality provisions in Revised LGIP Section ~~13~~12.1. In addition, Transmission Provider shall maintain network models and underlying assumptions on either its OASIS site or a password-protected website. Such network models and underlying assumptions should reasonably represent those used during the most recent ~~interconnection study~~Interconnection Study and be representative of current system conditions. If Transmission Provider posts this information on a password-protected website, a link to the information must be provided on Transmission Provider's OASIS site. Transmission Provider is permitted to require that Interconnection Customers, OASIS site users and password-protected website users sign a confidentiality agreement before the release of

commercially sensitive information or Critical Energy Infrastructure Information in the Base Case data. Such databases and lists, hereinafter referred to as Base Cases, shall include all (1) generation projects and (2) transmission projects, including merchant transmission projects that are proposed for the Transmission System for which a transmission expansion plan has been submitted and approved by the applicable authority.

2.4 No Applicability to Transmission Service.

Nothing in this Revised LGIP shall constitute a request for transmission service or confer upon an Interconnection Customer any right to receive transmission service.

Section 3. Interconnection Requests.

3.1 General.

An Interconnection Customer shall submit to Transmission Provider an Interconnection Request in the form of Appendix 1 to this Revised LGIP, an application fee of \$5000, and a study deposit of:

- a. \$75,000 for requests of less than 50 MW, or
- b. \$150,000 for requests of 50 MW and greater, but less than 200 MW, or
- c. \$250,000 for requests of 200 MW and greater.

Transmission Provider shall apply the study deposit toward the cost of the Definitive Interconnection Study Process. Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. Interconnection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Interconnection Requests. Interconnection Customers evaluating different options (such as different sizes, sites or voltage/voltages) are encouraged but not required to use the Informational Interconnection Study Process (please see Section 9) before entering the Definitive Interconnection Study Process.

At Interconnection Customer's option, Transmission Provider and Interconnection Customer will identify alternative Point(s) of Interconnection and configurations at the Scoping Meeting to evaluate in this process and attempt to eliminate alternatives in a reasonable fashion given resources and information available. Interconnection Customer shall select the definitive Point of Interconnection to be studied no later than the execution of the Definitive System Impact Study Agreement. For purposes of clustering Interconnection Service requests, Transmission Provider may make reasonable changes to the requested Point(s) of Interconnection to facilitate efficient interconnection of Interconnection Customers at common points of interconnection. Transmission Provider shall

notify Interconnection Customers in writing of any intended changes to the requested Point(s) of Interconnection and the Point(s) of Interconnection shall only change upon mutual agreement.

Interconnection Customer may request a level of Interconnection Service below the Generating Facility Capacity. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of Interconnection Facilities and Network Upgrades, but may be subject to other studies at the full Generating Facility Capacity to ensure safety and reliability of the system, with the study costs borne by the Interconnection Customer. If after the additional studies are complete, Transmission Provider determines that additional Network Upgrades are necessary, then Transmission Provider must: (1) specify which additional Network Upgrade costs are based on which studies; and (2) provide a detailed explanation of why the additional Network Upgrades are necessary. Any Interconnection Facility and/or Network Upgrade costs required for safety and reliability also will be borne by the Interconnection Customer. Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, LGIA.

3.2 Identification of Types of Interconnection Services.

At the time the Interconnection Request is submitted, Interconnection Customer must request either Energy Resource Interconnection Service or Network Resource Interconnection Service, as described below. Interconnection Customer may designate only one type of Interconnection Service for each separate Interconnection Request in the Queue. The type of Interconnection Service must be finalized on submission of the executed Definitive System Impact Study Agreement and may only be changed ~~only once~~ after the start of the Definitive Study Process ~~and only~~ between Phase 2 and Phase 3 of the Definitive Interconnection Study Process and only if a Cluster must be re-studied in Phase 3 (See Section 7.4) and otherwise may not be changed.

3.2.1 Energy Resource Interconnection Service.

3.2.1.1 The Product.

Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. Energy Resource Interconnection Service does not in and of itself convey any right to deliver electricity to any specific customer or Point of Delivery.

3.2.1.2 The Study.

The study consists of short circuit/fault duty, steady state (thermal and voltage) and stability analyses. The short circuit/fault duty analysis would identify direct Interconnection Facilities required and the Network Upgrades necessary to address short circuit issues associated with the Interconnection Facilities. The stability and steady state studies would identify necessary upgrades to allow full output of the proposed Large Generating Facility and would also identify the maximum allowed output, at the time the study is performed, of the interconnecting Large Generating Facility without requiring additional Network Upgrades.

3.2.2 Network Resource Interconnection Service.

3.2.2.1 The Product.

Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility: (1) in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market-based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service allows Interconnection Customer's Large Generating Facility to be designated as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. If the Transmission Provider has not been notified pursuant to Section 29.2 of Part III of the Tariff that Interconnection Customer's proposed Generating Facility is to be designated as a Network Resource within Transmission Provider's Control Area, the Interconnection Customer must provide the point of delivery or the geographic location on PSCo's system at which Interconnection Customer intends to deliver output out of Transmission Provider's Control Area.

3.2.2.2 The Study.

The Interconnection Study for Network Resource Interconnection Service shall assure that Interconnection Customer's Large Generating Facility meets the requirements for Network Resource Interconnection Service and, as a general matter, that such Large Generating Facility's interconnection is also studied with

Transmission Provider's Transmission System at peak load, under a variety of severely stressed conditions, to determine whether, with the Large Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on Transmission Provider's Transmission System, consistent with Transmission Provider's reliability criteria and procedures. This approach assumes that some portion of existing Network Resources' output is displaced by the output of Interconnection Customer's Large Generating Facility. Network Resource Interconnection Service in and of itself does not convey any right to deliver electricity to any specific customer or Point of Delivery. The Transmission Provider may also study the Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the Transmission Provider must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

3.3 Utilization of Surplus Interconnection Service.

Transmission Provider's process below allows an Interconnection Customer to utilize or transfer Surplus Interconnection Service at an existing Point of Interconnection. The original Interconnection Customer or one of its affiliates shall have priority to utilize Surplus Interconnection Service. If the existing Interconnection Customer or one of its affiliates does not exercise its priority, then that service may be made available to other potential Interconnection Customers.

3.3.1 Surplus Interconnection Service Requests.

Surplus Interconnection Service requests may be made by the existing Interconnection Customer whose Generating Facility is already interconnected or one of its affiliates. Surplus Interconnection Service requests also may be made by another Interconnection Customer. Section 3.3.2 provides a process for evaluating Interconnection Requests for Surplus Interconnection Service. Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power,

short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary.

3.3.2 Process for Evaluating Surplus Interconnection Requests and Obtaining Surplus Interconnection Service Requests.

The following process will be used for evaluating and obtaining Surplus Interconnection Service.

An existing (original) Interconnection Customer whose Generating Facility is already interconnected may choose to, but is not required to, make Surplus Interconnection Service available to potential Interconnection Customers. The original Interconnection Customer retains the ability to use, either for themselves, for an affiliate, or for sale to a third party of their choosing, any Surplus Interconnection Service. The original ~~interconnection customer~~Interconnection Customer may (a) stipulate the amount of ~~surplus interconnection service~~Surplus Interconnection Service that is available, (b) designate when that service is available, and (c) describe any other conditions under which ~~surplus interconnection service~~Surplus Interconnection Service at the point of interconnection may be used.

If the original Interconnection Customer makes Surplus Interconnection Service available at its Point of Interconnection, Transmission Provider shall work with the original Interconnection Customer (and the requesting Interconnection Customer, if different) to evaluate that Surplus Interconnection Service. Transmission Provider may accept third-party studies demonstrating no adverse impact to the Transmission Provider's Transmission System, but may require its own or additional studies at its discretion. Transmission Provider will use available studies to the extent applicable. If a Generating Facility interconnected prior to the issuance of Order No. 2003 and does not have an existing Large Generator Interconnection Agreement, it shall be considered to have Interconnection Service up to its installed capacity for purposes of the offering of Surplus Interconnection Service.

The requesting Interconnection Customer shall execute a Surplus Interconnection Study Agreement to evaluate Surplus Interconnection Service in the form of Appendix 5.3, and the Interconnection Customer requesting Surplus Interconnection Service shall be responsible for the cost of such study. Transmission Provider shall study Surplus Interconnection Service outside of the Queue and shall make reasonable efforts to complete the study within sixty (60) days of executing the Surplus Interconnection Study Agreement including the study deposit and receiving data required to perform the study.

Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary. Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring new Network Upgrades.

Transmission Provider, original Interconnection Customer, and ~~surplus~~ Surplus Interconnection Customer shall develop a Surplus Interconnection Agreement and other agreements as necessary and file such agreements with the Commission. Such agreements shall, among other things, establish conditions such as the term of operation, the interconnection service limit, and the mode of operation for energy production (i.e., common or singular operation) and the roles and responsibilities of the parties for maintaining the operation of the facility within the parameters of the surplus interconnection service agreement.

Transmission Provider is not required to execute an ~~interconnection agreement~~ Interconnection Agreement for ~~surplus—interconnection service~~ Surplus Interconnection Service if the agreements do not meet the definition set forth in their tariff or if the customer does not agree to the terms of such service, including any requirements that may be identified by the ~~transmission provider~~ Transmission Provider in the studies for ~~surplus—interconnection—service~~ Surplus Interconnection Service. If the ~~surplus~~ Surplus Interconnection Customer disputes an issue in the ~~interconnection agreement~~ Interconnection Agreement for ~~surplus—interconnection—service~~ Surplus Interconnection Service, Transmission Provider must file the unexecuted ~~surplus interconnection—service—agreement~~ Surplus Interconnection Service Agreement with the Commission if requested to do so by the ~~surplus~~ Surplus Interconnection Customer.

3.4 Valid Interconnection Request.

3.4.1 Initiating an Interconnection Request.

An Interconnection Customer wishing to join the Definitive Interconnection Study Process shall submit its Interconnection Request to Transmission Provider within, and no later than the close of the DISIS Request Window. To initiate an Interconnection Request, Interconnection Customer must submit all of the following:

- a. The application fee and study deposit described in Section 3.1;
- b. A completed application in the form of Appendix 1 to the Revised LGIP (including applicable technical information);
- c. A demonstration of Site Control as defined in Section 1 and 7.7 of the Revised LGIP. Additional specifications for acceptable site size for the purposes of demonstrating Site Control are posted on Transmission Provider's OASIS website. Interconnection Customer may propose alternative specifications for site size to those posted on OASIS for Transmission Provider approval. In the event Transmission Provider and Interconnection Customer cannot reach agreement related to adequacy of site size, Transmission Provider will accept a Professional Engineer (licensed in the state of Colorado) stamped site plan drawing that depicts the proposed generation arrangement and specifies the maximum facility output for that arrangement;
- d. A Point of Interconnection;
- e. If the request is for NRIS and if Transmission Provider has not been notified pursuant to Section 29.2 of Part III of the Tariff that Interconnection Customer's proposed Generating Facility is to be designated as a Network Resource within Transmission Provider's Control Area, the point of delivery or the geographic location on Transmission Provider's system at which Interconnection Customer intends to deliver output out of Transmission Provider's Control Area;
- f. A Generating Facility size (MW); ~~—~~ (and requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity);
- g. One ~~or more~~ of the following Readiness Milestone ("M1") options totaling the entire capacity of the Generating Facility (or requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity) as defined in Section 7.7 of this Revised LGIP or security equal to one times the study deposit described in

Section 3.1 in the form of an irrevocable letter of credit or cash in lieu of the Readiness Milestone. The security is refunded to the Interconnection Customer according to Section 7.7.5.

~~i. \$2000 per MW Readiness Milestone in the form of an irrevocable letter of credit or cash;~~

~~iii.~~ Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale (1) of the constructed Generating Facility, or (2) of the Generating Facility's energy, or (3) of the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;

~~iiii.~~ Reasonable evidence that the project has been selected in a Resource Plan or Resource Solicitation Process; or

~~iviii.~~ Provisional Large Generator Interconnection Agreement filed with FERC; that contains a commitment to move forward with constructing the Generating Facility and is not suspended; and

h. Security equal one times the study deposit described in Section 3.1 in the form of an irrevocable letter of credit or cash. The security is refunded to the Interconnection Customer according to Section 7.7.5.

The expected In-Service Date of the new Large Generating Facility or increase in capacity of the existing Generating Facility shall be no more than the process window for the regional expansion planning period (or in the absence of a regional planning process, the process window for Transmission Provider's expansion planning period) not to exceed seven (7) years from the date the Interconnection Request is received by Transmission Provider, unless Interconnection Customer demonstrates that engineering, permitting and construction of the new Large Generating Facility or increase in capacity of the existing Generating Facility will take longer than the regional expansion planning period. The In-Service Date may succeed the date the Interconnection Request is received by Transmission Provider by a period up to ten (10) years, or longer where Interconnection Customer and Transmission Provider agree, such agreement not to be unreasonably withheld.

3.4.2 Acknowledgment of Interconnection Request.

Transmission Provider shall acknowledge receipt of the Interconnection Request within five (5) Business Days of the close of the DISIS Request Window and attach a copy of the received Interconnection Request to the acknowledgement.

3.4.3 Deficiencies in Interconnection Request.

An Interconnection Request will not be considered to be a valid request until all items in Section 3.4.1 have been received by Transmission Provider.

If an Interconnection Request fails to meet the requirements set forth in Section 3.4.1, Transmission Provider shall notify Interconnection Customer within five (5) Business Days of the close of the DISIS Request Window of the reasons for such failure and that the Interconnection Request does not constitute a valid request. Interconnection Customer shall provide Transmission Provider the additional requested information needed to constitute a valid request within ten (10) Business Days after receipt of such notice. At any time, if Transmission Provider identifies issues with technical data provided by Interconnection Customer, Interconnection Customer and Transmission ~~Provider~~ shall work expeditiously and in good faith to remedy any data issues. Failure by Interconnection Customer to comply with this Section 3.4.3 shall be treated in accordance with Section 3.7.

Transmission Provider shall determine if the information contained in the Interconnection Request is adequately sufficient to start the Definitive System Impact Study by the close of the Customer Engagement Window.

3.4.4 Scoping Meeting.

Within ten (10) Business Days after the close of the DISIS Request Window, Transmission Provider shall host an open Scoping Meeting, for all Interconnection Requests received in that DISIS Request Window. If requested by Interconnection Customer, Transmission Provider shall also hold individual customer specific Scoping Meetings, which must be requested no later than fifteen (15) business days after the close of the DISIS Request Window.

The purpose of the Scoping Meeting shall be to discuss alternative interconnection options; to exchange information, including any transmission data that would reasonably be expected to impact such interconnection options; to analyze such information; and to determine the potential feasible Points of Interconnection. Transmission Provider and Interconnection Customer will bring to the meeting such technical data, including, but not limited to: (i) general facility loadings,

(ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues as may be reasonably required to accomplish the purpose of the meeting. Transmission Provider and Interconnection Customer will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer shall designate its Point of Interconnection, pursuant to Section 7.2. The duration of the meeting shall be sufficient to accomplish its purpose.

3.5 OASIS Posting.

3.5.1 OASIS Posting.

Transmission Provider will maintain on its OASIS a list of all Interconnection Requests. The list will identify, for each Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the status of the Interconnection Request, including Queue Position; (vi) the type of Interconnection Service being requested; (vii) the availability of any studies related to the Interconnection Request; (viii) the date of the Interconnection Request; (ix) the type of Generating Facility to be constructed (combined cycle, base load or combustion turbine, and fuel type); and (x) for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed. Except in the case of an Affiliate, the list will not disclose the identity of Interconnection Customer until Interconnection Customer executes an LGIA or requests that Transmission Provider file an unexecuted LGIA with FERC. Before holding a Scoping Meeting with its Affiliate, Transmission Provider shall post on OASIS an advance notice of its intent to do so. Transmission Provider shall post to its OASIS site any deviations from the study timelines set forth herein. Interconnection Study reports shall be posted to Transmission Provider's OASIS site subsequent to the meeting between Interconnection Customer and Transmission Provider to discuss the applicable study results. Transmission Provider shall also post any known deviations in the Large Generating Facility's In-Service Date.

~~3.5.1~~ Transmission Provider will maintain on its OASIS or its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. For each calendar quarter, Transmission Providers must calculate and post the information detailed in sections 3.5.1.1 through 3.5.1.43.

~~3.5.1.1~~ ~~Interconnection Feasibility Studies processing~~ time~~Definitive Study Phase 1 Processing Time.~~

- (A) Number of Interconnection Requests that had Interconnection Feasibility Phase 1 Studies completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Interconnection Requests that had Interconnection Feasibility Phase 1 Studies completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than ~~forty-five (45)~~ninety (90) Calendar Days after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection Feasibility Study Agreement,
- (C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Feasibility Studies where such Interconnection Requests had executed Interconnection Feasibility Study Agreements received by Transmission Provider more than ~~forty-five (45)~~ninety (90) Calendar Days before the reporting quarter end,
- (D) Mean time (in days), Interconnection Feasibility Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the date when Transmission Provider received the executed Interconnection Feasibility Study Agreement to the date when Transmission Provider provided the completed Interconnection Feasibility Study to the Interconnection Customer,
- (E) Percentage of Interconnection Feasibility Studies exceeding ~~forty-five (45)~~ninety (90) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.1.1(B) plus 3.5.1.1(C) divided by the sum of 3.5.1.1(A) plus 3.5.1.1(C)).

3.5.1.2— Definitive Interconnection System Impact Studies Processing Time.

- (A) Number of Interconnection Requests that had Definitive Interconnection System Impact Studies (Phase 2 and Phase 3) completed within Transmission Provider's coordinated region during the reporting quarter,
- (B) Number of Definitive Interconnection Requests that had Interconnection System Impact Studies completed within Transmission Provider's coordinated region during the

reporting quarter that were completed more than ~~ninety (90)~~ one hundred fifty (150) Calendar Days after receipt by Transmission Provider of the Interconnection Customer's executed Interconnection System Impact Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Definitive System Impact Studies where such Interconnection Requests had executed Definitive Interconnection System Impact Study Agreements received by Transmission Provider more than ~~ninety (90)~~ one hundred fifty (150) Calendar Days before the reporting quarter end,

(D) ~~Mean time (in days),~~ Definitive Interconnection System Impact Studies completed within Transmission Provider's coordinated region during the reporting quarter, from the date when Transmission Provider received the executed Interconnection System Impact Study Agreement to the date when Transmission Provider provided the completed Interconnection System Impact Study to the Interconnection Customer,

(E) ~~Percentage of Interconnection System Impact Studies exceeding~~ ninety (90) one hundred fifty (150) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.1.2(B) plus 3.5.1.21(C) divided by the sum of 3.5.1.21(A) plus 3.5.1.21(C)).

3.5.1.3- Interconnection Facilities Studies Processing Time.

(A) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed within Transmission Provider's coordinated region during the reporting quarter that were completed more than ninety (90) Calendar Days, ~~with no more than a +/- 20 percent cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if Interconnection Customer requests a +/- 10 percent cost estimate~~ after receipt by Transmission Provider of the

Interconnection Customer's executed
Interconnection Facilities Study Agreement,

- (C) At the end of the reporting quarter, the number of active valid Interconnection Service requests with ongoing incomplete Interconnection Facilities Studies where such Interconnection Requests had executed Interconnection Facilities Studies Agreement received by Transmission Provider more than ninety (90) Calendar Days, ~~with no more than a +/- 20 percent cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if Interconnection Customer requests a +/- 10 percent cost estimate~~ before the reporting quarter end,
- (D) Mean time (in days), for Interconnection Facilities Studies completed within Transmission Provider's coordinated region during the reporting quarter, calculated from the date when Transmission Provider received the executed Interconnection Facilities Study Agreement to the date when Transmission Provider provided the completed Interconnection Facilities Study to the Interconnection Customer,
- (E) Percentage of delayed Interconnection Facilities Studies this reporting quarter, calculated as the sum of 3.5.1.32(B) plus 3.5.1.32(C) divided by the sum of 3.5.1.32(A) plus 3.5.1.32(C)).

3.5.1.4

Interconnection Service Requests Withdrawn from Interconnection Queue.

- (A) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter,
- (B) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of any interconnection studies or execution of any interconnection study agreements,
- (C) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before

completion of an Interconnection System Impact Study,

- (D) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue during the reporting quarter before completion of an Interconnection Facilities Study,
- (E) Number of Interconnection Requests withdrawn from Transmission Provider's interconnection queue after execution of a generator interconnection agreement or Interconnection Customer requests the filing of an unexecuted, new interconnection agreement,
- (F) Mean time (in days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when Transmission Provider received the request to withdraw from the queue.

3.5.2 Requirement to Post Interconnection Study Metrics.

Transmission Provider is required to post on OASIS or its website the measures in paragraph 3.5.1.1(A) through paragraph 3.5.1.43(F) for each calendar quarter within 30 days of the end of the calendar quarter. Transmission Provider will keep the quarterly measures posted on OASIS or its website for three calendar years with the first required report to be in the first quarter of 2020. If Transmission Provider retains this information on its website, a link to the information must be provided on Transmission Provider's OASIS site.

3.5.3 Reporting Requirement for Late Studies.

In the event that any of the values calculated in paragraphs 3.5.1.1(E), ~~3.5.1.2(E)~~ or 3.5.1.32(E) exceeds 25 percent for two consecutive calendar quarters, Transmission Provider will have to comply with the measures below for the next four consecutive calendar quarters and must continue reporting this information until Transmission Provider reports four consecutive calendar quarters without the values calculated in 3.5.1.1(E), ~~3.5.1.2(E)~~ or 3.5.1.32(E) exceeding 25 percent for two consecutive calendar quarters:

- (i) Transmission Provider must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline (i.e., ~~45, 90, 150~~ or ~~18090~~ days) for completion (excluding any allowance for Reasonable Efforts). Transmission Provider must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in

the future. The report must be filed at the Commission within 45 days of the end of the calendar quarter.

- (ii) Transmission Provider shall aggregate the total number of employee-hours and third party consultant hours expended towards interconnection studies within its coordinated region that quarter and post on OASIS or its website. If Transmission Provider posts this information on its website, a link to the information must be provided on Transmission Provider's OASIS site. This information is to be posted within 30 days of the end of the calendar quarter.

3.6 Coordination with Affected Systems.

Transmission Provider will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in this Revised LGIP. Transmission Provider will include such Affected System Operators in all meetings held with Interconnection Customer as required by this Revised LGIP. Interconnection Customer will cooperate with Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A Transmission Provider which may be an Affected System shall cooperate with Transmission Provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems. It is the responsibility of the Affected System Owner to provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to (i) complete any interconnection studies and (ii) construct any necessary interconnection facilities and network upgrades needed to reliably interconnect at the requested service level.

3.7 Withdrawal.

Interconnection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to Transmission Provider. In addition, if Interconnection Customer fails to adhere to all requirements of this Revised LGIP, except as provided in Section 12.5 (Disputes), Transmission Provider shall deem the Interconnection Request to be withdrawn and shall provide written notice to Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Upon receipt of such written notice, Interconnection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify Transmission Provider of its intent to pursue Dispute Resolution.

Withdrawal shall result in the loss of Interconnection Customer's Queue Position. If Interconnection Customer disputes the withdrawal and loss of its Queue Position, then during Dispute Resolution, Interconnection Customer's

Interconnection Request is eliminated from the Queue until such time that the outcome of Dispute Resolution would restore its Queue Position. An Interconnection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to Transmission Provider all costs that Transmission Provider prudently incurs with respect to that Interconnection Request prior to Transmission Provider's receipt of notice described above. Interconnection Customer must pay all monies due to Transmission Provider before it is allowed to obtain any Interconnection Study data or results.

In the case of a withdrawal, Transmission Provider shall: (i) update the OASIS Queue Position posting; ~~and (ii) impose the Withdrawal Penalty described in Section 3.7.1, (iii), refund any security after settling the final invoice (see Section 7.7.5), and (iv)~~ refund to Interconnection Customer any of the refundable portion of Interconnection Customer's study deposit that exceeds the share of the costs that Transmission Provider has incurred, including interest calculated in accordance with section 35.19a(a)(2) of FERC's regulations. In the event of such withdrawal, Transmission Provider, subject to the confidentiality provisions of Section 12.1, shall provide, at Interconnection Customer's request, all information that Transmission Provider developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.

3.7.1 Withdrawal Penalty.

Interconnection Customers shall be subject to a Withdrawal Penalty if they withdraw their request from the Queue or the Generating Facility does not otherwise reach Commercial Operation unless (1) the withdrawal does not negatively affect the timing or cost of equal or lower queued projects; (2) the cost responsibility identified for that Interconnection Customer in the current study report associated with new upgrades to the Transmission Provider's System increased by more than twenty-five percent (25%) compared to the costs identified in the previous report; or (3) if the customer withdraws after the Phase 4 report is published and before providing M5, and the cost responsibility for that Interconnection Customer identified in the Interconnection Facilities Study report (the Phase 4 report) increases by more than one hundred percent (100%) compared to the Phase 2 report.

3.7.1.1 Calculation of the Withdrawal Penalty.

If the Interconnection Customer provided a demonstration of readiness, that Interconnection Customer's Withdrawal Penalty shall be equal to the higher of the study deposit or one (1) times of its actual allocated cost of the Definitive Interconnection Study Process.

If the Interconnection Customer did not provide a demonstration of readiness, that Interconnection Customer's Withdrawal Penalty shall be dependent on the

Phase in which the Interconnection Customer withdraws and shall be calculated as follows:

1. If the Interconnection Customer withdraws in Phase 1 (after M1, but before M2), the Withdrawal Penalty shall be the higher of the study deposit or two (2) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at one (1) million dollars.
2. If the Interconnection Customer withdraws in Phase 2 (after M2, but before M3), the Withdrawal Penalty shall be the higher of the study deposit or three (3) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at one and one half (1.5) million dollars.
3. If the Interconnection Customer withdraws in Phase 3 (after M3, but before M4), the study cost obligation shall be the higher of the study deposit or five (5) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at two (2) million dollars.
4. If the Interconnection Customer withdraws in Phase 4 (after M4, but before M5), the Withdrawal Penalty shall be the higher of the study deposit or seven (7) times its actual allocated cost of the Definitive Interconnection Study Process. This amount shall be capped at two and a half (2.5) million dollars.

The Withdrawal Penalty for any customer that has executed an LGIA is the higher of the study deposit or nine (9) times its actual allocated cost of the Definitive Interconnection Study Process.

3.7.1.2 Distribution of the Withdrawal Penalty.

Any Withdrawal Penalty revenues shall be used to fund generation interconnection studies. Withdrawal Penalty revenues shall first be applied, in the form of a bill credit, to not-yet-invoiced study costs for other Interconnection Customers in the same cluster, and to the extent that such studies are fully credited, shall be applied to study costs of future clusters in Queue order. Withdrawn Interconnection Customers shall not receive a bill credit associated with Withdrawal Penalties. Distribution of Withdrawal Penalty revenues to a specific study shall not exceed the total actual study costs. Allocation of Withdrawal Penalty revenues within a cluster to a specific customer shall be

comparable to the allocation of study costs described in Section 4.2.3. Specifically, the Withdrawal Penalty revenue distribution to each customer in a specific cluster, shall be (1) fifty percent (50%) on a per capita basis based on number of Interconnection Requests in the applicable Cluster; and (2) fifty percent (50%) to Interconnection Customers on a pro-rata basis based on requested megawatts included in the applicable Cluster. Distribution of Withdrawal Penalty revenue associated with Readiness Milestone 5 shall not be distributed to the remaining customers in that cluster until all customers in that cluster have reached Commercial Operation and thereafter shall be distributed as described above. Transmission Provider shall not change the distribution of Withdrawal Penalty revenue without authorization by the Commission. Transmission Provider shall post the Withdrawal Penalty balance on its OASIS site.

3.8 Identification of Contingent Facilities.

Contingent Facilities shall be identified in the Interconnection System Impact Study report including in any subsequent restudies, in the Interconnection Facilities Study report including in any subsequent restudies, and then included in the Interconnection Customer's Large Generator Interconnection Agreement. Transmission Provider shall also provide, upon request of the Interconnection Customer, the estimated interconnection facility and/or network upgrade costs and estimated in-service completion date of each identified Contingent Facility when this information is readily available and not commercially sensitive.

Any unbuilt Interconnection Facility and/or Network Upgrade included in the study model that is necessary as determined through technical studies such as power flow, short circuit and/or stability analysis to accommodate the Interconnection Request, will be identified as a Contingent Facility. Network Upgrades will include both Network Upgrades planned by the Transmission Provider or Affected Systems in the Base Case as well as those Network Upgrades identified for higher queued Interconnection Requests.

Additionally, all new Interconnection Facilities and/or Network Upgrades identified by Transmission Provider and Affected Systems as required for the current Interconnection Request are Contingent Facilities.

Section 4. Interconnection Request Evaluation Process.

4.1 Queue Position.

4.1.1 Assignment of Queue Position

Transmission Provider shall assign a Queue Position as follows: the Queue Position within the Queue shall be assigned based upon the

date and time of receipt of all items required pursuant to the provisions of Section 3.4. There is no queue for Informational Interconnection Studies.

4.1.2 Higher Queue Position

A higher Queue Position assigned to an Interconnection Request is one that has been placed “earlier” in the Queue in relation to another Interconnection Request that is assigned a lower Queue Position. All requests studied in a single Cluster shall be considered equally queued but Clusters initiated earlier in time shall be considered to have a higher Queue Position than clusters initiated later. The Queue Position of an Interconnection Request shall have no bearing on the allocation of the cost of the common upgrades identified in the applicable Cluster Study (such costs will be allocated among Interconnection Requests in accordance with Section 4.2.4). Moving a Point of Interconnection shall result in a loss of Queue Position if it is deemed a Material Modification under Section 4.4.3.

4.2 General Study Process.

The diagram attached as Appendix A-1 provides an overview and timeline of initiation of a ~~DISIS Cluster: the Definitive~~ Interconnection Study: the DISIS Request Window, Customer Engagement Window, and Phase 1 of the DISIS.

Cluster Studies performed within the Definitive Interconnection Study Process shall be conducted in such a manner to ensure the efficient implementation of the applicable regional transmission expansion plan in light of the Transmission System's capabilities at the time of each study.

4.2.1 Initiation of a Definitive Interconnection System Impact Study Cluster.

Transmission Provider shall accept Interconnection Requests during a forty five (45) Calendar Day period, hereinafter referred to as the “DISIS Request Window.” A DISIS Request Window shall open annually on February 1st and close on March 15th or the following Business Day if March 15th falls on a Saturday or Sunday NERC recognized holiday. A second DISIS Request Window shall open annually on August 1st and close on September 15th (or the following Business Day if September 15th falls on a Saturday or Sunday).

If one or more valid requests are received, for seventy-five (75) Calendar Days following the close of the DISIS Request Window (the “Customer Engagement Window”), Transmission Provider shall work with applicable Interconnection Customers to build models, verify data, hold stakeholder meetings (including Scoping Meetings, as appropriate), work with requestors to cure any deficiencies in the Interconnection Request, and generally prepare for the start of the

Definitive Interconnection System Impact Study. Notwithstanding the preceding sentence and upon written consent of all Interconnection Requests for a specific Cluster, Transmission Provider may shorten the "Customer Engagement Window" in order to start the Definitive Interconnection System Impact Study earlier. Within the first ten (10) Business Days following the close of the DISIS Request Window, Transmission Provider shall post on its OASIS site a list of Interconnection Requests for that Cluster. The list shall identify, for each Interconnection Request: (i) the requested amount of Interconnection Service; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected In-Service Date; (v) the type of Interconnection Service (vi) cluster being requested; and (vi) the type of Generating Facility to be constructed including fuel type such as wind, natural gas, coal, or solar.

At the end of the Customer Engagement Window, all Interconnection Requests deemed sufficient that have an executed DISIS Agreement shall be included in that DISIS Cluster. Any Interconnection Requests not deemed sufficient or undergoing Dispute Resolution at the close of the Customer Engagement Window shall not be included in that DISIS Cluster. Immediately following the Customer Engagement Window, Transmission Provider shall initiate the Definitive Interconnection System Impact Study ~~Process~~ described in more detail in Section 7.

4.2.2 Initiation of a Resource Solicitation Cluster.

At any time, and upon request of a Resource Planning Entity, Transmission Provider may initiate the study of a Resource Solicitation Cluster. The Resource Solicitation Cluster shall respect Queue Position and shall be studied as its own Cluster. Within ten (10) Business Days of receipt of a request to perform a Resource Solicitation Cluster that includes valid Interconnection Requests as described in Section 3.4, Transmission Provider and Resource Planning Entity shall meet to determine a mutually agreeable scope of study and timeframe to initiate the Resource Solicitation Cluster. The timeline shall indicate the close of the Customer Engagement Window for that Resource Solicitation Cluster. Thereafter the Definitive Interconnection System Impact Study shall proceed as described in Section 7.

In order to initiate Transmission Provider's study of Interconnection Requests made in connection with a Resource Solicitation Process, Resource Planning Entity must: (a) act as the authorized representative for all Interconnection Requests submitted to the Resource Solicitation Cluster; (b) submit all Interconnection Requests arising from the Resource Solicitation Process at the same time to ensure an equal Queue Position for all Generating Facilities included

in the Resource Solicitation Cluster; (c) cooperate with Transmission Provider in conducting the studies; and (d) request a reasonable number of different combinations of such Interconnection Requests to meet Resource Planning Entity's identified need and assumptions in the Resource Solicitation Process. Such studies in connection with a Resource Solicitation Process shall be implemented based upon Queue Position (relative to higher or lower queued clusters) and shall consider Resource Planning Entity's needs and assumptions identified in the Resource Solicitation Process.

The Resource Planning Entity may submit for inclusion in the Resource Solicitation Process an Interconnection Request for a Generating Facility that already has a higher Queue Position pursuant to Section 4.1.1. A Generating Facility that initially is associated with a Queue Position through the Resource Solicitation Process may also reserve a lower Queue Position separate from the Resource Solicitation Process pursuant to Section 4.1.1. In either case, Interconnection Customer must meet all requirements associated with maintaining each Queue Position for the Generating Facility. In the event a Generating Facility has multiple Queue Positions, it shall not be double counted in the study models.

A Generating Facility in the Resource Solicitation Process is subject to study according to the Queue Position of the Resource Solicitation Cluster. A Generating Facility that is not a part of the Resource Solicitation Process is also subject to study according to its Queue Position. All studies must be performed in accordance with the provisions of the Revised LGIP, and may not be delayed as a result of the Resource Solicitation Process.

After Transmission Provider completes the Definitive Interconnection System Impact Studies for the requested combinations, the results will be provided (Phase 1 Reports, Phase 2 Reports, Phase 3 Reports, etc.; as applicable under Section 7.4) to the Resource Planning Entity for use in the Resource Solicitation Process. The results will be posted on Transmission Provider's OASIS consistent with the posting of other study results.

After receipt of the Phase 2 Report, Resource Planning Entity must select one of the studied combinations prior to the commencement of any Interconnection Facilities Study associated with the Resource Solicitation Process. Prior to the completion of the Interconnection Facilities Study of all of the components of the selected combination, Resource Planning Entity may replace components, subject to any necessary Re-Study pursuant to Sections 7.6 or 8.5. While conducting the Definitive Interconnection Study Process, Transmission Provider may suspend further action on the Interconnection Requests in the Resource Solicitation Process that are not included in the selected

combination. Once a Generating Facility is rejected in the Resource Solicitation Process, the Generating Facility shall lose the Queue Position it held as part of the Resource Solicitation Process. If a Generating Facility is selected by Resource Planning Entity at the conclusion of the Resource Solicitation Process, the Generating Facility may no longer maintain more than one Queue Position.

4.2.3 Study Cost Allocation.

Transmission Provider shall determine each Interconnection Customer's share of the DISIS costs of a Cluster Study by allocating: (1) fifty percent (50%) of the applicable study costs to Interconnection Customers on a per capita basis based on number of Interconnection Requests included in the applicable studyCluster; and (2) fifty percent (50%) of the applicable study costs to Interconnection Customers on a pro-rata basis based on requested megawatts included in the applicable studyCluster. For instance, the cost of a cluster study consisting of a 100 MW request and a 900 MW request would be allocated 30% to the 100 MW request and 70% to the 900 MW request. The Interconnection Facilities Study portion of the Definitive Interconnection Study Process is an individual study and costs for each Interconnection Facilities Study is directly assigned to the Interconnection Customer associated with such study.

4.2.4 Transmission Provider's Interconnection Facilities and Network Upgrade Cost Allocation.

For Transmission Provider's Interconnection Facilities and Network Upgrades identified in Cluster Studies, Transmission Provider shall calculate each Interconnection Customer's share of costs in the following manner:

- a. ~~—)~~ Station equipment Network Upgrades ~~required for direct interconnection, including all switching stations,~~ shall be allocated based on the number of Generating Facilities interconnecting at an individual station on a per capita basis (i.e. on a per Interconnection Request basis). If multiple Interconnection Customers are connecting to the Transmission Provider's System through a single Interconnection Customer's Interconnection Facility (i.e. sharing the Interconnection Customer's Interconnection Facility connecting to the Transmission Provider's Interconnection Facility(ies) ~~)).~~ those Interconnection Customers shall be ~~—~~ considered one Interconnection Customer for the per capita calculation described in the preceding sentence. Shared Transmission Provider's Interconnection Facilities shall be allocated based on the number of Generating Facilities sharing that Transmission Provider's Interconnection Facility on a per capita basis. ~~—~~

- b.) All Network Upgrades other than those identified in Section 4.2.4.a ~~shall~~will be allocated based on the proportional impact of each individual Generating Facility in the Cluster ~~Study~~has Studies on such Network Upgrades. The proportional impact of such Network Upgrades shall be calculated as follows. All transmission lines and transformers identified as Network Upgrades shall be allocated using distribution factor analysis. Voltage support related Network Upgrades shall be allocated using a voltage impact analysis which will identify each Generating Facility's contribution to the voltage violation. Network Upgrades associated with upgrading existing breakers not physically located at the substation to which the Generating Facility is interconnecting or associated with a new transmission facility shall be allocated based on short circuit analysis.
- c.) Costs of Transmission Provider's Interconnection Facilities ~~that serve only one Interconnection Customer~~ are directly assigned to ~~that the~~ Interconnection Customer(s) using such facilities.

~~This cost allocation is used to determine Readiness Milestones and funding obligations.~~ Interconnection Customer funding of Network Upgrades are eligible for credits as provided in Section 11.4 of the LGIA.

4.3 Transferability of Queue Position.

An Interconnection Customer may transfer its Queue Position to another entity only if such entity acquires the specific Generating Facility identified in the Interconnection Request and the Point of Interconnection does not change.

4.4 Modifications.

Interconnection Customer shall submit to Transmission Provider, in writing, modifications to any information provided in the Interconnection Request. Interconnection Customer shall retain its Queue Position if the modifications are in accordance with Sections 4.4.1, ~~or~~ 4.4.2, 4.4.5, or are determined not to be Material Modifications pursuant to Section 4.4.23.

Notwithstanding the above, during the course of the Interconnection Studies, either Interconnection Customer or Transmission Provider may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. Subject to the forgoing sentence, and provided, however, they do not result in a material modification, to the extent the identified changes are acceptable to Transmission Provider, Interconnection Customer and potentially impacted Interconnection Customers in the same Cluster, such acceptance not to be unreasonably withheld, Transmission Provider shall modify the Point of Interconnection and/or configuration in accordance with such changes and proceed with any re-studies necessary to do

so in accordance with Section 7.6 and Section 8.5 as applicable and Interconnection Customer shall retain its Queue Position.

4.4.1 No later than forty (40) Calendar Days after the close of the DISIS Request Window and prior to the return of the executed Definitive Interconnection System Impact Study Agreement to Transmission Provider, the modifications permitted under this Section shall include specifically: (a) a decrease of up to sixty percent (60%) of electrical output (MW) of the proposed project, through either (1) a decrease in plant size, or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment; (b) modifying the technical parameters associated with the Large Generating Facility technology or the Large Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. For plant increases, the incremental increase in plant output will go to the end of the Queue for the purposes of cost allocation and study analysis.

4.4.2 Prior to the return of the executed Interconnection Facilities Study Agreement to Transmission Provider, the modifications permitted under this Section shall include specifically: (a) fifteen percent (15%) decrease of electrical output of the proposed project through either (1) a decrease in in plant size (MW), or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying Transmission Provider-approved injection-limiting equipment; (b) Large Generating Facility technical parameters associated with modifications to Large Generating Facility technology and transformer impedances; provided, however, the incremental costs associated with those modifications are the responsibility of the requesting Interconnection Customer; and (c) a Permissible Technological Advancement for the Large Generating Facility after the submission of the Interconnection Request. Section 4.4.6 specifies a separate technological change procedure including the requisite information and process that will be followed to assess whether the Interconnection Customer's proposed technological advancement under Section 4.4.2(c) is a Material Modification. Section 1 contains a definition of Permissible Technological Advancement.

4.4.3 Prior to making any modification other than those specifically permitted by Sections 4.4.1, 4.4.2, and 4.4.5, Interconnection Customer may first request that Transmission Provider evaluate whether such modification is a Material Modification. In response to Interconnection Customer's request, Transmission Provider shall evaluate the proposed modifications prior to making them and inform Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Any change to the Point of

Interconnection, except those deemed acceptable under Sections 4.4.1, or so allowed elsewhere, shall constitute a Material Modification. Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

4.4.4 Upon receipt of Interconnection Customer's request for modification permitted under this Section 4.4, Transmission Provider shall commence and perform any necessary additional studies as soon as practicable, but in no event shall Transmission Provider commence such studies later than thirty (30) Calendar Days after receiving notice of the modification of Interconnection Customer's request. Any additional studies resulting from such modification shall be performed at Interconnection Customer's cost.

4.4.5 Extensions of less than three (3) cumulative years in the Commercial Operation Date of the Generating Facility to which the Interconnection Request relates are not material and should be handled through construction sequencing. The initial requested Commercial Operation Date used for this calculation is determined from the date proposed in the initial Interconnection Request (Revised LGIP Appendix 1 Section 4.d). Such cumulative extensions are inclusive of extensions requested after execution by Interconnection Customer of the LGIA. ~~Interconnection Customer shall be required to provide funding of Interconnection Facilities or Network Upgrades if lower or equal queued projects are dependent on such upgrades for meeting a COD that occurs prior to the extended COD of the Generating Facility in question.~~

4.4.6 Technological Change Procedure.
The technological change procedure included in this Section 4.4.4 will be followed to assess whether Interconnection Customer's proposed modification is a Material Modification.

4.4.6.1 Technological Change Request.

If an Interconnection Customer seeks to incorporate a technological advancement into its existing Interconnection Request, it must submit a Technological Change Request (TCR) as described below to the Transmission Provider in writing any time prior to the return of the signed Interconnection Facilities Study Agreement.

The Interconnection Customer's initial TCR must include a description of the proposed advancement and may include a technical analysis of the advancement. The analysis should contain engineering evidence and reasoning that clearly demonstrates the proposed change aligns with the definition of a Permissible Technological Advancement. Accordingly, a

TCR should demonstrate that the proposed incorporation of the technological advancement would result in electrical performance that is equal to or better than the electrical performance expected prior to the technology change and would not cause any reliability concerns (i.e., would not materially impact the transmission system with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response).

4.4.6.2 Technological Change Request Evaluation.

The Transmission Provider will assess the Interconnection Customer's initial TCR and make a determination based on an evaluation of analysis provided by the Interconnection Customer that the request either: (1) meets the definition of a Permissible Technological Advancement, or (2) may fail to meet the definition of a Permissible Technological Advancement.

If the proposed technology is determined to meet the definition of a Permissible Technological Advancement, then no additional study is necessary and the proposed advancement is considered a Permissible Technological Advancement. The TCR is then approved and incorporated into the Interconnection Request. Once the Permissible Technological Advancement is approved and incorporated into the Interconnection Request; a new TCR would be required for the Interconnection Customer to revert back to the original equipment or to make other additional modifications to equipment.

If the Transmission ~~provider~~Provider is unable to determine if the requested modification meets the definition of Permissible Technological Advancement from the information provided by the Interconnection Customer, then additional studies may be required to assess the impact(s) of the technological advancement.

Transmission Provider shall notify Interconnection Customer within ten (10) Business Days after the Interconnection Customer submits the initial TCR if the request is accepted or if additional studies are required, what additional information is required to complete the additional study. Such additional information is dependent on the specific TCR and may include information such as: updated technical data called for in Appendix 1, Attachment A; type and specifications of equipment being replaced; make and model of new equipment; specifications of new equipment; dynamic, steady-state and performance characteristics of

the new equipment; and efficiencies, impedances, and ratings of the equipment.

4.4.6.3- Transmission Provider Technological Advancement Study Process.

Should assessment of the initial TCR result in the need for additional studies, the Interconnection Customer shall update its TCR with any additional information required to conduct the study and submit the updated TCR along with a deposit of \$10,000, so that the Transmission Provider may complete studies to evaluate whether or not the technological advancement is permissible. Once the deposit is received along with any data required to conduct the studies, Transmission Provider shall complete the studies as soon as practical but no later than thirty (30) Calendar Days after the receipt of the completed TCR and deposit.

Transmission Provider shall evaluate the TCR by (1) representing the new equipment in the study models, (2) rerunning any completed studies and (3) comparing the new study results with the study results prior to the change.

Transmission Provider will produce a report of the study findings that will state if the technological advancement is permissible. If the proposed technology fails to meet the definition of a Permissible Technological Advancement then the TCR is deemed to be a Material Modification. In such cases, the study report shall provide an explanation regarding why the technological advancement is a Material Modification. The Interconnection Customer can choose to abandon the request and retain its queue position or choose to proceed with the request and reenter the queue with a new queue position.

If the study determines that the proposed technology meets the definition of a Permissible Technological Advancement the modification is approved and will be incorporated into the Interconnection Request. Feasibility or System Impact Study reports may be updated if appropriate. Once the Permissible Technological Advancement is approved and incorporated into the Interconnection Request; a new TCR would be required for the Interconnection Customer to revert back to the original equipment or make additional modifications to equipment.

Transmission Provider shall either refund any overage or charge for any shortage for costs of the study that exceed

the deposit amount. The studies associated with the TCR shall be billed separately from other Interconnection Studies.

Section 5. Transition Procedures.

5.1 Procedures for Transitioning to the First-Ready, First-Served Revised LGIP.

5.1.1 An Interconnection Customer assigned a Queue Position prior to ~~November 1, 2018~~September 27, 2019, shall retain that Queue Position subject to the requirements in Sections 5.1.1.1 and 5.1.1.2. An Interconnection Customer that fails to meet these requirements shall have its Interconnection Request deemed withdrawn pursuant to Section 3.7. Any unused deposit amounts of withdrawn Interconnection Requests shall be returned pursuant to Section 3.7. If an Interconnection Customer elects to continue with a Transitional Serial Interconnection Facilities Study or a Transitional Cluster Study as described below, Transmission Provider shall retain the current study deposits, and Interconnection Customer shall be responsible for the entire cost of all studies pursuant to Sections 4.2.3 and 12.3.

5.1.1.1 Transitional Serial Projects.

An Interconnection Customer that has a) a final System Impact Study Report that identifies facilities required to feasibly interconnect and b) an Interconnection Facilities Study Agreement that was executed prior to ~~November 1, 2018~~September 27, 2019, may opt to continue with the Interconnection Facilities Study process if the Interconnection Customer: (1) meets each of the following requirements that demonstrate readiness; and (2) executes a Transitional Serial Interconnection Facilities Study Agreement in the form of Appendix 4 to the Revised LGIP within ~~fifteen (15)~~thirty (30) Calendar Days of the Effective Date of this Revised LGIP. All of the following are required:

- a) A deposit on the Transmission Provider's Interconnection Facilities and Network Upgrades identified in the System Impact Study Report. The deposit shall be equal to one hundred percent (100%) of the costs identified for Transmission Provider's Interconnection Facilities and Network Upgrades in the System Impact Study Report and will be reconciled to actual costs after the associated facilities are in-service. ~~The deposit is refundable only if the project withdraws and: (1) If the Interconnection Customer does not withdraw, the Facilities Study Report identifies~~the deposit shall be reconciled with and applied

~~towards future construction costs for interconnection in excess of one hundred twenty-five percent (125%) of the deposit and described in the LGIA. If the Interconnection Customer withdraws from the Queue before executing an LGIA; or (2) the withdrawal does not negatively affect the cost or timing of any lower queued Interconnection Requests. In all other cases, the deposit on the interconnection facilities or otherwise does not reach Commercial Operation, the deposit is fully refundable once the final invoice for study costs and Withdrawal Penalty is non-refundable. The deposit shall be reconciled to the actual cost of the facilities as described in the LGIA settled.~~ The deposit shall be in the form of an irrevocable letter of credit upon which the Transmission Provider may draw or cash where cash deposits will be treated according to Section 7.7.5.

- b) Exclusive Site Control for the entire Generating Facility and any Interconnection Customer's Interconnection Facilities.
- c) Interconnection Customer shall provide one following:
 - i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years, or
 - ii. ~~Evidence~~Reasonable evidence that the Generating Facility is included in an approved Resource Plan or Resource Solicitation Process, or
 - iii. An executed Provisional Large Generator Interconnection Agreement filed with FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

All LGIA negotiations shall be completed and the LGIA executed (or filed unexecuted) within sixty (60) Calendar Days of the publication of the final Interconnection Facilities Study Report or the Interconnection Request shall be deemed withdrawn pursuant to Section 3.7 unless extended by mutual agreement of Transmission Provider and Interconnection Customer. A change in the Commercial

Operation Date shall not delay the construction of facilities if such delay negatively affects lower or equal queued projects. If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, a Withdrawal Penalty equal to nine (9) times the Interconnection customer's total study cost is imposed.

5.1.1.2 Combined System Impact and Interconnection Facilities Transitional Cluster Study.

An Interconnection Customer with an assigned Queue Position prior to ~~November 1, 2018~~September 27, 2019, may opt to enter the combined system impact and interconnection facilities transitional cluster study ("Transitional Cluster Study") if the Interconnection Customer: (1) meets each of the following requirements that demonstrate readiness; and (2) executes a Transitional Cluster Study Agreement in the form of Appendix 5.1 to the Revised LGIP within ~~fifteen (15)~~thirty (30) Calendar Days of the Effective Date of this Revised LGIP. All Interconnection Requests that enter the Transitional Cluster Study shall be considered to have an equal Queue Position, and identified upgrade costs shall be allocated according to Section 4.2.4 of the Revised LGIP. The Transitional Cluster Study costs shall be allocated according to the method described in Section 4.2.3. Interconnection Customer may make a one-time extension to its requested Commercial Operation date upon entry into the Transitional Cluster Study and such an extension shall not be past 2023.

All of the following are required:

- a) Choice of requesting either ERIS or NRIS
- b) A deposit on the Transmission Provider's Interconnection Facilities and Network Upgrades expected to be identified in the Transitional Cluster Study. The deposit shall be equal to five million dollars (\$5,000,000) and be in the form of ~~cash or~~ an irrevocable letter of credit. The upon which the Transmission Provider may draw or cash where cash deposits will be treated according to Section 7.7.5. If the Interconnection Customer does not withdraw, the deposit is refundable only if shall be reconciled with and applied towards future construction costs described in the LGIA. Any amounts in excess of the actual construction costs shall be returned to the customer. If the Interconnection Customer withdraws from the Queue prior to execution of an LGIA or a Provisional

~~Large Generator Interconnection Agreement and the withdrawal does not negatively affect the cost or timing of any other Interconnection Requests in the Transitional Cluster Study or the first DISIS Cluster; otherwise does not reach Commercial Operation, the deposit is non-fully refundable. The deposit on Interconnection Facilities once the final invoice for study costs and Network Upgrades shall be reconciled to costs determined in the Transitional Cluster Study Withdrawal Penalty is settled.~~

- c) Exclusive Site Control for the entire Generating Facility.
- d) Interconnection Customer shall provide one following:
 - i. A contract, binding upon the parties to the contract, for sale of the Generating Facility's energy, or the entire constructed Generating Facility; where the term of sale is not less than five (5) years, or
 - ii. ~~Evidence~~Reasonable evidence that the Generating Facility is included in an approved Resource Plan, or Resource Solicitation Process, or
 - iii. An executed Provisional Large Generator Interconnection Agreement filed with FERC that is not in suspension with 1) a commitment to construct the facility, 2) a Commercial Operation Date no later than 2023 and 3) a security deposit in addition to the five million dollars identified in 5.1.1.2.a where the total security deposit represents a reasonable estimation of the potential costs that could be ultimately allocated to the project in the transitional cluster study.

After the Transitional Cluster Study report is published, the remaining process shall proceed according to Section 10 of this Revised LGIP. All LGIA negotiations shall be completed and the LGIA executed (or filed unexecuted) within sixty (60) Calendar Days of the tender of the draft LGIA or the Interconnection Request is deemed withdrawn unless extended by mutual agreement of Transmission Provider and Interconnection Customer. A change in the Commercial Operation Date shall not delay the construction of Transmission Provider's Interconnection Facilities or Network Upgrades if such delay negatively affects lower or

~~equal queued projects. Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer shall provide Transmission Provider Readiness Milestone 5 as defined in Section 7.7, including reasonable evidence of exclusive Site Control for the entire Generating Facility and any Interconnection Customer's Interconnection Facilities. The five million dollar deposit on Transmission Provider's Interconnection Facilities and Network Upgrades shall be reconciled to an amount calculated for Readiness Milestone 5 at that time.~~

If the Interconnection Customer withdraws or otherwise does not reach Commercial Operation, a Withdrawal Penalty equal to nine (9) times the Interconnection customer's total study cost is imposed.

5.2 New Transmission Provider.

If Transmission Provider transfers control of its Transmission System to a successor Transmission Provider during the period when an Interconnection Request is pending, the original Transmission Provider shall transfer to the successor Transmission Provider any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by this Revised LGIP shall be paid by or refunded to the Interconnection Customer, as appropriate. The original Transmission Provider shall coordinate with the successor Transmission Provider to complete any Interconnection Study, as appropriate, that the original Transmission Provider has begun but has not completed.

If original Transmission Provider has tendered a draft LGIA to Interconnection Customer, but Interconnection Customer has not either executed the LGIA or requested the filing of an unexecuted LGIA with FERC, unless otherwise provided, Interconnection Customer must complete negotiations with the successor Transmission Provider.

Section 6. Informational Interconnection Study.

6.1 Informational Interconnection Study Agreement.

At any time, a customer may request, and Transmission Provider (either itself or through a consultant) shall perform a reasonable number of Informational Interconnection Studies. Provisional Interconnection Service maybe requested based on the results of the Informational Interconnection Study. Interconnection Customer shall submit a separate Informational Interconnection Request for each site and may submit multiple Informational Interconnection Requests for a single site. Interconnection Customer must submit a deposit with each Informational Interconnection Request even when more than one request is submitted for a

single site. An Informational Interconnection Request to evaluate one site at two different voltage levels shall be treated as two [Informational](#) Interconnection Requests. The request shall use the form in Appendix [65.4](#) of the Revised LGIP and shall describe the assumptions that Interconnection Customer wishes Transmission Provider to study within the scope described in Section 6.2- [of the Revised LGIP below](#). Within five (5) Business Days after receipt of a request for an Informational Interconnection Study, Transmission Provider shall provide to Interconnection Customer an Informational Interconnection Study Agreement in the form of Appendix [75.5](#).

The Informational Interconnection Study Agreement shall: (i) include the scope of work for the Informational Interconnection Study (ii) specify the technical data that Interconnection Customer must provide, (iii) specify the Informational Interconnection Study case and assumptions, and (iv) identify the Transmission Provider's estimate of the cost of the Informational Interconnection Study. To the extent known by Transmission Provider, such estimate shall include any costs expected to be incurred by any Affected System whose participation is necessary to complete the Informational Interconnection Study. Notwithstanding the above, Transmission Provider shall not be required as a result of an Informational Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request.

Interconnection Customer shall execute the Informational Interconnection Study Agreement within ten (10) Business Days of receipt of an agreed upon scope of work and deliver the Informational Interconnection Study Agreement, the technical data, and a \$10,000 deposit to Transmission Provider.

6.2 Scope of Informational Interconnection Study.

—The intent of the Informational Interconnection Study is to aid Interconnection —Customer in its business decisions related to interconnection of generation —facilities prior to entering the Definitive Interconnection Process. The —Informational Interconnection Study shall consist of analysis based on the —assumptions and scope of work specified by Interconnection Customer in the —Informational Interconnection Study Agreement. The Informational Interconnection Study shall identify the potential Transmission Provider's —Interconnection Facilities and the Network Upgrades, and the estimated cost —thereof, that may be required to provide transmission service or Interconnection —Service based upon the results and assumptions of the Informational —Interconnection Study. The Informational Interconnection Study shall be —performed solely for informational purposes. Transmission Provider shall use —Reasonable Efforts to coordinate the study with any Affected Systems that may -be affected by the types of Interconnection Services that are being studied. —Transmission Provider shall utilize existing studies to the extent practicable in —conducting the Informational Interconnection Study.

6.3 Informational Interconnection Study Procedures.

The executed Informational Interconnection Study Agreement, the deposit, and technical and other data called for therein must be provided to Transmission Provider within ten (10) Business Days of Interconnection Customer receipt of the Informational Interconnection Study Agreement. Transmission Provider shall use Reasonable Efforts to complete the Informational Interconnection Study within a mutually agreed upon time period specified within the Informational Interconnection Study Agreement. If Transmission Provider is unable to complete the Informational Interconnection Study within such time period, it shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required. Any difference between the study payment and the actual cost of the study shall be paid to Transmission Provider or refunded to Interconnection Customer, ~~without interest~~, as appropriate. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation and work papers and databases or data developed in the preparation of the Informational Interconnection Study, subject to confidentiality arrangements consistent with Section 12.1.

Section 7. Phase 1 through 3 of the Definitive Interconnection Study Process.

7.1 Definitive Interconnection System Impact Study Agreement.

Unless otherwise agreed, pursuant to the Scoping Meeting provided for in Section 3.4.4, within thirty (30) Calendar Days acknowledgement of a valid Interconnection Request indicating that a Definitive Interconnection System Impact Study is to be performed, Transmission Provider shall provide to Interconnection Customer a DISIS Agreement in the form of Appendix 2 to this Revised LGIP. The DISIS Agreement shall provide that Interconnection Customer shall compensate Transmission Provider for the actual cost of the DISIS. At least seven (7) Calendar Days before the close of a Customer Engagement Window, Transmission Provider shall provide to Interconnection Customer a non-binding updated good faith estimate of the cost and timeframe for completing the Definitive Interconnection System Impact Study.

7.2 Execution of Definitive Interconnection System Impact Study Agreement.

Interconnection Customer shall execute the DISIS Agreement and deliver the executed DISIS Agreement to Transmission Provider no later than the close of the Customer Engagement Window.

7.3 Scope of Definitive Interconnection System Impact Study.

The Definitive Interconnection System Impact Study shall evaluate the impact of the proposed interconnection on the reliability of the Transmission System. The Definitive Interconnection System Impact Study will consider the Base Case as well as all generating facilities (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued requests) that, on the date the DISIS Request Window closes: (i) are existing and directly

interconnected to the Transmission System; (ii) are existing and interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the Transmission System; and (iv) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC. Generating facilities with pending higher or equal queued NRIS requests (e.g. prior to initiating construction), or requests associated with Firm Transmission Service shall generally be modeled at full output while existing generation may be re-dispatched to accommodate new requests in the model. Higher queued EGIS requests or in-service EGIS generators without associated Firm Transmission Service may be dispatched at zero in some study models. If the total requests for NRIS in a Cluster exceeds or otherwise cannot be sunk to the Network Load projected in the Base Case, such exceedance shall be assumed to be delivered outside of the Transmission System. In-service generation in the study model may be re-dispatched in the DISIS, but generally will not be studied at less than its minimum operating limit unless the generation owner agrees the Generating Facility should be modeled as if retired. Existing generation dispatch will be used, for instance, to maintain reliability and stress the system as appropriate.

As discussed in more detail in Section 7.4 below, the Definitive Interconnection System Impact Study is a phased study where the first phase (Phase 1) consists of a power flow and voltage analysis that is followed by a phase (Phase 2) that consists of a short circuit analysis and a stability analysis. Any DISIS re-studies (Phase 3) shall consist of a power flow/voltage analysis, a short circuit analysis, and/or a stability analysis as needed. The Definitive Interconnection System Impact Study report will state the assumptions upon which it is based; state the results of the analyses; and provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Definitive Interconnection System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer, unless otherwise required to study the full Generating Facility Capacity due to safety or reliability concerns. The Definitive Interconnection System Impact Study will provide a list of facilities that are required as a result of the Interconnection Request and a non-binding good faith estimate of cost responsibility and a non-binding good faith estimated time to construct.

7.4 Definitive Interconnection System Impact Study Procedures.

Transmission Provider shall coordinate the Definitive Interconnection System Impact Study with any Affected System that is affected by the Interconnection Request pursuant to Section 3.6 above. Transmission Provider shall utilize existing studies to the extent practicable when it performs the DISIS. Interconnection Requests for DISIS may be submitted only within the DISIS Request Window and Transmission Provider shall initiate the Definitive Interconnection Study Process pursuant to Section 4.2.1.

The diagrams attached as Appendix A-2 provides an overview and timeline of the Definitive Interconnection Study Process, including the ~~phases~~Phases and milestones associated with the Definitive Interconnection System Impact Study.

- a. The DISIS Cluster shall consist of all eligible Interconnection Requests that have executed a DISIS Agreement and have provided all required information before the close of the Customer Engagement Window. Transmission Provider shall use Reasonable Efforts to complete the first phase (Phase 1) consisting of a power flow and voltage analysis within ninety (90) Calendar Days. The Phase 1 Report shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades that are expected to be required as a result of the Interconnection Request(s) and a non-binding good-faith indicative level estimate of cost responsibility and a non-binding good-faith estimated time to construct. Transmission Provider shall hold an open stakeholder meeting ("Phase 1 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 1 results on OASIS.
- b. Within twenty (20) Calendar Days of the Phase 1 Report Meeting, all Interconnection Customers are required to provide Readiness Milestone 2 ("M2") and continued evidence of Site Control as described in Section 7.7.7. ~~Readiness Milestones for the Definitive Interconnection Study Process are described in Section 7.7.~~ Interconnection Customers that do not provide the Readiness Milestone (or provide security in lieu of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.
- c. Interconnection Customers whose M2 and Site Control are accepted by Transmission Provider shall continue in to the second phase ("Phase 2") of the Definitive Interconnection System Impact Study. Phase 2 consists of an updated power flow/voltage analysis (if necessary), stability analysis and short circuit analysis for the Interconnection Customers remaining in the DISIS Cluster. Transmission Provider shall use Reasonable Efforts to complete the Phase 2 analysis within one hundred fifty (150) Calendar Days. The results of this analysis shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades expected to be required to reliably interconnect the Generating Facilities in that DISIS Cluster at the requested Interconnection Service level and shall provide non-binding estimates for required upgrades. The Phase 2 Report shall identify each Interconnection Customer's estimated allocated costs for Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades. Transmission Provider shall hold an open stakeholder meeting ("Phase 2 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 2 results on OASIS.
- d. Within twenty (20) Calendar Days of the Phase 2 Report Meeting, each Interconnection Customer is required to provide Readiness Milestone 3

("M3") and additional evidence of Site Control described in Section 7.7.7. Milestones for the Definitive Interconnection Study Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or additional evidence of provide security in lieu of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.

- i. If all Interconnection Customers in the Cluster provide M3 and no Interconnection Customers withdraw from the Queue at this stage, the Definitive Interconnection Study Process advances to the Interconnection Facilities Study (Section 7.4.g). Transmission Provider shall electronically notify Interconnection Customers in the Cluster that Phase 3 is not required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.
 - ii. If one or more Interconnection Customer withdraws from the Cluster, Transmission Provider shall determine if a full system impact re-study is necessary. If Transmission Provider determines a re-study is not necessary and Phase 3 is not required, Transmission Provider shall provide an updated Phase 2 Report within thirty (30) Calendar Days of such determination and the Definitive Interconnection Study Process advances to the Interconnection Facilities Study (Section 7.4.g). When the updated Phase 2 report is issued, Transmission Provider shall electronically notify Interconnection Customers in the Cluster that Phase 3 is not required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.
 - iii. If one or more Interconnection Customers withdraws from the Cluster and Transmission Provider determines a full system impact re-study is necessary, Transmission Provider will continue with System Impact re-studies ("Phase 3") as described in Section 7.4.e below, until Transmission Provider determines that no further re-studies are required. If a customer withdraws after Section 7.4.d.i or Section 7.4.d.ii or during the Interconnection Facilities Study and Transmission Provider determines system impact level studies are necessary, the Cluster shall be restudied under the terms of Phase 3. Transmission Provider shall electronically notify Interconnection Customers in the Cluster and post on OASIS that a re-study is required. Interconnection Customers that have elected NRIS may make a onetime change between Phase 2 and Phase 3 (before the re-study starts) to ERIS if they notify Transmission Provider of such change in election within five (5) Business Days of the Transmission Provider's notification the first re-study is required.
- e. Interconnection Customers whose M3 and additional evidence of Site Control is accepted by Transmission Provider shall continue with the third phase ("Phase 3") of the Definitive Interconnection System Impact Study. Phase 3 may consist of updated power flow/voltage analysis, stability analysis, and/or

short circuit analysis if necessary for the Interconnection Customers remaining in the Cluster. Transmission Provider shall use Reasonable Efforts to complete the Phase 3 analysis within one hundred fifty (150) Calendar Days. The results of this analysis shall identify Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades expected to be required to reliably interconnect the Generating Facilities in that Cluster at the requested Interconnection Service level and shall provide non-binding estimates for required upgrades. The Phase 3 Report shall identify each Interconnection Customer's estimated allocated costs for Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades. Transmission Provider shall hold an open stakeholder meeting ("Phase 3 Report Meeting") within ten (10) Business Days of publishing the DISIS Phase 3 results on OASIS. If additional re-studies are required before moving to Phase 4 below, within twenty (20) Calendar Days of the Phase 3 Report Meeting (or Phase 3 Updated Report Meeting), all Interconnection Customers are required to provide an updated Readiness Milestone 3 ("M3"). ~~If the Financial Security Readiness Milestone is used (Section 7.7.1), the increased amount must be supplied by Interconnection Customer, but if the newly calculated M3 decreases, the difference shall be returned to Interconnection Customer, without interest.~~ Readiness Milestones for the Definitive Interconnection Study Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone (or provide security in lieu of the Readiness Milestone) or do not provide Site Control described in Section 7.7.7. by the required date ~~are~~shall be deemed withdrawn from the Queue pursuant to Section 3.7. Transmission Provider shall electronically notify Interconnection Customers in the Cluster when no further re-studies are required and simultaneously provide the Interconnection Facilities Agreement in the form of Appendix 3.

- f. Within twenty (20) Calendar Days of the notice that no System Impact re-studies are needed, each Interconnection Customer is required to provide Readiness Milestone 4 ("M4"), Site Control requirements described in Section 7.7.7, and an executed Interconnection Facilities Agreement in the form of Appendix 3 (completed and including all required data identified therein). Readiness Milestones for the Definitive Interconnection System Process are described in Section 7.7. Interconnection Customers that do not provide the Readiness Milestone, ~~additional (or provide security in lieu of the Readiness Milestone) or do not provide~~ Site Control requirements, ~~and a completed and executed Interconnection Facilities Agreement described in Section 7.7.7.~~ by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.
- g. Twenty (20) Calendar Days after the notice that no further Re-Studies are needed, Transmission Provider shall proceed with the Interconnection Facilities Study phase ("Phase 4") of the Definitive Study Process, described in detail in Section 8 below. An additional study deposit is not required for Phase 4.

At the request of Interconnection Customer or at any time Transmission Provider determines that it will not meet the indicated timeframe for completing the DISIS, Transmission Provider shall notify Interconnection Customer(s) as to the schedule status of the DISIS Cluster. If Transmission Provider is unable to complete the DISIS within the time period, it shall notify Interconnection Customer(s) and provide an estimated completion date with an explanation of the reasons why additional time is required.

Upon request, Transmission Provider shall provide Interconnection Customer all supporting documentation, workpapers, and relevant pre-Interconnection Request and post-Interconnection Request power flow, short circuit and stability databases for the DISIS, subject to confidentiality arrangements consistent with Section 12.1.

~~Interconnection Customer's study cost obligations and refunds shall be as defined in Section 12.3 with the following exceptions. If an Interconnection Customer withdraws from an active Definitive Interconnection Study Process prior to Phase 4, that Interconnection Customer's study cost obligation shall be equal to two (2) times its actual allocated cost of the Definitive Interconnection Study Process. If Interconnection Customer's study cost obligation as defined above exceeds the deposited amount submitted pursuant to Section 3.4.1, then Interconnection Customer shall be responsible for this excess cost. If Interconnection Customer's study cost obligation as defined above is less than the deposited amount submitted pursuant to Section 3.4.1, the difference shall be refunded to Interconnection Customer without interest.~~

7.5 Meeting with Transmission Provider.

Within ten (10) Business Days of furnishing a DISIS study report to Interconnection Customer and posting the report on OASIS, Transmission Provider shall convene an open meeting to discuss the study results. Transmission Provider shall, upon request, also make itself available to meet with individual Interconnection Customers after the study report is provided.

7.6 Re-Study.

If Re-Study of the Definitive Interconnection System Impact Study other than the re-study described above in 7.4.e is required due to a higher or equal priority queued project dropping out of the Queue, or a modification of a higher queued project subject to Section 4.4, Transmission Provider shall notify Interconnection Customer(s) in writing. The Transmission Provider shall make Reasonable Efforts to ensure such Re-Study take no longer than one hundred fifty (150) Calendar Days from the date of notice. Any cost of Re-Study shall be borne by Interconnection Customer(s) being re-studied.

7.7 Readiness Milestones and Site Control.

Meeting the Readiness Milestones ~~is~~are required throughout the Definitive Interconnection Study Process to demonstrate readiness. A customer that does not sufficiently demonstrate readiness by providing a Readiness Milestones is subject to withdrawal as described in Section 3.7 which may include additional penalties.

There are ~~four~~three Readiness Milestone options that demonstrate readiness through the study process (i.e. for Readiness Milestones 1 through 4 (M1) through M4), and Financial Security is the only option available for the last Milestone, Readiness Milestone 5 (M5). Interconnection Customer(s) may choose any available option or combination of options for each Milestone. Interconnection Customer(s) may combine Readiness Milestones, as long as the Readiness Milestones in combination equal the total Generating Facility Capacity (or requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity). For instance, if the required Financial Security calculated for M2 is \$ 10 million dollars for a 500 MW Generating Facility; the Readiness Milestone can be met by providing an executed term sheet for 250 MW of the Generating Facility's Capacity and Financial Security of \$ 5 million dollars. If an Interconnection Customer previously satisfied a Readiness Milestone with a Financial Security option, but elects a non-Financial Security option to satisfy a later Readiness Milestone, the previous Financial Security is returned, without interest.4 (M4).

7.7.1 Financial Security Option

Financial Security is an option to satisfy any of the Milestones required in the Definitive Interconnection Study Process. In all cases, the Financial Security option may be satisfied only by an irrevocable letter of credit or cash. The Readiness Milestone requirement calculated for each Readiness Milestone is the total amount of Financial Security required. When the next Readiness Milestone is due, any Financial Security provided for a previous Readiness Milestone shall be reconciled with the newly calculated amount. In each study report, Transmission Provider shall determine the total Financial Security required.

Transmission Provider shall inform each Interconnection Customer what additional Financial Security is required if the required Financial Security increases, or shall return the net amount of previously provided Financial Security (if cash) if the new Milestone requirement decreases. A prior Readiness Milestone amount becomes "at risk" when the next Readiness Milestone is paid.

For instance, when M3 is paid (twenty percent (20%) of estimated upgrade costs), the M2 amount (ten percent (10%)) of that Financial Security is "at risk." The term "at risk" means that, if the Generating Facility does not reach Commercial Operation or otherwise withdraws (or is deemed withdrawn) from the Queue, the Financial Security is refundable only if such withdrawal: (1) does not negatively affect the

~~timing or cost of equal or lower queued projects; or (2) either (a) if the cost responsibility identified for that Interconnection Customer in the current study increases by more than twenty-five percent (25%) compared to the costs identified in the previous Phase report; or (b) the cost responsibility for that Interconnection Customer identified in the Interconnection Facilities Study report increases by more than one-hundred percent (100%) compared to the Phase 2 Report (See Section 12.3 of this Revised LGIP). Affected System's upgrades are not used to calculate the Financial Security Readiness Milestone or to determine refunds according to Section 12.3.~~

7.7.2 — Readiness Milestone 1 (“M1”).

~~M1 is satisfied by any one or a combination of the four~~three options below (also described in 3.4.1.f) at Interconnection Customer's option. M1 may also be satisfied by providing additional security described in Section 7.7.5 below in lieu of providing one of the three options to demonstrate readiness.

- ~~a) — Financial Security equal to \$2000 per MW of the requested Interconnection Service amount;~~
- ~~b) — Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.~~
- ~~c) — Reasonable evidence the project has been selected in a Resource Plan/Resource Solicitation Process; or~~
- ~~d) — Provisional Large Generator Interconnection Agreement accepted for filing at FERC.~~

7.7.3 — Readiness Milestone 2 (“M2”)

~~M2 is satisfied by any one or a combination of the four options below at Interconnection Customer's option.~~

- ~~a) — Financial Security equal to ten percent (10%) of Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades allocated to Interconnection Customer in the Phase 1 report;~~
- ba) Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary

services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.

- eb) Reasonable evidence ~~that~~ the project has been selected in a Resource Plan; or Resource Solicitation Process; or
- dc) Provisional Large Generator Interconnection Agreement accepted for filing at FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

7.7.42 Readiness Milestone 3 (“M3”)2 (“M2”).

~~M3~~M2 is satisfied by any one ~~or a combination~~ of the ~~four~~three options below at Interconnection Customer's option.

~~a) Financial Security equal to twenty percent (20%) M2 may also be satisfied by providing additional security as described in Section 7.7.5 in lieu of Transmission Provider's Interconnection Facilities and Transmission Provider's Network Upgrades allocated to Interconnection Customer in the Phase 2 report or Phase 3 updated report, whichever is applicable; providing one of the three options to demonstrate readiness.~~

~~ba)~~ Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years.

b) Reasonable evidence that the project has been selected in a Resource Plan or Resource Solicitation Process; or

c) Provisional Large Generator Interconnection Agreement accepted for filing at FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.

7.7.3 Readiness Milestone 3 (“M3”).

M3 is satisfied by any one of the three options below at Interconnection Customer's option. M3 may also be satisfied by providing additional security described in Section 7.7.5 in lieu of providing one of the three options to demonstrate readiness.

a) Executed contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric

storage resource; where the term of sale is not less than five (5) years.

- ~~eb)~~ Reasonable evidence that the project has been selected in an approved Resource Plan; or [Resource Solicitation Process; or](#)
- ~~d)~~ [c\) An unsuspended](#) Provisional Large Generator Interconnection Agreement accepted for filing by FERC with reasonable evidence that the Generating Facility and Interconnection Facilities have commenced design and engineering.

7.7.54 Readiness Milestone 4 (“M4”).

M4 is satisfied by any one ~~or a combination~~ of the ~~four~~[three](#) options below at Interconnection Customer’s option.

~~a) Financial Security equal to thirty percent (30%). M4 may also be satisfied by providing additional security as described in Section 7.7.5 below in lieu of Transmission Provider’s Interconnection Facilities and Transmission Provider’s Network Upgrades allocated to Interconnection Customer in providing one of the most recent report (Phase 2 or 3, as appropriate);~~[three options to demonstrate readiness.](#)

~~ba)~~ Executed contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility’s energy, or (iii) the Generating Facility’s ancillary services and capacity if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;

~~eb)~~ Reasonable evidence that the project has been selected in an approved Resource Plan; or [Resource Solicitation Process; or](#)

~~d)~~ [c\) An unsuspended](#) Provisional Large Generator Interconnection Agreement accepted for filing by FERC with reasonable evidence that the Generating Facility and Interconnection Facilities have commenced construction.

7.7.6 ~~Readiness Milestone 5 (“M5”)~~

~~M5 is satisfied by providing Financial~~ [Security described below. M5 is required prior to execution of the LGIA Requirements.](#)

~~a) Financial Security equal to forty percent (40%) of Transmission Provider’s Interconnection Facilities and Transmission Provider’s Network Upgrades allocated to Interconnection Customer in the Phase 4 report. Thirty percent (30%) of Transmission Provider’s Interconnection Facilities and Transmission Provider’s Network Upgrades allocated to~~

~~Interconnection Customer in the Phase 4 report is considered at-risk.~~

A table showing the security required in each milestone is provided in Appendix A-2. The security amount is dependent on if the customer provided a Readiness Milestone and the study phase the customer is entering. All security described below shall be in the form of an irrevocable letter of credit upon which Transmission Provider may draw or cash. If cash is provided as security, it shall be held in an interest bearing account. The security is refunded to the Interconnection Customer upon withdrawal, LGIA termination, or Commercial Operation after any final invoice is settled. If cash is provided as security, it shall be refunded plus interest, where the interest is calculated using the interest rate of the account in which it was held. Security may be drawn upon if costs under this LGIP including the LGIA remain unpaid as per this Revised LGIP and the attached LGIA.

As part of a valid interconnection request all Interconnection Customers must provide security equal to the study deposit amount as described in Section 3.4.1.h. The security provided in Section 3.1.4.h will be applied towards the amount of security required for M5. An Interconnection Customer may opt to provide security *in lieu* of providing Readiness Milestones 1 through 4, as described above in Sections 7.7.1, 7.7.2, 7.7.3, and 7.7.4. The security provided is applied towards the security amount required for each successive milestone if the Interconnection Customer does not withdraw from the queue. For example, the security provided for M2 is applied to the amount of security required for M3.

In lieu of providing a demonstration of readiness for Milestones 1 through 4, the amount of security required is a multiple of the study deposit described in Section 3.1 and is in addition to the security required for all Interconnection Customers under Sections 3.4.1.h. The additional amount of security required for each milestone for Interconnection Customers that do not provide a demonstration of readiness is:

M1 = 1 times the study deposit amount

M2 = 2 times the study deposit amount

M3 = 4 times the study deposit amount

M4 = 6 times the study deposit amount

For clarity, the total (i.e. inclusive of the security required under Section 3.4.1.h) amount of security required for each milestone for

Interconnection Customers that do not provide a demonstration of readiness is:

M1 = 2 times the study deposit amount

M2 = 3 times the study deposit amount

M3 = 5 times the study deposit amount

M4 = 7 times the study deposit amount

All Interconnection Customers are required to provide security in order to satisfy Readiness Milestone 5 (M5) when the LGIA is executed as described in Section 10.3. The amount of security required for M5 is equal to nine (9) times the Interconnection Customer's share of the Definitive Interconnection Study Process study costs. If this amount is not known, the study deposit amount shall be used as an estimate of study cost until such amounts are known. If initially estimated, M5 shall be updated when the final invoice for actual study costs is issued. As this M5 amount is the total security required to satisfy Readiness Milestone 5, any security provided pursuant to Sections 3.4.1.h, 7.7.5.a, 7.7.5.b, 7.7.1, 7.7.2, 7.7.3, and 7.7.4 shall be applied towards the Readiness Milestone 5 amount when the LGIA is executed. The Interconnection Customer shall only be responsible to provide the incremental amount of security to the Transmission Provider and any excess security provided shall be refunded to the Interconnection Customer. Transmission Provider shall refund all security provided under this section to the Interconnection Customer upon achieving Commercial Operation.

7.7.7 Site Control.

In addition to the above Readiness Milestones, Site Control is required to determine increased readiness through the Definitive Interconnection Study Process. Additional information on Site Control is posted on Transmission Provider's OASIS.

- a) Before entering Phase 1 (concurrent with M1) demonstration of 50% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- b) Before entering Phase 2 (concurrent with M2): continued demonstration of 50% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- c) Before entering Phase 3 (concurrent with M3): demonstration of 60% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.

- d) Before entering Phase 4 (concurrent with M4): demonstration of 75% Site Control and 0% Site Control of Interconnection Customer's Interconnection Facilities is required.
- e) Before executing an LGIA (concurrent with M5): demonstration of 90% Site Control and 50% Site Control of Interconnection Customer's Interconnection Facilities is required.

Section 8. Interconnection Facilities Study.

8.1 Interconnection Facilities Study Agreement.

Simultaneously with the notice to Interconnection Customer(s) that Phase 3 is complete or not required, Transmission Provider shall provide to Interconnection Customer an Interconnection Facilities Study Agreement in the form of Appendix 3 to this Revised LGIP. Within five (5) Business Days following the open DISIS results (Phase 2 or Phase 3) meeting, Transmission Provider shall provide to Interconnection Customer a non-binding good faith estimate of the cost and timeframe for completing the Interconnection Facilities Study. The Interconnection Facilities Study Agreement shall provide that Interconnection Customer shall compensate Transmission Provider for the actual cost of the Interconnection Facilities Study. Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to Transmission Provider within twenty (20) Calendar Days after its receipt, together with the required technical data, Readiness Milestone 4 and the Site Control requirements described in Section 7.7.7. Interconnection Customers that do not provide the Readiness Milestone (or additional security in lieu of the Readiness Milestone) and provide Site Control described in Section 7.7.7. by the required date shall be deemed withdrawn from the Queue pursuant to Section 3.7.

8.2 Scope of Interconnection Facilities Study.

The Interconnection Facilities Study shall specify and provide a non-binding estimate of the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the final Phase 2 or Phase 3 Report (as appropriate) in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facilities to the Transmission System. The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Transmission Provider's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities.

The Interconnection Facilities Study will also identify any potential control equipment for requests for Interconnection Service that are lower than the Generating Facility Capacity.

8.3 Interconnection Facilities Study Procedures.

- a. Transmission Provider shall coordinate the Interconnection Facilities Study with any Affected System pursuant to Section 3.6 above. Transmission Provider shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. Transmission Provider shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to Interconnection Customer within ninety (90) Calendar Days after acceptance of the Interconnection Facilities Agreement and Readiness Milestone 4.
- b. At the request of Interconnection Customer Transmission Provider shall notify Interconnection Customer as to the schedule status of the Interconnection Facilities Study. If Transmission Provider is unable to complete the Interconnection Facilities Study and issue a draft Interconnection Facilities Study report within the time identified, it shall notify Interconnection Customer and provide an estimated completion date and an explanation of the reasons why additional time is required.
- c. Interconnection Customer may, within thirty (30) Calendar Days after receipt of the draft Interconnection Facilities Study report, provide written comments to Transmission Provider, which Transmission Provider shall consider in completing the final Interconnection Facilities Study report. Transmission Provider shall issue the final Interconnection Facilities Study report within fifteen (15) Business Days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. Transmission Provider may reasonably extend such fifteen (15) Business Day period upon notice to Interconnection Customer if Interconnection Customer's comments require Transmission Provider to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Study report. Upon request, Transmission Provider shall provide Interconnection Customer supporting documentation, workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study, subject to confidentiality arrangements consistent with Section 12.1.
- d. ~~Interconnection Customer's study cost obligations and refunds shall be as defined in Section 8.1 and Section 12.3 with the following exception. An Interconnection Customer that withdraws during or after the completion of the Interconnection Facilities Study shall receive no refund of its study deposit unless the upgrade cost estimate determined in the Interconnection Facilities Study exceeds the facilities cost estimate from the final DISIS report (Phase 2 or 3, as applicable) by twenty five percent (25%) or more. In such case where Interconnection Customer withdraws (or is deemed to withdraw), Interconnection Customer's study cost~~

~~obligation shall be equal to two (2) times the actual cost of such Interconnection Facilities Study. If Interconnection Customer's total Definitive Interconnection Study Process cost obligation exceeds the deposited amount submitted pursuant to Section 3.1, then Interconnection Customer shall be responsible for this excess cost. If Interconnection Customer's total Definitive Interconnection Study Process cost obligation is less than the deposited amount submitted pursuant to Section 3.1, the difference shall be refunded to Interconnection Customer, without interest.~~

8.4 Meeting with Transmission Provider.

Within ten (10) Business Days of providing a draft Interconnection Facilities Study report to Interconnection Customer, Transmission Provider and Interconnection Customer shall meet to discuss the results of the Interconnection Facilities Study.

8.5 Re-Study.

If Re-Study of the Interconnection Facilities Study is required due to a higher or equal priority queued project dropping out of the Queue or a modification of a higher queued project pursuant to Section 4.4, Transmission Provider shall so notify Interconnection Customer in writing. The Transmission Provider shall make Reasonable Efforts to ensure such Re-Study take no longer than sixty (60) Calendar Days from the date of notice. Re-Studies that require rerunning the system impact study analysis may take longer than sixty days. Any cost of Re-Study shall be borne by the Interconnection Customer(s) being re-studied.

Section 9. Engineering & Procurement ("E&P") Agreement.

Prior to executing an LGIA, an Interconnection Customer may, in order to advance the implementation of its interconnection, request and Transmission Provider shall offer the Interconnection Customer, an E&P Agreement that authorizes Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, Transmission Provider shall not be obligated to offer an E&P Agreement if Interconnection Customer is in Dispute Resolution as a result of an allegation that Interconnection Customer has failed to meet any Readiness Milestones or comply with any prerequisites specified in other parts of the Revised LGIP. The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Queue Position or In-Service Date. The E&P Agreement shall provide for Interconnection Customer to pay the cost of all activities authorized by Interconnection Customer and to make advance payments or provide other satisfactory security for such costs.

Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or

equipment later become unnecessary. If Interconnection Customer withdraws its application for interconnection or either Party terminates the E&P Agreement, to the extent the equipment ordered can be canceled under reasonable terms, Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, Transmission Provider may elect: (i) to take title to the equipment, in which event Transmission Provider shall refund Interconnection Customer any amounts paid by Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to Interconnection Customer, in which event Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

Section 10. Standard Large Generator Interconnection Agreement (LGIA).

10.1 Tender.

Interconnection Customer shall tender comments on the draft Interconnection Facilities Study Report within thirty (30) Calendar Days of receipt of the report. Within thirty (30) Calendar Days after the comments are submitted or after the Interconnection Customer notifies Transmission Provider that it will provide no comments, Transmission Provider shall tender a draft LGIA, together with draft appendices ~~to the extent practical.~~ The draft LGIA shall be in the form of Transmission Provider's FERC-approved standard form LGIA, which is in Appendix 8.6. Interconnection Customer shall ~~execute and~~ return the completed draft appendices and execute the LGIA within thirty (30) Calendar Days unless the sixty (60) Calendar Day negotiation period under Section 10.2 has commenced.

10.2 Negotiation.

Notwithstanding Section 10.1, at the request of Interconnection Customer, Transmission Provider shall begin negotiations with Interconnection Customer concerning the appendices to the LGIA at any time after Interconnection Customer executes the Interconnection Facilities Study Agreement. Transmission Provider and Interconnection Customer shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender of the final Interconnection Facilities Study Report. If Interconnection Customer determines that negotiations are at an impasse, Interconnection Customer may request termination of the negotiations at any time after tender of the draft LGIA pursuant to Section 10.1 and request submission of the unexecuted LGIA with FERC or initiate Dispute Resolution procedures pursuant to Section 12.5. If Interconnection Customer requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Interconnection Request. Unless otherwise agreed by the Parties, if Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute

Resolution procedures pursuant to Section 12.5 within sixty (60) Calendar Days of tender of draft LGIA, it shall be deemed to have withdrawn its Interconnection Request. Transmission Provider shall provide to Interconnection Customer a final LGIA within fifteen (15) Business Days after the completion of the negotiation process.

10.3 Execution and Filing.

~~Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer shall provide Transmission Provider Readiness Milestone 5 as defined in Section 7.7, including reasonable evidence of Site Control. At the same time~~Within fifteen (15) Business Days after receipt of the final LGIA, Interconnection Customer shall (a) provide reasonable evidence that continued Site Control as defined in Section 7.7.7 and (b) post Readiness Milestone 5 (security equal to nine (9) times that Interconnection Customer's share of the Definitive Interconnection Study Process study costs. If the actual study costs are not known at the time, study costs shall be estimated as the study deposit described in Section 3.1, and the M5 amount shall be updated when the study costs are known. If the Interconnection Customer does not reach Commercial Operation, upon payment of any final invoice, including any Withdrawal Penalty, Readiness Milestone 5 shall be refunded to the Interconnection Customer, including any accumulated interest, if applicable. If the Interconnection Customer reaches Commercial Operation, Readiness Milestone 5 is refunded to the Interconnection Customer including any accumulated interest, if applicable.~~Within fifteen (15) Business Days after receipt of the final LGIA,~~ Interconnection Customer also shall provide reasonable evidence that one or more of the following milestones in the development of the Large Generating Facility, at Interconnection Customer election, has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Large Generating Facility (not available for wind or solar resources); (ii) the execution of a contract for the supply of cooling water to the Large Generating Facility (not available for wind or solar resources); (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Large Generating Facility; (iv) execution of a contract (or comparable evidence) for the sale of electric energy or capacity from the Large Generating Facility; or (v) application for an air, water, or land use permit.

Interconnection Customer shall either: (i) execute two originals of the tendered LGIA and return them to Transmission Provider; or (ii) request in writing that Transmission Provider file with FERC an LGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the two executed originals of the tendered LGIA (if it does not conform with a FERC-approved standard form of interconnection agreement) or the request to file an unexecuted LGIA, Transmission Provider shall file the LGIA with FERC, together with its explanation of any matters as to which Interconnection Customer and Transmission Provider disagree and support for the costs that Transmission Provider proposes to charge to Interconnection Customer under the LGIA. An unexecuted LGIA should contain terms and conditions deemed appropriate by

Transmission Provider for the Interconnection Request. If the Parties agree to proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted LGIA, they may proceed pending FERC action.

10.4 Commencement of Interconnection Activities.

If Interconnection Customer executes the final LGIA, Transmission Provider and Interconnection Customer shall perform their respective obligations in accordance with the terms of the LGIA, subject to modification by FERC. Upon submission of an unexecuted LGIA, Interconnection Customer and Transmission Provider shall promptly comply with the unexecuted LGIA, subject to modification by FERC.

Section 11. Construction of Transmission Provider's Interconnection Facilities and Network Upgrades.

11.1 Schedule.

Transmission Provider and Interconnection Customer shall negotiate in good faith concerning a schedule for the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades.

11.2 Construction Sequencing.

11.2.1 General.

In general, the In-Service Date of an Interconnection Customers seeking interconnection to the Transmission System will determine the sequence of construction of Network Upgrades. Construction Sequencing may also apply to shared Transmission Provider's Interconnection Facilities in a similar manner as described below for Network Upgrades.

11.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than Interconnection Customer.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: (i) were assumed in the Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such In-Service Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than Interconnection Customer that is seeking interconnection to the Transmission System, in time to support such In-Service Date. Upon such request, Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that

Interconnection Customer commits to pay Transmission Provider: (i) any associated expediting costs; and (ii) the cost of such Network Upgrades.

Transmission Provider will refund to Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the LGIA. Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that Transmission Provider has not refunded to Interconnection Customer. Payment by that entity shall be due on the date that it would have been due had there been no request for advance construction. Transmission Provider shall forward to Interconnection Customer the amount paid by the entity with a contractual obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to Interconnection Customer. Transmission Provider then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the LGIA.

11.2.3 Advancing Construction of Network Upgrades that are Part of an Expansion Plan of the Transmission Provider.

An Interconnection Customer with an LGIA, in order to maintain its In-Service Date, may request that Transmission Provider advance to the extent necessary the completion of Network Upgrades that: (i) are necessary to support such In-Service Date; and (ii) would otherwise not be completed, pursuant to an expansion plan of Transmission Provider, in time to support such In-Service Date. Upon such request, Transmission Provider will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that Interconnection Customer commits to pay Transmission Provider any associated expediting costs. Interconnection Customer shall be entitled to transmission credits, if any, for any expediting costs paid.

11.2.4 Amended Definitive Interconnection System Impact Study.

A Definitive Interconnection System Impact Study may be amended to determine the facilities necessary to support the requested In-Service Date. This amended study will include those transmission and Large Generating Facilities that are expected to be in service on or before the requested In-Service Date.

Section 12. Miscellaneous.

12.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of an LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

12.1.1 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the LGIA; or (6) is required, in accordance with Section 12.1.6, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the LGIA

Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

12.1.2 Release of Confidential Information.

Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been

advised of the confidentiality provisions of this Section 12.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 12.1.

12.1.3 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

12.1.4 No Warranties.

By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

12.1.5 Standard of Care.

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under these procedures or its regulatory requirements.

12.1.6 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of the LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

12.1.7 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Section 12.1. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Section 12.1, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Section 12.1, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 12.1.

12.1.8 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Section 12.1 to the contrary, and pursuant to 18 CFR Section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to the Revised LGIP, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR Section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR Section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules and regulations.

12.1.9 Subject to the exception in Section 12.1.8, any information that a Party claims is competitively sensitive, commercial or financial information ("Confidential Information") shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in

connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this Revised LGIP or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a subregional, regional or national reliability organization or planning group. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

- 12.1.10** This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a Breach of this provision).

Transmission Provider shall, at Interconnection Customer's election, destroy, in a confidential manner, or return the Confidential Information provided at the time of Confidential Information is no longer needed.

12.2 Delegation of Responsibility.

Transmission Provider may use the services of subcontractors as it deems appropriate to perform its obligations under this Revised LGIP. Transmission Provider shall remain primarily liable to Interconnection Customer for the performance of such subcontractors and compliance with its obligations of this Revised LGIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and no other purpose.

12.3 Obligation for Study Costs and Readiness Milestone Payments.Withdrawal Penalty

~~Except as provided in Section 7.3 and Section 8.3.d,~~ Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Studies and the Withdrawal Penalty, as applicable. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded ~~to Interconnection Customer,~~ except as otherwise provided herein, ~~without interest.~~ Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study as well as the Withdrawal Penalty, if

applicable. Interconnection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice—~~therefore.~~ Transmission Provider shall not be obligated to perform or continue to perform any studies unless Interconnection Customer has paid all undisputed amounts in compliance herewith. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided under this Revised LGIP to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

~~For the Definitive Interconnection Study Process, Financial Security Readiness Milestones provided pursuant to Section 7.4, Section 7.7, Section 8.1, and Section 10.3 shall be reconciled against the newly calculated amount when the next Readiness Milestone is due, and thereafter shall be reconciled against LGIA Milestone amounts. Notwithstanding the foregoing sentence, in the event that Interconnection Customer provides Financial Security for Readiness Milestones and withdraws its Interconnection Request prior to Commercial Operation of the entire Generating Facility, or Interconnection Customer otherwise terminates its Interconnection Agreement, Transmission Provider shall refund the Readiness Milestone Payment only under the following circumstances: if such withdrawal or termination (1) does not negatively affect the timing or cost of equal or lower queued projects; or (2) either (a) if the cost responsibility for that Interconnection Customer in the most recent study report increased by more than twenty-five percent (25%) compared to the costs identified in the previous phase report and the withdrawal occurs before the next Readiness Milestone is provided; or (b) the cost responsibility for that Interconnection Customer identified in the Interconnection Facilities Study report increases by more than one-hundred percent (100%) compared to the cost responsibility for that Interconnection Customer identified in the Phase 2 Report and the withdrawal occurs before the LGIA is executed. In such circumstances, the Financial Security associated with Readiness Milestone payments shall be refunded in full. Any non-refunded Readiness Milestone Payments shall be used (proportionally to the estimated costs of such Network Upgrades) for the construction of Network Upgrades to defer the costs of the Network Upgrades assigned to Interconnection Requests remaining in that DISIS Cluster or, if the Financial Security held is greater than the cost of the Network Upgrades in that DISIS Cluster, then the Financial Security shall be used to defer costs of Network Upgrades in subsequent clusters.~~

12.4 Third Parties Conducting Studies.

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) Interconnection Customer receives notice pursuant to Sections 7.4 or 8.3 that Transmission Provider will not complete an Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) Interconnection Customer receives neither the Interconnection Study nor a notice under Sections 7.4 or 8.3 within the applicable timeframe for such Interconnection Study, then

Interconnection Customer may require Transmission Provider to utilize a third party consultant reasonably acceptable to Interconnection Customer and Transmission Provider to perform such Interconnection Study under the direction of Transmission Provider. At other times, Transmission Provider may also utilize a third party consultant to perform such Interconnection Study, either in response to a general request of Interconnection Customer, or on its own volition.

In all cases, use of a third party consultant shall be in accord with Article 26 of the LGIA (Subcontractors) and limited to situations where Transmission Provider determines that doing so will help maintain or accelerate the study process for Interconnection Customer's pending Interconnection Request and not interfere with Transmission Provider's progress on Interconnection Studies for other pending Interconnection Requests. In cases where Interconnection Customer requests use of a third party consultant to perform such Interconnection Study, Interconnection Customer and Transmission Provider shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. Transmission Provider shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as soon as practicable upon Interconnection Customer's request subject to the confidentiality provision in Section 12.1. In any case, such third party contract may be entered into with either Interconnection Customer or Transmission Provider at Transmission Provider's discretion. In the case of clause (iii), above, Interconnection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such third party study. Such third party consultant shall be required to comply with this Revised LGIP, Article 26 of the LGIA (Subcontractors), and the relevant Tariff procedures and protocols as would apply if Transmission Provider were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes. Transmission Provider shall cooperate with such third party consultant and Interconnection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

12.5 Disputes.

12.5.1 Submission.

In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with the LGIA, the Revised LGIP, or their performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon

mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

12.5.2 External Arbitration Procedures.

Any arbitration initiated under these procedures shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Section 12, the terms of this Section 12 shall prevail.

12.5.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the LGIA and Revised LGIP and shall have no power to modify or change any provision of the LGIA and Revised LGIP in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

12.5.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one-half of the cost of the third arbitrator chosen; or (2) one-half the cost of the single arbitrator jointly chosen by the Parties.

12.5.5 Non-Binding Dispute Resolution Procedures.

If a Party has submitted a Notice of Dispute pursuant to Section 12.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue the Section 12.5 arbitration process, a Party may request that Transmission Provider engage in Non-binding Dispute Resolution pursuant to this section by providing written notice to Transmission Provider ("Request for Non-binding Dispute Resolution"). Conversely, either Party may file a Request for Non-binding Dispute Resolution pursuant to this section without first seeking mutual agreement to pursue the Section 12.5 arbitration process. The process in Section 12.5.5 shall serve as an alternative to, and not a replacement of, the Section 12.5 arbitration process. Pursuant to this process, Transmission Provider must within thirty (30) Calendar Days of receipt of the Request for Non-binding Dispute Resolution appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with either Party. Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. This decision-maker shall be authorized only to interpret and apply the provisions of the Revised LGIP and LGIA and shall have no power to modify or change any provision of the Revised LGIP and LGIA in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in the non-binding dispute resolution process in future dispute resolution processes, including in Section 12.5 arbitration, or in a Federal Power Act Section 206 complaint. Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute.

12.6 Local Furnishing Bonds.

12.6.1 Transmission Providers That Own Facilities Financed by Local Furnishing Bonds.

This provision is applicable only to a Transmission Provider that has financed facilities for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue

Code ("local furnishing bonds"). Notwithstanding any other provision of this LGIA and Revised LGIP, Transmission Provider shall not be required to provide Interconnection Service to Interconnection Customer pursuant to this LGIA and Revised LGIP if the provision of such Transmission Service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance Transmission Provider's facilities that would be used in providing such Interconnection Service.

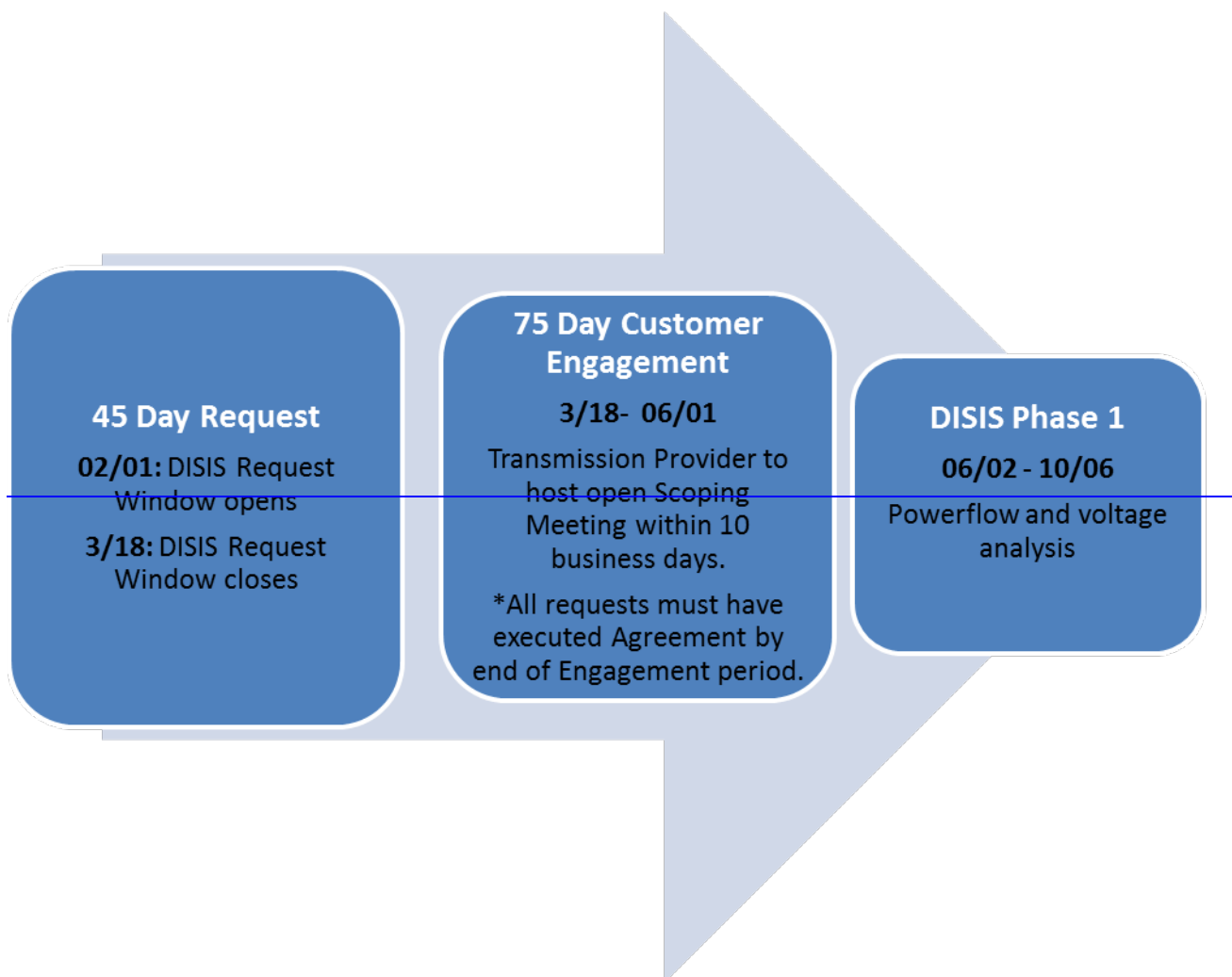
12.6.2 Alternative Procedures for Requesting Interconnection Service.

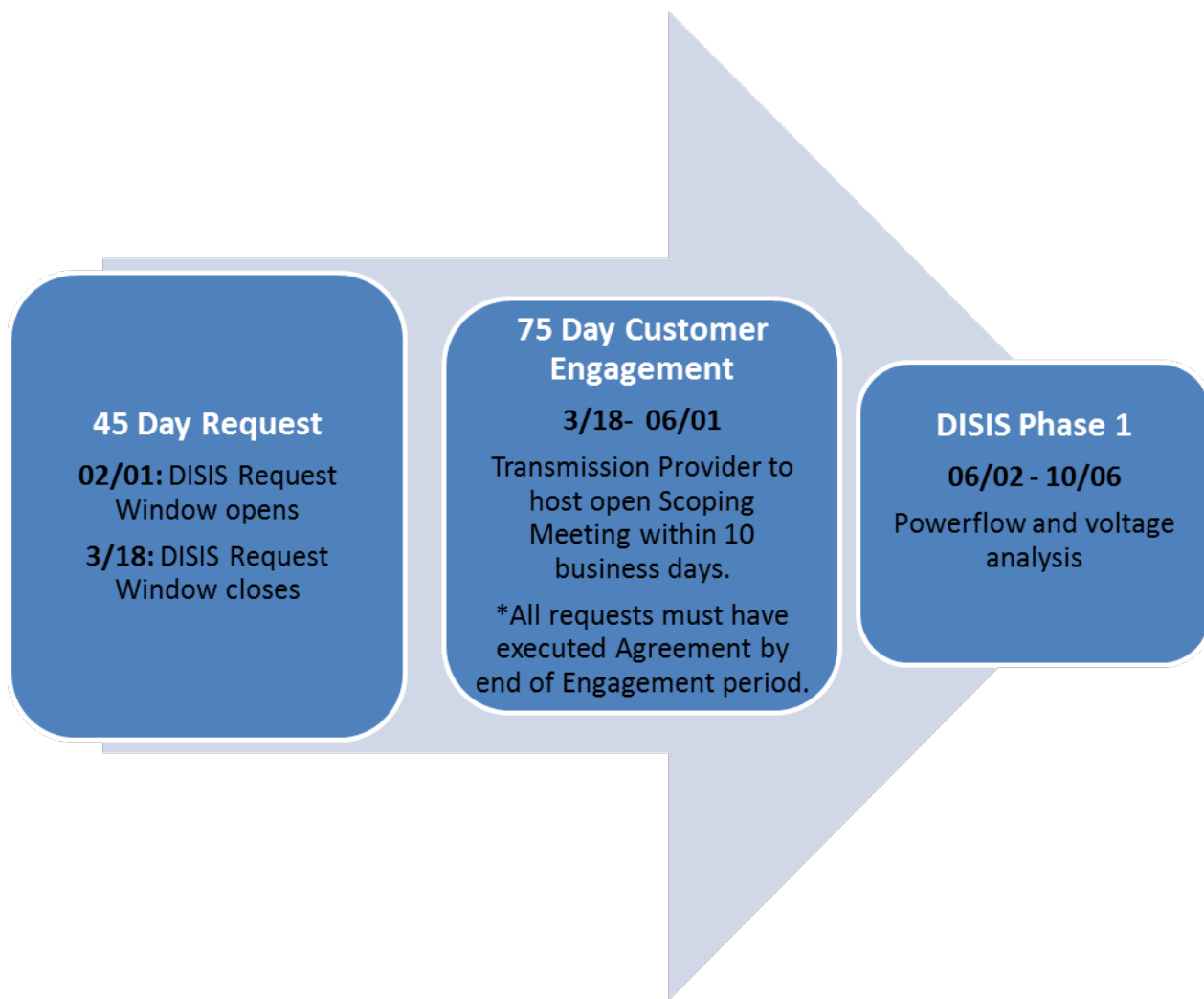
If Transmission Provider determines that the provision of Interconnection Service requested by Interconnection Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance its facilities that would be used in providing such Interconnection Service, it shall advise Interconnection Customer within thirty (30) Calendar Days of receipt of the Interconnection Request.

Interconnection Customer thereafter may renew its request for interconnection using the process specified in Article 5.2(ii) of the Transmission Provider's Tariff.

Timeline: Appendix A-1 – Start of the Spring DISIS Cluster

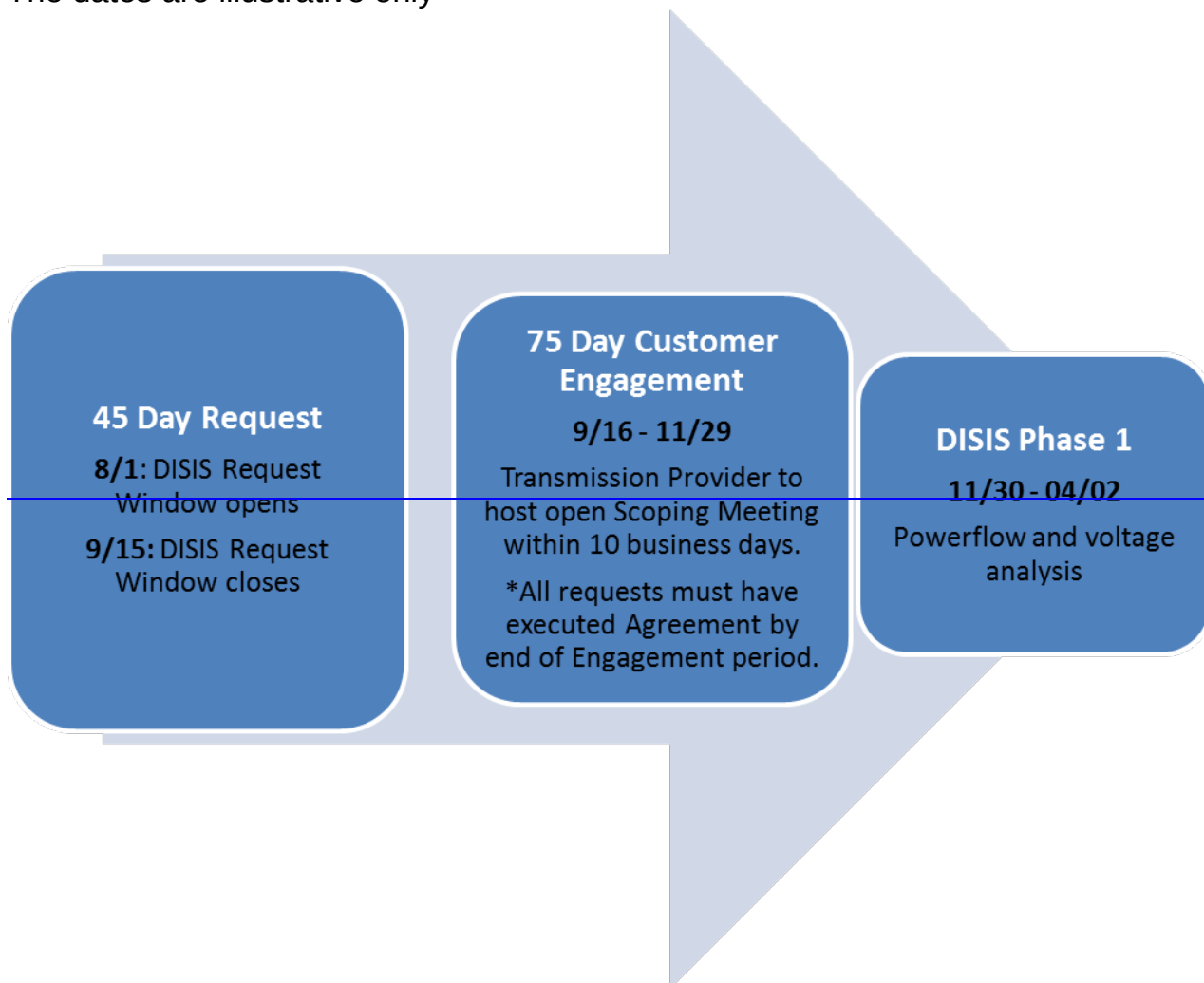
The dates are illustrative only

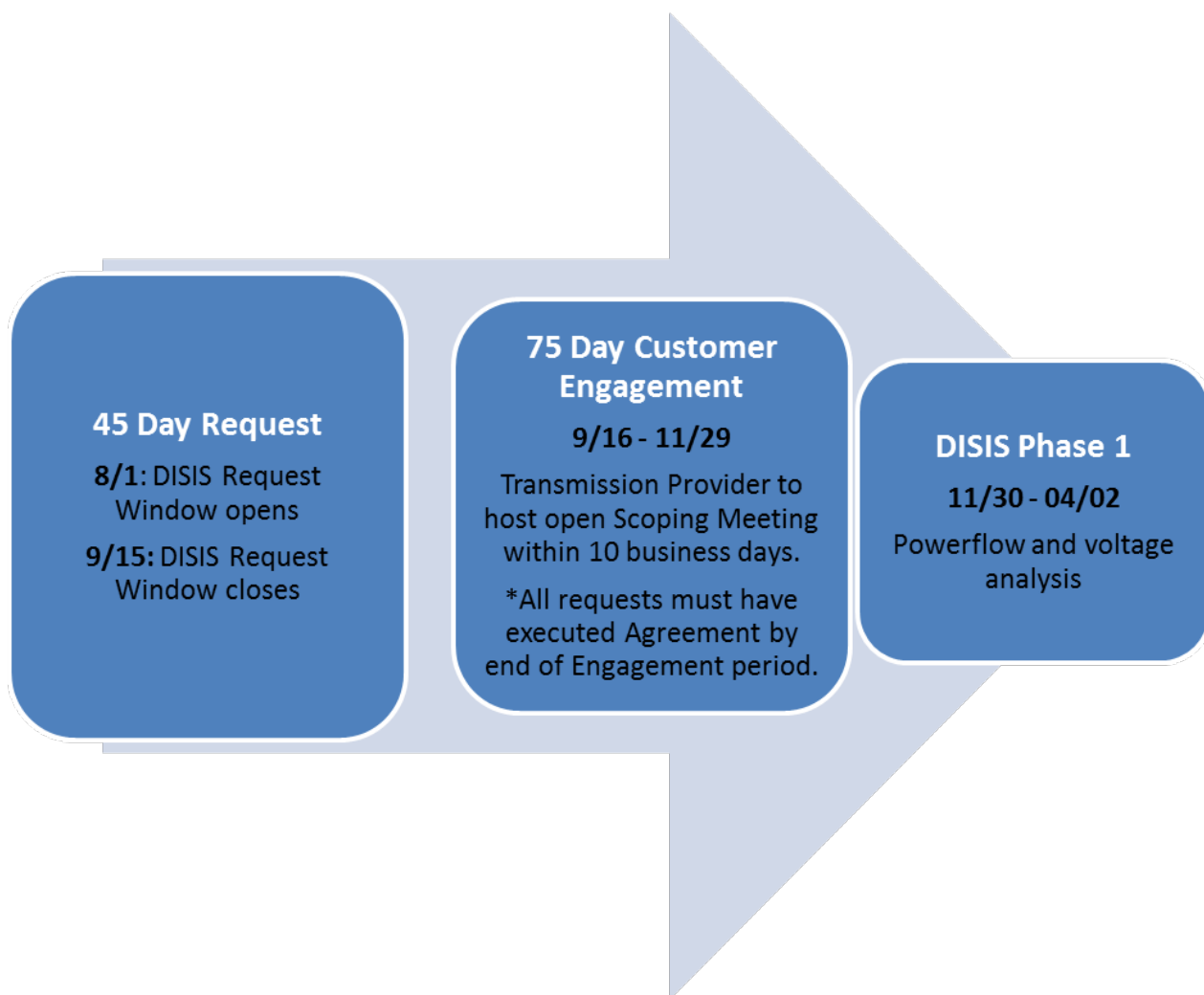




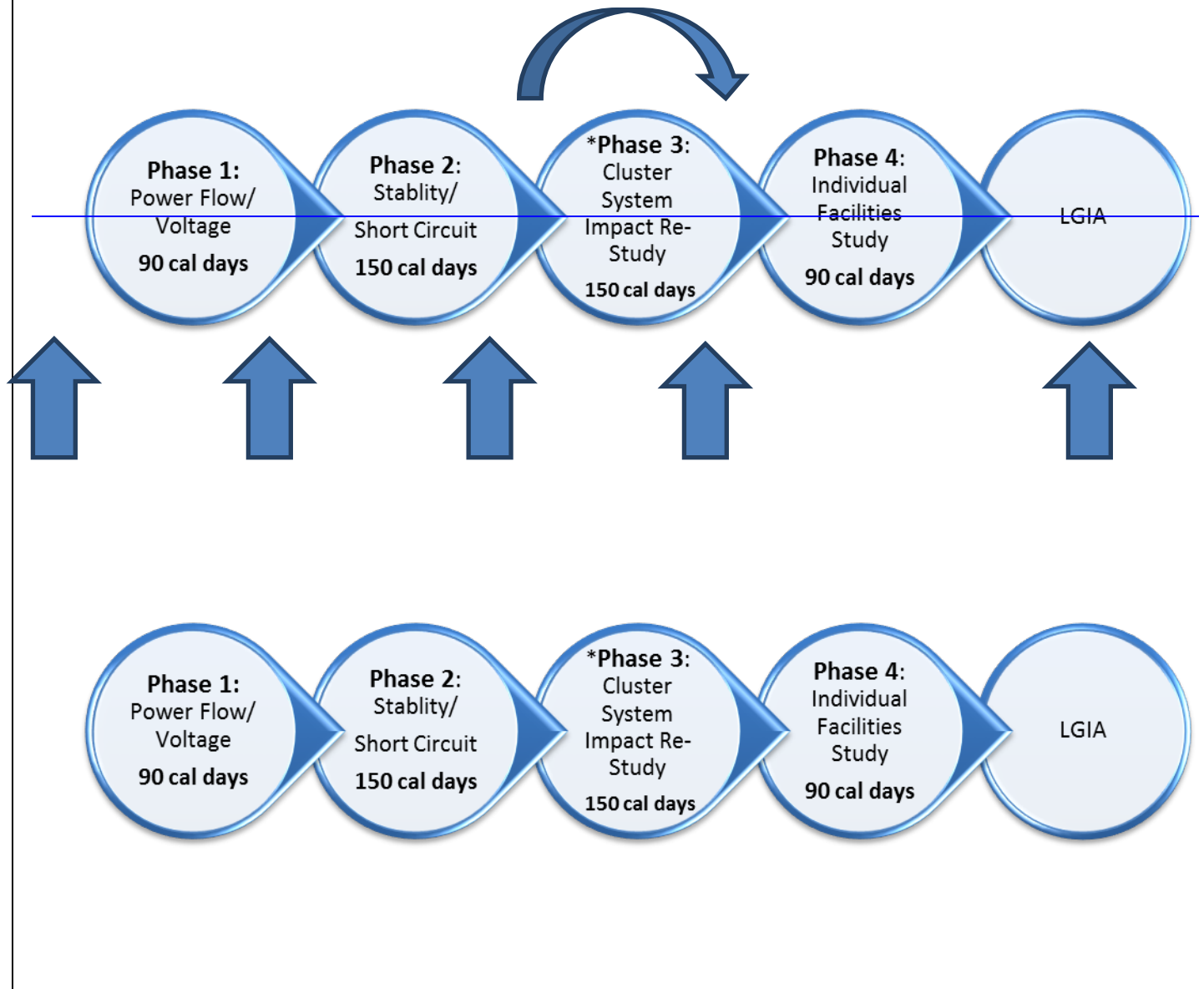
Timeline: Appendix A-1 – Start of the Fall DISIS Cluster

The dates are illustrative only





Timeline: Appendix A-2



M1

M2

M3

M4

M5

Milestone	Financial/Total Security	Total Security Required	Demonstration of Site Control	Site Control

	~~(% is Required (Multiple of upgrade costs) Section 3.1 Study Deposit) If Demonstration of Readiness IS Provided~~	(Multiple of Section 3.1 Study Deposit) If Demonstration of Readiness <u>IS NOT</u> Provided	for All Fuel Types	of ICIF's
M1	~~\$2000/MW~~ <u>1x</u>	2x	50%	0%
M2	~~10%~~ <u>1x</u>	3x	50%	0%
M3	~~20%~~ <u>1x</u>	5x	60%	0%
M4	~~30%~~ <u>1x</u>	7x	75%	0%
M5	~~40%~~ <u>9x</u>	9x	90%	50%

Phase 1: Power Flow/Voltage: Within 90 calendar days

- Transmission Provider to perform Power Flow and Voltage Analysis.
- Transmission Provider to complete Phase 1 report within 90 calendar days and post results on OASIS.
- Transmission Provider to hold open Stakeholder Meeting within 10 business days of publishing DISIS Phase 1 results on OASIS.
- Interconnection Customer demonstrate M2 Readiness within 20 business days following open Stakeholder Meeting

Phase 2: Stability/Short Circuit: Within 150 calendar days

- Transmission Provider to complete Phase 2 analysis within 150 calendar and post results on OASIS.
- Transmission Provider to hold Phase 2 Report Meeting within 10 business days of publishing report results on OASIS.
- Interconnection Customer to demonstrate M3 (if Re-Study is necessary) or M4 Readiness within 20 business days of Report Meeting.

******Phase 3: Iterative Cluster System Impact Re-Study: Within 150 calendar days**

****May not be necessary****

- If a Re-Study is needed, Transmission Provider perform Phase 3 Re-Study within 150 calendar days and post Re-Study results on OASIS.
- Transmission Provider to hold open Interconnection Customer Report Meeting within 10 business days of publishing Re-Study results on OASIS.
- Interconnection Customer to demonstrate M4 Readiness if no further System Impact Re-Studies are necessary within 20 business days of Report Meeting.

Phase 4: Individual Facilities Study: Within 90 calendar days

- Transmission Provider to complete Facilities Study, complete and submit draft Facilities Study Report to Interconnection Customer and post results of Study on OASIS within 90 calendar days from start of Phase 4.
- Transmission Provider to hold open Interconnection Customer Report Meeting within 10 business days of end of Phase 4.
- Interconnection Customer to provide written comments of Facilities Study Report to Transmission Provider within 30 days of receipt of draft Facilities Study Report.
- Transmission Provider to issue Final ~~Facilities~~ Facilities Study Report to Customer within 15 business days of receiving Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments.

Phase 5: LGIA:

- Transmission Provider to provide Interconnection Customer with draft LGIA within 30 calendar days of receipt of Interconnection Customer's Facilities Study comments.
- Interconnection Customer to execute and return completed draft appendices within 30 calendar days of receipt of draft LGIA.
- Deadline for LGIA negotiations to be completed within 60 calendar days of after tender of the final Interconnection Facilities Study Report.
- Deadline for filing or executing LGIA is within 60 calendar days of after tender the draft LGIA provided to Interconnection Customer.
- Interconnection Customer to satisfy ~~M5 Financial Security~~ Readiness Milestone 5 within 15 business days of receiving final LGIA

**APPENDIX 1 to Revised LGIP
INTERCONNECTION REQUEST FOR A
LARGE GENERATING FACILITY**

1. The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility with Transmission Provider's Transmission System pursuant to a Tariff.
2. This Interconnection Request is for (check one):
☐ A proposed new Large Generating Facility.
☐ An increase in the generating capacity or a Material Modification of an existing Generating Facility.
☐ A Generating Facility proposed for inclusion in a resource solicitation process.
3. The type of interconnection service requested (check one):
☐ Energy Resource Interconnection Service
☐ Network Resource Interconnection Service
4. Interconnection Customer provides the following information:
 - a. Address or location or the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;
 - b. Maximum summer at ____ degrees C and winter at ____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
 - c. General description of the equipment configuration;
 - d. Commercial Operation Date (Day, Month, and Year);
 - e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;
 - f. Approximate location of the proposed Point of Interconnection (optional);
 - g. Interconnection Customer Data (set forth in Attachment A)
 - h. Primary frequency response operating range for electric storage resources.
 - i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity).

5. ~~Applicable~~ 5. Interconnection Customer provides applicable study deposit amount as specified in the Revised LGIP.

\$75,000 for requests of less than 50 MW; or
\$150,000 for requests of 50 MW and Greater, but less than 200 MW; or
\$250,000 for requests of 200 MW and greater

6. Interconnection Customer provides Readiness Milestone 1 (M1) as specified in the Revised LGIP.

~~One or a combination of the following totaling the entire capacity of the Generating Facility (or requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility Capacity):~~

~~i. Financial Security equal to \$2000 per /MW electrical output of the proposed Generating Facility;~~

~~ii. M1 is satisfied by any one of the three options below (also described in 3.4.1.f of the Revised LGIP) at Interconnection Customer's option. M1 may also be satisfied by providing additional security described in Section 7.7.5 in lieu of providing one of the three options to demonstrate readiness.~~

~~i. Executed term sheet (or comparable evidence) related to a contract, binding upon the parties to the contract, for sale of (i) the constructed Generating Facility, (ii) the Generating Facility's energy, or (iii) the Generating Facility's ancillary services if the Generating Facility is an electric storage resource; where the term of sale is not less than five (5) years;~~

~~iii. Reasonable evidence the project has been selected in a Resource Plan or Resource Solicitation Process; or~~

~~iv. Provisional Large Generator Interconnection Agreement accepted for filing with FERC. Such an agreement shall not be suspended and shall include a commitment to construct the Generating Facility.~~

~~77. Interconnection Customer provides security equal to one times the study deposit described in Section 3.1 of the Revised LGIP in the form of an irrevocable letter of credit or cash.~~

~~8. If requesting NRIS: Interconnection Customer provides the expected point of delivery to deliver within the Transmission Provider's Control Area or to an adjoining Control Area if the Generating Facility is not designated a Network Resource pursuant to Section 30.2 of the Tariff.~~

~~8. 9. Interconnection Customer provides Evidence of Site Control as specified in the Revised LGIP and Transmission Provider's business practices posted on OASIS.~~

~~910. This Interconnection Request shall be submitted to the representative indicated below:~~

~~[To be completed by Transmission Provider]~~

~~1011. Representative of Interconnection Customer to contact:~~

~~[To be completed by Interconnection Customer]~~

~~1112~~ 1112. This Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

**Attachment A to Appendix 1
Interconnection Request**

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____	°F _____	Voltage _____
Power Factor _____		
Speed (RPM) _____	Connection (e.g. Wye) _____	
Short Circuit Ratio _____	Frequency, Hertz _____	
Stator Amperes at Rated kVA _____		Field Volts _____
Max Turbine MW _____	°F _____	

Primary frequency response operating range for electric storage resources.

Minimum State of Charge: _____
Maximum State of Charge: _____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/kVA
Moment-of-Inertia, WR^2 = _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

DIRECT AXIS QUADRATURE AXIS

Synchronous – saturated	X_{dv} _____	X_{qv} _____
Synchronous – unsaturated	X_{di} _____	X_{qi} _____
Transient – saturated	X'_{dv} _____	X'_{qv} _____
Transient – unsaturated	X'_{di} _____	X'_{qi} _____

Subtransient – saturated	X''_{dv} _____	X''_{qv} _____
Subtransient – unsaturated	X''_{di} _____	X''_{qi} _____
Negative Sequence – saturated	X_{2v} _____	
Negative Sequence – unsaturated	X_{2i} _____	
Zero Sequence – saturated	X_{0v} _____	
Zero Sequence – unsaturated	X_{0i} _____	
Leakage Reactance	X_{lm} _____	

Open Circuit	T'_{do} _____	T'_{qo} _____
Three-Phase Short Circuit Transient	T'_{d3} _____	T'_q _____
Line to Line Short Circuit Transient	T'_{d1} _____	
Short Circuit Subtransient	T''_d _____	T''_q _____
Open Circuit Subtransient	T'_{d2} _____	
Line to Neutral Short Circuit Transient	T''_{do} _____	T''_{qo} _____

FIELD TIME CONSTANT DATA (SEC)
ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T_{a3} _____
Line to Line Short Circuit	T_{a2} _____
Line to Neutral Short Circuit	T_{a1} _____

NOTE: If requested information is not applicable, indicate by marking "N/A."

MW CAPABILITY AND PLANT CONFIGURATION
LARGE GENERATING FACILITY DATA

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R_1 _____
Negative	R_2 _____
Zero	R_0 _____

Rotor Short Time Thermal Capacity $I_2^2 t =$ _____
Field Current at Rated kVA, Armature Voltage and PF = _____ amps
Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps
Three Phase Armature Winding Capacitance = _____ microfarad
Field Winding Resistance = _____ ohms _____ °C
Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves. Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity Self-cooled/
Maximum Nameplate
_____/_____ kVA

Voltage Ratio(Generator Side/System side/Tertiary)
_____/_____/_____ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))
_____/_____/_____

Fixed Taps Available _____

Present Tap Setting _____

If more than one transformer stage is used to deliver the output from the proposed Generating Facility to the Transmission System, please provide the information above for each transformer or transformer type.

IMPEDANCE

Positive
 Z_1 (on self-cooled kVA rating) _____ % _____ X/R

Zero
 Z_0 (on self-cooled kVA rating) _____ % _____ X/R

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND AND OTHER NON-SYNCHRONOUS GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

Elevation: _____ Single Phase _____ Three Phase _____

Inverter manufacturer, model name, number, and version:

List of adjustable setpoints for the protective equipment or software:

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

Project Information: Site Control and Adequacy

Total acres required to construct the Generating Facility: _____

Total acres under site control for the Generating Facility at the time of application:

Is Site Control required for Interconnection Facilities, i.e. transmission gen-tie or substation, to interconnect the Generating Facility? ___ Y ___ N

If yes, how many miles of gen-tie right-of-way are required? _____

What is the total number of acres required to build the gen-tie? _____

How many miles of gen-tie right-of-way are under Site Control at the time of this application?

List any local, state, or federal government permits required to construct the Generating Facility and any applicable Interconnection Facilities, i.e. transmission gen-tie:

INDUCTION GENERATORS

- (*) Field Volts: _____
- (*) Field Amperes: _____
- (*) Motoring Power (kW): _____
- (*) Neutral Grounding Resistor (If Applicable): _____
- (*) I_2^2t or K (Heating Time Constant): _____
- (*) Rotor Resistance: _____
- (*) Stator Resistance: _____
- (*) Stator Reactance: _____
- (*) Rotor Reactance: _____
- (*) Magnetizing Reactance: _____
- (*) Short Circuit Reactance: _____
- (*) Exciting Current: _____
- (*) Temperature Rise: _____
- (*) Frame Size: _____
- (*) Design Letter: _____
- (*) Reactive Power Required In Vars (No Load): _____
- (*) Reactive Power Required In Vars (Full Load): _____
- (*) Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Interconnection Request to determine if the information designated by (*) is required.

**APPENDIX 2 to Revised LGIP
DEFINITIVE INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a Definitive Interconnection System Impact Study to assess the impact of interconnecting the Large Generating Facility to the Transmission System, and of any Affected Systems; and

WHEREAS, Interconnection Customer commits to provide certain Readiness Milestones through the Definitive Interconnection Study process as described in Section 7.7 of the Revised LGIP.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a Definitive Interconnection System Impact Study consistent with Sections 7.3 and 7.4 of this Revised LGIP in accordance with the Tariff.
- 3.0 The scope of the Definitive Interconnection System Impact Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Definitive Interconnection System Impact Study shall be based upon the technical information provided by Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the Revised LGIP. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Definitive Interconnection System Impact Study. If Interconnection Customer modifies its designated Point of Interconnection,

Interconnection Request, or the technical information provided therein is modified, the time to complete the Definitive Interconnection System Impact Study may be extended.

5.0 The Definitive Interconnection System Impact Study report (Phase 2 or Phase 3 Report) shall provide the following information, as appropriate:

- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
- identification of any thermal overload or voltage limit violations resulting from the interconnection;
- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection; and
- description and non-binding, good faith estimated cost of facilities required to interconnect the Large Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.

6.0 Interconnection Customer shall provide the deposit as specified in Section 3.1 of the Revised LGIP for the performance of the Definitive Interconnection System Impact Study and the Interconnection Facilities Study. Transmission Provider's good faith estimate for the time of completion of the Definitive Interconnection System Impact Study (Phase 2) is [insert date].

Upon receipt of the Interconnection Facilities Study results (Phase 4 Results), or withdrawal of the Interconnection Request, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Definitive Interconnection System Impact Study, and the Withdrawal Penalty, as applicable, allocated according to Sections 4.2.3 and 8.1 of the Revised LGIP and the cost of the individual Interconnection Facilities Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate, except as otherwise provided herein. As provided in Section 12.3 of the Revised LGIP, Interconnection Customer has thirty (30) Calendar Days of receipt of an invoice from Transmission Provider to pay any undisputed costs. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

7.0 Miscellaneous. The Definitive Interconnection System Impact Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric

industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

**Attachment A to Appendix 2
Definitive Interconnection System Impact Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
DEFINITIVE INTERCONNECTION SYSTEM IMPACT STUDY**

The Definitive Interconnection System Impact Study shall be based upon the information set forth in the Interconnection Request(s) and results of applicable prior studies, subject to any modifications in accordance with Section 4.4 of the Revised LGIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and Transmission Provider]

**APPENDIX 3 to Revised LGIP
INTERCONNECTION FACILITIES STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System;

WHEREAS, Transmission Provider has completed a Definitive Interconnection System Impact Study (the "System Impact Study") and provided the results of said study to Interconnection Customer; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Definitive Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Interconnection Facilities Study consistent with Section 8 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection Facilities Study report (i) shall provide a description of, estimated cost of, schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short

circuit, instability, and power flow issues identified in the Definitive Interconnection System Impact Study.

- 5.0 Interconnection Customer shall meet the requirements specified under Section 8.1 of the Revised LGIP prior to the performance of the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A.
- 6.0 Interconnection Customer shall have provided the deposit as specified in Section 3.1 of the Revised LGIP for the performance of the Definitive Interconnection System Impact Study and the Interconnection Facilities Study.

Upon receipt of the Interconnection Facilities Study results (Phase 4 Results), Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Definitive Interconnection System Impact Study which includes costs allocated according to SectionsSection 4.2.3 ~~and 8.1~~ of the Revised LGIP ~~and~~, the cost of the individual Interconnection Facilities Study, and the withdraw penalty calculated pursuant to 3.7.1.1, if applicable.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate, except as otherwise provided herein. As provided in Section 12.3 of the Revised LGIP, Interconnection Customer has thirty (30) Calendar Days of receipt of an invoice from Transmission Provider to pay any undisputed costs. If invoices are not paid within thirty (30) Calendar Days of receipt of an invoice, Transmission Provider shall draw upon the security provided to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

- 7.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

**Attachment A to Appendix 3
Interconnection Facilities Study Agreement**

**DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER
WITH THE INTERCONNECTION FACILITIES STUDY AGREEMENT**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing Transmission Provider station. Number of generation connections:

On the one line diagram indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one line diagram indicate the location of auxiliary power. (Minimum load on CT/PT)
Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?
_____ Yes _____ No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? _____ Yes _____ No (Please indicate on one line diagram).

What type of control system or PLC will be located at Interconnection Customer's Large Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

Bus length from generation to interconnection station:

Line length from interconnection station to Transmission Provider's transmission line.

Tower number observed in the field. (Painted on tower leg)* _____

Number of third party easements required for transmission lines*:

* To be completed in coordination with Transmission Provider.

Is the Large Generating Facility in Transmission Provider's service area?

_____ Yes _____ No Local provider: _____

Please provide proposed schedule dates:

Begin Construction Date: _____

Generator step-up transformer
receives back feed power Date: _____

Generation Testing Date: _____

Commercial Operation Date: _____

APPENDIX 4 to Revised LGIP

Transitional Serial Interconnection Facilities Study Agreement

THIS AGREEMENT is made and entered into this _____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to continue processing its Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Transmission System; and

WHEREAS, Interconnection Customer has executed and Transmission Provider has accepted an Interconnection Facilities Study Agreement prior to ~~November 1, 2018~~ September 27, 2019; and

WHEREAS, Interconnection Customer has provided certain requirements described in Section 5.1.1.1 of the Revised LGIP including a deposit on Transmission provider's Interconnection Facilities and Network Upgrades.

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed an Interconnection Facilities Study consistent with Section 8 of this Revised LGIP in accordance with the Tariff.

- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A to this Agreement which shall be the same assumptions as the previous Interconnection Facilities Study Agreement.
- 4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost of (consistent with Attachment A), schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the most recently published System Impact Study.
- 5.0 Interconnection Customer has met certain requirements described in Section 5.1.1.1 of the Revised LGIP. The time for completion of the Interconnection Facilities Study is specified in Attachment A.
- 6.0 Interconnection Customer shall have previously provided the deposit of one-hundred thousand dollars (\$100,000.00) for the performance of the Interconnection Facilities Study.

Upon receipt of the Interconnection Facilities Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study.

Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

**Attachment A to Appendix 4
Transitional Serial Interconnection Facilities Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
TRANSITIONAL SERIAL INTERCONNECTION FACILITIES STUDY**

[~~Above assumptions~~ Assumptions to be completed by Interconnection Customer and ~~other assumptions to be provided by Interconnection Customer and~~ Transmission Provider]

**APPENDIX 5.1 to Revised LGIP
Transitional Cluster Study Agreement**

THIS AGREEMENT is made and entered into this _____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Large Generating Facility with the Transmission System; and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a "Transitional Cluster Study," which is a combined system impact and interconnection facility Cluster Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to physically and electrically connect the Large Generating Facility to the Transmission System; and

WHEREAS, Interconnection Customer has provided certain requirements described in Section 5.1.1.2 of the Revised LGIP including a deposit of five million dollars (\$5,000,000) on expected Transmission Provider's Interconnection Facilities and Network Upgrades; and

WHEREAS, Interconnection Customer has a valid Queue Position as of November 1, 2018September 27, 2019; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 —When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a combined system impact and interconnection facility Cluster Study.
- 3.0 The Transitional Cluster Study shall be based upon the technical information provided by Interconnection Customer in the Interconnection Request. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Transitional Cluster Study and Interconnection Customer shall provide such data as quickly as reasonable.
- 4.0 The Transitional Cluster Study report shall provide the following information:
 - identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
 - identification of any thermal overload or voltage limit violations resulting from the interconnection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection and
 - shall provide a description, estimated cost of, schedule for required facilities to interconnect the Large Generating Facility to the Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the most recently published System Impact Study.
- 5.0 Interconnection Customer has met certain requirements described in Section 5.1.1.2 of the Revised LGIP.
- 6.0 Interconnection Customer shall have previously provided a deposit for the performance of Interconnection Studies.
- Upon receipt of the Transitional Cluster Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Transitional Cluster Study.
- Any difference between the study deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.
- 7.0 Miscellaneous. The Interconnection Facilities Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

**Attachment A to Appendix 5.1
Transitional Cluster Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
TRANSITIONAL CLUSTER STUDY (A COMBINED SYSTEM IMPACT AND
INTERCONNECTION FACILITIES STUDY)**

[~~Above assumptions~~Assumptions to be completed by Interconnection Customer ~~and other~~
~~assumptions to be provided by Interconnection Customer and~~ Transmission Provider]

**APPENDIX 5.2 to REVISED LGIP
PROVISIONAL INTERCONNECTION STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer is proposing to establish a provisional interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to Transmission Provider an Interconnection Request; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause a Provisional Interconnection Study in order to provide the service described in Article 5.9.2.
- 3.0 3.0 The Provisional Interconnection Study will determine if stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects with Provisional Interconnection Service. Transmission Provider shall determine any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of the new, modified and/or expanded Generating Facility.
- 4.0 4.0 The Provisional Interconnection Study shall determine the initial maximum permissible output of the Generating Facility.
- 5.0 The scope of the Provisional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.

- 6.0 Interconnection Customer shall provide a deposit of \$10,000 for the performance of the Provisional Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Provisional Interconnection Service Study is [insert date].

Upon receipt of the Provisional Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Provisional Interconnection Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Provisional Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the [Revised](#) LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Attachment A
Appendix 5.2
Provisional Interconnection
Study Agreement

**ASSUMPTIONS USED IN CONDUCTING
THE PROVISIONAL INTERCONNECTION STUDY**

[To be completed by Interconnection Customer/Transmission Provider consistent with
Section/Article 5.9.2 of the LGIA.
LGIA.]

**APPENDIX 5.3 to REVISED LGIP
SURPLUS INTERCONNECTION STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this ____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is requesting to utilize Surplus Interconnection Service as described in Section 3.3 of the Revised LGIP; and

WHEREAS, Interconnection Customer is proposing to utilize an existing interconnection with the Transmission System; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Surplus Interconnection Study consistent with Section 3.3 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Surplus Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies. Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original System Impact Study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus

Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades. Surplus Interconnection Service is only available up to the amount that can be accommodated without requiring new Network Upgrades.

- 5.0 Interconnection Customer shall provide a deposit of \$10,000 for the performance of the Surplus Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Surplus Interconnection Study is [insert date].

Upon receipt of the Surplus Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Surplus Interconnection Study.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Surplus Interconnection Study shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the [Revised](#) LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

**Attachment A
Appendix 5.3
Surplus Interconnection
Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING
THE SURPLUS INTERCONNECTION STUDY**

[To be completed by Interconnection Customer and Transmission Provider consistent with
Section 3.3 of the Revised LGIP.
LGIP.]

**APPENDIX 5.4 to Revised LGIP
INFORMATIONAL INTERCONNECTION STUDY REQUEST**

1. The undersigned Interconnection Customer submits this request to evaluate the interconnection of its Generating Facility with Transmission Provider's Transmission System pursuant to the Tariff.
2. The type of interconnection service to be evaluated (check one):
☐ Energy Resource Interconnection Service
☐ Network Resource Interconnection Service
3. Interconnection Customer provides the following information:
 - a. Address or location of the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;
 - b. Maximum summer at ____ degrees C and winter at ____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
 - c. General description of the equipment configuration;
 - d. Commercial Operation Date to be studied (Day, Month, and Year);
 - e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;
 - f. Approximate location of the proposed Point of Interconnection;
 - g. Interconnection Customer Data (set forth in Attachment A)
 - h. Primary frequency response operating range for electric storage resources.
 - i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity); and
 - j. A Scope of Work including any additional information that may be reasonably required.
4. \$10,000 study deposit amount as specified in the Revised LGIP.
5. For study purposes, the point of delivery to deliver within the Control Area or to adjoining Control Area if the Generating Facility is not designated a Network Resource pursuant to Section 30.2 of the Tariff.
6. This Informational Interconnection Study Request shall be submitted to the representative indicated below:

[To be completed by Transmission Provider]

7. Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

8. This Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

**Attachment A to Appendix 5.4
Informational Interconnection Study Request**

LARGE GENERATING FACILITY DATA

UNIT RATINGS

kVA _____ °F _____ Voltage _____
Power Factor _____
Speed (RPM) _____ Connection (e.g. Wye) _____
Short Circuit Ratio _____ Frequency, Hertz _____
Stator Amperes at Rated kVA _____ Field Volts _____
Max Turbine MW _____ °F _____

Primary frequency response operating range for electric storage resources.

Minimum State of Charge: _____
Maximum State of Charge: _____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/kVA
Moment-of-Inertia, WR^2 = _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

DIRECT AXIS QUADRATURE AXIS

Synchronous – saturated	X_{dv} _____	X_{qv} _____
Synchronous – unsaturated	X_{di} _____	X_{qi} _____
Transient – saturated	X'_{dv} _____	X'_{qv} _____
Transient – unsaturated	X'_{di} _____	X'_{qi} _____
Subtransient – saturated	X''_{dv} _____	X''_{qv} _____
Subtransient – unsaturated	X''_{di} _____	X''_{qi} _____
Negative Sequence – saturated	X_{2v} _____	
Negative Sequence – unsaturated	X_{2i} _____	
Zero Sequence – saturated	X_{0v} _____	
Zero Sequence – unsaturated	X_{0i} _____	
Leakage Reactance	X_{lm} _____	

Open Circuit	T'_{do} _____	T'_{qo} _____
Three-Phase Short Circuit Transient	T'_{d3} _____	T'_q _____
Line to Line Short Circuit Transient	T'_{d1} _____	
Short Circuit Subtransient	T''_d _____	T''_q _____
Open Circuit Subtransient	T'_{d2} _____	
Line to Neutral Short Circuit Transient	T''_{do} _____	T''_{qo} _____

FIELD TIME CONSTANT DATA (SEC)
ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T_{a3} _____
Line to Line Short Circuit	T_{a2} _____
Line to Neutral Short Circuit	T_{a1} _____

NOTE: If requested information is not applicable, indicate by marking "N/A."

MW CAPABILITY AND PLANT CONFIGURATION
LARGE GENERATING FACILITY DATA

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R_1 _____
Negative	R_2 _____
Zero	R_0 _____

Rotor Short Time Thermal Capacity $I_2^2 t =$ _____
Field Current at Rated kVA, Armature Voltage and PF = _____ amps
Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps
Three Phase Armature Winding Capacitance = _____ microfarad
Field Winding Resistance = _____ ohms _____ °C
Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves.
Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity	Self-cooled/ Maximum Nameplate
_____	/ _____ kVA

Voltage Ratio(Generator Side/System side/Tertiary)
_____/_____/_____ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))
_____/_____/_____

Fixed Taps Available _____

Present Tap Setting _____

If more than one transformer stage is used to deliver the output from the proposed generator to the Transmission System, please provide the information above for each transformer or transformer type.

IMPEDANCE

Positive

Z_1 (on self-cooled kVA rating) _____ % _____ X/R

Zero

Z_0 (on self-cooled kVA rating) _____ % _____ X/R

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

Elevation: _____ Single Phase _____ Three Phase _____

Inverter manufacturer, model name, number, and version:

List of adjustable setpoints for the protective equipment or software:

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

INDUCTION GENERATORS

- (*) Field Volts: _____
- (*) Field Amperes: _____
- (*) Motoring Power (kW): _____
- (*) Neutral Grounding Resistor (If Applicable): _____
- (*) I_2^2t or K (Heating Time Constant): _____
- (*) Rotor Resistance: _____
- (*) Stator Resistance: _____
- (*) Stator Reactance: _____
- (*) Rotor Reactance: _____
- (*) Magnetizing Reactance: _____
- (*) Short Circuit Reactance: _____
- (*) Exciting Current: _____
- (*) Temperature Rise: _____
- (*) Frame Size: _____
- (*) Design Letter: _____
- (*) Reactive Power Required In Vars (No Load): _____
- (*) Reactive Power Required In Vars (Full Load): _____
- (*) Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Informational Interconnection Study Request to determine if the information designated by (*) is required.

**APPENDIX 5.5 to Revised LGIP
INFORMATIONAL INTERCONNECTION STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this ____ day of _____, 20____ by and between _____, a _____ organized and existing under the laws of the State of _____, ("Interconnection Customer,") and _____ a _____ existing under the laws of the State of _____, ("Transmission Provider"). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is evaluating developing a Large Generating Facility or generating capacity addition to an existing Generating Facility and

WHEREAS, Interconnection Customer is proposing to evaluate an interconnection with the Transmission System; and

WHEREAS, Interconnection Customer has submitted to Transmission Provider an Informational Interconnection Study Interconnection Request; and

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved Revised LGIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause an Informational Interconnection Study consistent with Section 6 of this Revised LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Informational Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Informational Interconnection Study shall be performed solely for informational purposes.
- 5.0 The Informational Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by Interconnection Customer in Attachment A to this Agreement. The Informational Interconnection Study shall identify Transmission Provider's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof that may be required to provide transmission service or Interconnection Service based upon the assumptions specified by Interconnection Customer in Attachment A.

- 6.0 Interconnection Customer shall provide a deposit of ten thousand dollars (\$10,000.00) for the performance of the Informational Interconnection Study. Transmission Provider's good faith estimate for the time of completion of the Informational Interconnection Study is [insert date].

Upon receipt of the Informational Interconnection Study, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Informational Interconnection Study.

Any difference between the initial deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer, as appropriate.

- 7.0 Miscellaneous. The Informational Interconnection Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, and that are consistent with regional practices, Applicable Laws and Regulations, and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the Revised LGIP and the LGIA.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

APPENDIX 6 to Revised LGIP

STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT (LGIA)

(Applicable to Generating Facilities that exceed 20 MW)

TABLE OF CONTENTS

Recitals

Article 1. Definitions

Article 2. Effective Date, Term, and Termination

2.1 Effective Date

2.2 Term of Agreement

2.3 Termination Procedures

2.3.1 Written Notice

2.3.2 Default

2.4 Termination Costs

2.5 Disconnection

2.6 Survival

Article 3. Regulatory Filings

3.1 Filing

Article 4. Scope of Service

4.1 Interconnection Product Options

4.1.1 Energy Resource Interconnection Service

4.1.1.1 The Product

4.1.1.2 Transmission Delivery Service Implications

4.1.2 Network Resource Interconnection Service

4.1.2.1 The Product

4.1.2.2 Transmission Delivery Service Implications

4.2 Provision of Service

4.3 Performance Standards

4.4 No Transmission Delivery Service

4.5 Interconnection Customer Provided Services

Article 5. Interconnection Facilities Engineering, Procurement, & Construction

5.1 Options

5.1.1 Standard Option

5.1.2 Alternate Option

5.1.3 Option to Build

5.1.4 Negotiated Option

5.2 General Conditions Applicable to Option to Build

5.3 Liquidated Damages

5.4 Power System Stabilizers

5.5 Equipment Procurement

5.6 Construction Commencement

5.7 Work Progress

5.8 Information Exchange

5.9 Other Interconnection Options

Article 1. Definitions

Article 2. Effective Date, Term, and Termination

2.1 Effective Date.

2.2 Term of Agreement.

2.3 Termination Procedures.

2.3.1 Written Notice.

2.3.2	<u>Default.</u>
2.4	<u>Termination Costs.</u>
2.5	<u>Disconnection.</u>
2.6	<u>Survival.</u>
<u>Article 3. Regulatory Filings</u>	
3.1	<u>Filing.</u>
<u>Article 4. Scope of Service</u>	
4.1	<u>Interconnection Product Options.</u>
4.1.1	<u>Energy Resource Interconnection Service.</u>
4.1.1.1	<u>The Product.</u>
4.1.1.2	<u>Transmission Delivery Service Implications.</u>
4.1.2	<u>Network Resource Interconnection Service.</u>
4.1.2.1	<u>The Product.</u>
4.1.2.2	<u>Transmission Delivery Service Implications.</u>
4.2	<u>Provision of Service.</u>
4.3	<u>Performance Standards.</u>
4.4	<u>No Transmission Delivery Service.</u>
4.5	<u>Interconnection Customer Provided Services</u>
<u>Article 5. Interconnection Facilities Engineering, Procurement, and Construction</u>	
5.1	<u>Options.</u>
5.1.1	<u>Standard Option.</u>
5.1.2	<u>Alternate Option.</u>
5.1.3	<u>Option to Build.</u>
5.1.4	<u>Negotiated Option.</u>
5.2	<u>General Conditions Applicable to Option to Build.</u>
5.3	<u>Liquidated Damages.</u>
5.4	<u>Power System Stabilizers.</u>
5.5	<u>Equipment Procurement.</u>
5.6	<u>Construction Commencement.</u>
5.7	<u>Work Progress.</u>
5.8	<u>Information Exchange.</u>
5.9	<u>Other Interconnection Options</u>
5.9.1-	<u>Limited Operation.</u>
5.9.2-	<u>Provisional Interconnection Service.</u>
5.10	<u>Interconnection Customer's Interconnection Facilities ('ICIF')</u>
5.10.1	<u>Interconnection Customer's Interconnection Facility Specifications</u>
5.10.2	<u>Transmission Provider's Review</u>
5.10.3	<u>ICIF Construction</u>
5.11	<u>Transmission Provider's Interconnection Facilities Construction</u>
5.12	<u>Access Rights</u>
5.13	<u>Lands of Other Property Owners</u>
5.14	<u>Permits</u>
5.15	<u>Early Construction of Base Case Facilities</u>
5.16	<u>Suspension</u>
5.17	<u>Taxes</u>
5.17.1	<u>Interconnection Customer Payments Not Taxable</u>
5.17.2	<u>Representations and Covenants</u>

5.17.3	~~Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider~~
5.17.4	~~Tax Gross-Up Amount~~
5.17.5	~~Private Letter Ruling or Change or Clarification of Law~~
5.17.6	~~Subsequent Taxable Events~~
5.17.7	~~Contests~~
5.17.8	~~Refund~~
5.17.9	~~Taxes Other Than Income Taxes~~
5.17.10	~~Transmission Owners Who Are Not Transmission Providers~~
5.18	~~Tax Status~~
5.19	~~Modification~~
5.19.1	~~General~~
5.19.2	~~Standards~~
5.19.3	~~Modification Costs~~
Article 6.	~~Testing and Inspection~~
6.1	~~Pre-Commercial Operation Date Testing and Modifications~~
6.2	~~Post-Commercial Operation Date Testing and Modifications~~
6.3	~~Right to Observe Testing~~
6.4	~~Right to Inspect~~
Article 7.	~~Metering~~
7.1	~~General~~
7.2	~~Check Meters~~
7.3	~~Standards~~
7.4	~~Testing of Metering Equipment~~
7.5	~~Metering Data~~
Article 8.	~~Communications~~
8.1	~~Interconnection Customer Obligations~~
8.2	~~Remote Terminal Unit~~
8.3	~~No Annexation~~
5.10	<u>Interconnection Customer's Interconnection Facilities ("ICIF").</u>
5.10.1	<u>Interconnection Customer's Interconnection Facility Specifications.</u>
5.10.2	<u>Transmission Provider's Review.</u>
5.10.3	<u>ICIF Construction.</u>
5.11	<u>Transmission Provider's Interconnection Facilities Construction.</u>
5.12	<u>Access Rights.</u>
5.13	<u>Lands of Other Property Owners.</u>
5.14	<u>Permits.</u>
5.15	<u>Early Construction of Base Case Facilities.</u>
5.16	<u>Suspension.</u>
5.16.1	<u>Effect of Missed Interconnection Customer LGIA Milestones.</u>
5.16.2	<u>Effect of Suspension; Parties Obligations.</u>
5.17	<u>Taxes</u>
5.17.1	<u>Interconnection Customer Payments Not Taxable.</u>
5.17.2	<u>Representations and Covenants.</u>
5.17.3	<u>Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider.</u>
5.17.4	<u>Tax Gross-Up Amount.</u>
5.17.5	<u>Private Letter Ruling or Change or Clarification of Law.</u>

- 5.17.6 Subsequent Taxable Events.
 - 5.17.7 Contests.
 - 5.17.8 Refund.
 - 5.17.9 Taxes Other Than Income Taxes.
 - 5.17.10 Transmission Owners Who Are Not Transmission Providers.
- 5.18 Tax Status.
- 5.19 Modification.
 - 5.19.1 General.
 - 5.19.2 Standards.
 - 5.19.3 Modification Costs.
- Article 6. Testing and Inspection
 - 6.1 Pre-Commercial Operation Date Testing and Modifications.
 - 6.2 Post-Commercial Operation Date Testing and Modifications.
 - 6.3 Right to Observe Testing.
 - 6.4 Right to Inspect.
- Article 7. Metering
 - 7.1 General.
 - 7.2 Check Meters.
 - 7.3 Standards.
 - 7.4 Testing of Metering Equipment.
 - 7.5 Metering Data.
- Article 8. Communications
 - 8.1 Interconnection Customer Obligations.
 - 8.2 Remote Terminal Unit.
 - 8.3 No Annexation.
 - 8.4 Provision of Data from a Variable Energy Resource.
- ~~**Article 9. Operations**~~
 - ~~**9.1 General**~~
 - ~~**9.2 Control Area Notification**~~
 - ~~**9.3 Transmission Provider Obligations**~~
 - ~~**9.4 Interconnection Customer Obligations**~~
 - ~~**9.5 Start-Up and Synchronization**~~
 - ~~**9.6 Reactive Power and Primary Frequency Response**~~
 - ~~**9.6.1 Power Factor Design Criteria**~~
 - ~~**9.6.2 Voltage Schedules**~~
 - ~~**9.6.2.1 Voltage Regulators**~~
 - ~~**9.6.3 Payment for Reactive Power**~~
- Article 9. Operations
 - 9.1 General.
 - 9.2 Control Area Notification.
 - 9.3 Transmission Provider Obligations.
 - 9.4 Interconnection Customer Obligations.
 - 9.5 Start-Up and Synchronization.
 - 9.6 Reactive Power and Primary Frequency Response.
 - 9.6.1 Power Factor Design Criteria.
 - 9.6.1.1 Synchronous Generation.
 - 9.6.1.2 Non-Synchronous Generation.
 - 9.6.2 Voltage Schedules.

9.6.2.1	Voltage Regulators.
9.6.3	Payment for Reactive Power.
9.6.4	Primary Frequency Response.
9.6.4.1	Governor or Equivalent Controls.
9.6.4.2	Timely and Sustained Response.
9.6.4.3	Exemptions.
9.6.4.4	Electric Storage Resources.
9.7	Outages and Interruptions
9.7.1	Outages
9.7.1.1	Outage Authority and Coordination
9.7.1.2	Outage Schedules
9.7.1.3	Outage Restoration
9.7.2	Interruption of Service
9.7.3	Under-Frequency and Over-Frequency Conditions
9.7.4	System Protection and Other Control Requirements
9.7.4.1	System Protection Facilities
9.7.5	Requirements for Protection
9.7.6	Power Quality
9.8	Switching and Tagging Rules
9.9	Use of Interconnection Facilities by Third Parties
9.9.1	Purpose of Interconnection Facilities
9.9.2	Third Party Users
9.10	Disturbance Analysis Data Exchange
Article 10.	Maintenance
10.1	Transmission Provider Obligations
10.2	Interconnection Customer Obligations
10.3	Coordination
10.4	Secondary Systems
10.5	Operating and Maintenance Expenses
Article 11.	Performance Obligation
11.1	Interconnection Customer Interconnection Facilities
11.2	Transmission Provider's Interconnection Facilities
11.3	Network Upgrades and Distribution Upgrades
11.4	Transmission Credits
11.4.1	Repayment of Amounts Advanced for Network Upgrades
11.5	Provision of Security
11.6	Interconnection Customer Compensation
11.6.1	Interconnection Customer Compensation for Actions During Emergency Condition
Article 12.	Invoice
12.1	General
12.2	Final Invoice
12.3	Payment
12.4	Disputes
Article 13.	Emergencies
13.1	Definition
13.2	Obligations
13.3	Notice

~~13.4~~	~~Immediate Action~~
~~13.5~~	~~Transmission Provider Authority~~
~~13.5.1~~	~~General~~
~~13.5.2~~	~~Reduction and Disconnection~~
~~13.6~~	~~Interconnection Customer Authority~~
~~13.7~~	~~Limited Liability~~
~~Article 14.~~	~~Regulatory Requirements and Governing Law~~
~~14.1~~	~~Regulatory Requirements~~
~~14.2~~	~~Governing Law~~
~~Article 15.~~	~~Notices~~
~~15.1~~	~~General~~
~~15.2~~	~~Billings and Payments~~
~~15.3~~	~~Alternative Forms of Notice~~
~~15.4~~	~~Operations and Maintenance Notice~~
~~Article 16.~~	~~Force Majeure~~
~~Article 17.~~	~~Default~~
~~17.1~~	~~Default~~
~~17.1.1~~	~~General~~
~~17.1.2~~	~~Right to Terminate~~
~~Article 18.~~	~~Indemnity, Consequential Damages and Insurance~~
~~18.1~~	~~Indemnity~~
~~18.1.1~~	~~Indemnified Person~~
~~18.1.2~~	~~Indemnifying Party~~
~~18.1.3~~	~~Indemnity Procedures~~
~~18.2~~	~~Consequential Damages~~
~~18.3~~	~~Insurance~~
~~Article 19.~~	~~Assignment~~
~~Article 20.~~	~~Severability~~
~~Article 21.~~	~~Comparability~~
~~Article 22.~~	~~Confidentiality~~
~~22.1~~	~~Confidentiality~~
~~22.1.1~~	~~Term~~
~~22.1.2~~	~~Scope~~
~~22.1.3~~	~~Release of Confidential Information~~
~~22.1.4~~	~~Rights~~
~~22.1.5~~	~~No Warranties~~
~~22.1.6~~	~~Standard of Care~~
~~22.1.7~~	~~Order of Disclosure~~
~~22.1.8~~	~~Termination of Agreement~~
~~22.1.9~~	~~Remedies~~
~~22.1.10~~	~~Disclosure to FERC, its Staff, or a State~~
~~Article 23.~~	~~Environmental Releases~~
~~Article 24.~~	~~Information Requirements~~
~~24.1~~	~~Information Acquisition~~
~~24.2~~	~~Information Submission by Transmission Provider~~
~~24.3~~	~~Updated Information Submission by Interconnection Customer~~
~~24.4~~	~~Information Supplementation~~
~~Article 25.~~	~~Information Access and Audit Rights~~

~~25.1~~	~~Information Access~~	
~~25.2~~	~~Reporting of Non-Force Majeure Events~~	
~~25.3~~	~~Audit Rights~~	
~~25.4~~	~~Audit Rights Periods~~	
~~25.4.1~~	~~Audit Rights Period for Construction-Related Accounts and Records~~	
~~25.4.2~~	~~Audit Rights Period for All Other Accounts and Records~~	
~~25.5~~	~~Audit Results~~	
~~Article 26.~~	~~Subcontractors~~	
~~26.1~~	~~General~~	
~~26.2~~	~~Responsibility of Principal~~	
~~26.3~~	~~No Limitation by Insurance~~	
~~Article 27.~~	~~Disputes~~	
~~27.1~~	~~Submission~~	
~~27.2~~	~~External Arbitration Procedures~~	
~~27.3~~	~~Arbitration Decisions~~	
~~27.4~~	~~Costs~~	
~~Article 28.~~	~~Representations, Warranties, and Covenants~~	
~~28.1~~	~~General~~	
~~28.1.1~~	~~Good Standing~~	
~~28.1.2~~	~~Authority~~	
~~28.1.3~~	~~No Conflict~~	
~~28.1.4~~	~~Consent and Approval~~	
~~Article 29.~~	~~Joint Operating Committee~~	
~~Article 30.~~	~~Miscellaneous~~	
~~30.1~~	~~Binding Effect~~	
~~30.2~~	~~Conflicts~~	
~~30.3~~	~~Rules of Interpretation~~	
~~30.4~~	~~Entire Agreement~~	
~~30.5~~	~~No Third Party Beneficiaries~~	
~~30.6~~	~~Waiver~~	
~~30.7~~	~~Headings~~	
~~30.8~~	~~Multiple Counterparts~~	
~~30.9~~	~~Amendment~~	
~~30.10~~	~~Modification by the Parties~~	
~~30.11~~	~~Reservation of Rights~~	
~~30.12~~	~~No Partnership~~	~~9.7~~ <u>Outages and Interruptions.</u>
~~9.7.1~~	~~Outages.~~	
~~9.7.1.1~~	~~Outage Authority and Coordination.~~	
~~9.7.1.2~~	~~Outage Schedules.~~	
~~9.7.1.3~~	~~Outage Restoration.~~	
~~9.7.2~~	~~Interruption of Service.~~	
~~9.7.3~~	~~Under-Frequency and Over Frequency Conditions.~~	
~~9.7.4~~	~~System Protection and Other Control Requirements.~~	
~~9.7.4.1~~	~~System Protection Facilities.~~	
~~9.7.5~~	~~Requirements for Protection.~~	
~~9.7.6~~	~~Power Quality.~~	
9.8	<u>Switching and Tagging Rules.</u>	
9.9	<u>Use of Interconnection Facilities by Third Parties.</u>	

9.9.1	<u>Purpose of Interconnection Facilities.</u>
9.9.2	<u>Third Party Users.</u>
9.10	<u>Disturbance Analysis Data Exchange.</u>
<u>Article 10. Maintenance.</u>	
10.1	<u>Transmission Provider Obligations.</u>
10.2	<u>Interconnection Customer Obligations.</u>
10.3	<u>Coordination.</u>
10.4	<u>Secondary Systems.</u>
10.5	<u>Operating and Maintenance Expenses.</u>
<u>Article 11. Performance Obligation.</u>	
11.1	<u>Interconnection Customer Interconnection Facilities.</u>
11.2	<u>Transmission Provider's Interconnection Facilities.</u>
11.3	<u>Network Upgrades and Distribution Upgrades.</u>
11.4	<u>Transmission Credits.</u>
11.4.1	<u>Repayment of Amounts Advanced for Network Upgrades.</u>
11.4.2	<u>Special Provisions for Affected Systems.</u>
11.5	<u>Provision of Security.</u>
11.6	<u>Interconnection Customer Compensation.</u>
11.6.1	<u>Interconnection Customer Compensation for Actions During Emergency Condition.</u>
<u>Article 12. Invoice.</u>	
12.1	<u>General.</u>
12.2	<u>Final Invoice.</u>
12.3	<u>Payment.</u>
12.4	<u>Disputes.</u>
<u>Article 13. Emergencies</u>	
13.1	<u>Definition.</u>
13.2	<u>Obligations.</u>
13.3	<u>Notice.</u>
13.4	<u>Immediate Action.</u>
13.5	<u>Transmission Provider Authority.</u>
13.5.1	<u>General.</u>
13.5.2	<u>Reduction and Disconnection.</u>
13.6	<u>Interconnection Customer Authority.</u>
13.7	<u>Limited Liability.</u>
<u>Article 14. Regulatory Requirements and Governing Law</u>	
14.1	<u>Regulatory Requirements.</u>
14.2	<u>Governing Law.</u>
<u>Article 15. Notices</u>	
15.1	<u>General.</u>
15.2	<u>Billings and Payments.</u>
15.3	<u>Alternative Forms of Notice.</u>
15.4	<u>Operations and Maintenance Notice.</u>
<u>Article 16. Force Majeure</u>	
<u>Article 17. Default</u>	
17.1	<u>Default.</u>
17.1.1	<u>General.</u>
17.1.2	<u>Right to Terminate.</u>

Article 18. Indemnity, Consequential Damages and Insurance

18.1 Indemnity.

18.1.1 Indemnified Person.

18.1.2 Indemnifying Party.

18.1.3 Indemnity Procedures.

18.2 Consequential Damages.

18.3 Insurance.

Article 19. Assignment

19.1 Assignment.

Article 20. Severability

20.1 Severability.

Article 21. Comparability

Article 22. Confidentiality

22.1 Confidentiality.

22.1.1 Term.

22.1.2 Scope.

22.1.3 Release of Confidential Information.

22.1.4 Rights.

22.1.5 No Warranties.

22.1.6 Standard of Care.

22.1.7 Order of Disclosure.

22.1.8 Termination of Agreement.

22.1.9 Remedies.

22.1.10 Disclosure to FERC, its Staff, or a State.

Article 23. Environmental Releases

Article 24. Information Requirements

24.1 Information Acquisition.

24.2 Information Submission by Transmission Provider.

24.3 Updated Information Submission by Interconnection Customer.

24.4 Information Supplementation.

Article 25. Information Access and Audit Rights

25.1 Information Access.

25.2 Reporting of Non-Force Majeure Events.

25.3 Audit Rights.

25.4 Audit Rights Periods.

25.4.1 Audit Rights Period for Construction-Related Accounts and Records.

25.4.2 Audit Rights Period for All Other Accounts and Records.

25.5 Audit Results.

Article 26. Subcontractors

26.1 General.

26.2 Responsibility of Principal.

26.3 No Limitation by Insurance.

Article 27. Disputes

27.1 Submission.

27.2 External Arbitration Procedures.

27.3 Arbitration Decisions.

27.4 Costs.

Article 28. Representations, Warranties, and Covenants

28.1 General.

28.1.1 Good Standing.

28.1.2 Authority.

28.1.3 No Conflict.

28.1.4 Consent and Approval.

Article 29. Joint Operating Committee

29.1 Joint Operating Committee.

Article 30. Miscellaneous

30.1 Binding Effect.

30.2 Conflicts.

30.3 Rules of Interpretation.

30.4 Entire Agreement.

30.5 No Third Party Beneficiaries.

30.6 Waiver.

30.7 Headings.

30.8 Multiple Counterparts.

30.9 Amendment.

30.10 Modification by the Parties.

30.11 Reservation of Rights.

30.12 No Partnership.

Appendix A - Interconnection Facilities, Network Upgrades, and Distribution Upgrades

Appendix B – LGIA Milestones

Appendix C – Interconnection Details

Appendix D – Security Arrangements Details

Appendix E – Commercial Operation Date

Appendix F – Addresses for Delivery of Notices and Billings

Appendix G – Requirements of Generators Relying on Newer Technologies

STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT

THIS STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT ("Agreement" or "LGIA") is made and entered into this ____ day of _____, 20____, by and between _____, a _____, organized and existing under the laws of the State/Commonwealth of _____, ("Interconnection Customer" with a Large Generating Facility), and _____, a _____, organized and existing under the laws of the State/Commonwealth of _____, ("Transmission Provider and/or Transmission Owner"). Interconnection Customer and Transmission Provider each may be referred to as a "Party" or collectively as the "Parties."

Recitals

WHEREAS, Transmission Provider operates the Transmission System; and

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and,

WHEREAS, Interconnection Customer and Transmission Provider have agreed to enter into this Agreement for the purpose of interconnecting the Large Generating Facility with the Transmission System;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used or the Open Access Transmission Tariff (Tariff).

Article 1. Definitions

Adverse System Impact shall mean the negative effects due to technical or operational limits on conductors or equipment being exceeded that may compromise the safety and reliability of the electric system.

Affected System shall mean an electric system other than the Transmission Provider's Transmission System that may be affected by the proposed interconnection.

Affected System Operator shall mean the entity that operates an Affected System.

Affiliate shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more

intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

Ancillary Services shall mean those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the Transmission Provider's Transmission System in accordance with Good Utility Practice.

Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Applicable Reliability Council shall mean the reliability council applicable to the Transmission System to which the Generating Facility is directly interconnected.

Applicable Reliability Standards shall mean the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Transmission System to which the Generating Facility is directly interconnected.

Base Case shall mean the base case power flow, short circuit, and stability data bases used for the Interconnection Studies by the Transmission Provider or Interconnection Customer.

Breach shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

Breaching Party shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

Business Day shall mean Monday through Friday, excluding Federal Holidays.

Calendar Day shall mean any day including Saturday, Sunday or a Federal Holiday. If a requirement due date lands on a Saturday, Sunday or Federal Holiday, the requirement is due the next Business Day.

Cluster shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies

Clustering shall mean a group of Interconnection Requests (one or more) that are studied together for the purpose of conducting the Interconnection Studies

Commercial Operation shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

Commercial Operation Date of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

Confidential Information shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise.

Control Area shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation of the interconnection. A Control Area must be certified by an Applicable NERC Regional Reliability Entity. Control Area shall have the same meaning as Balancing Authority Area as defined by NERC.

Default shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

Definitive Interconnection Study Process (“Definitive Interconnection Study”) shall mean the complete definitive study process inclusive of the DISIS Request Window, Customer Engagement Window, Definitive Interconnection System Impact Study, and the Interconnection Facilities Study. Both the Resource Solicitation Cluster and the DISIS Cluster are processed under the Definitive Interconnection Study.

Definitive Interconnection System Impact Study (“DISIS”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of the Transmission System and, if applicable, an Affected System.

Definitive Interconnection System Impact Study Agreement (“DISIS Agreement”) shall mean the form of agreement contained in Appendix 2 of the Revised LGIP for conducting the Definitive Interconnection System Impact Study.

Definitive Interconnection System Impact Study Cluster (“DISIS Cluster”) shall mean an engineering study that evaluates the impact of a Cluster of Interconnection Requests on the safety and reliability of Transmission System and, if applicable, an Affected System.

DISIS Request Window shall have the meaning set forth in Section 4.2.1 of the Revised LGIP.

Dispute Resolution shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

Distribution System shall mean the Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

Distribution Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service

necessary to affect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

Effective Date shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by FERC, or if filed unexecuted, upon the date specified by FERC.

Emergency Condition shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of a Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to Transmission Provider's Transmission System, Transmission Provider's Interconnection Facilities or the electric systems of others to which the Transmission Provider's Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

Energy Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission Provider's Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

Engineering & Procurement (E&P) Agreement shall mean an agreement that authorizes the Transmission Provider to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

Environmental Law shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

Federal Power Act shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

FERC shall mean the Federal Energy Regulatory Commission (Commission) or its successor.

~~**Financial Security** shall have the meaning set forth in Section 7.7.1 of the Revised LGIP.~~

Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

Generating Facility shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Generating Facility Capacity shall mean the net capacity of the Generating Facility and the aggregate net capacity of the Generating Facility where it includes multiple energy production devices.

Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include Interconnection Customer, Transmission Provider, or any Affiliate thereof.

Hazardous Substances shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

Informational Interconnection Study shall mean an analysis based on assumptions specified by Interconnection Customer in the Informational Interconnection Study Agreement.

Informational Interconnection Study Agreement shall mean the form of agreement contained in Appendix 7 of the Revised LGIP for conducting the Informational Interconnection Study.

Initial Synchronization Date shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

In-Service Date shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Provider's Interconnection Facilities to obtain back feed power.

Interconnection Customer shall mean any entity, including the Transmission Provider, Transmission Owner or any of the Affiliates or subsidiaries of either, that proposes to interconnect its Generating Facility with the Transmission Provider's Transmission System.

Interconnection Customer's Interconnection Facilities shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities (e.g. for generator interconnection).

Interconnection Facilities shall mean the Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Transmission Provider's Transmission System. Interconnection Facilities are sole use facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Interconnection Facilities may be shared by more than one Generating Facility in a Cluster.

Interconnection Facilities Study shall mean a study conducted by the Transmission Provider or a third party consultant for the Interconnection Customer to determine a list of facilities (including Transmission Provider's Interconnection Facilities and Network Upgrades as identified in the Definitive Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Transmission Provider's Transmission System. The scope of the study is defined in Section 8 of the Revised LGIP.

Interconnection Facilities Study Agreement shall mean the form of agreement contained in Appendix 3 of the Revised LGIP for conducting the Interconnection Facilities Study.

Interconnection Request shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Revised LGIP, in accordance with the Tariff, to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with the Transmission Provider's Transmission System.

Interconnection Service shall mean the service provided by the Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to the Transmission Provider's Transmission System and enabling it to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Transmission Provider's Tariff.

Interconnection Study shall mean any of the following studies: the Informational Interconnection Study, the Definitive Interconnection System Impact Study, and the Interconnection Facilities Study described in the Standard Large Generator Interconnection Procedures or Revised LGIP

Interconnection Study Agreement shall mean any of the following agreements: the Informational Interconnection Study Agreement, the Definitive Interconnection System Impact Study Agreement, or the Interconnection Facilities Study Agreement described in the Standard Large Generator Interconnection Procedures or Revised LGIP.

IRS shall mean the Internal Revenue Service.

Joint Operating Committee shall be a group made up of representatives from Interconnection Customers and the Transmission Provider to coordinate operating and technical considerations of Interconnection Service.

Large Generating Facility shall mean a Generating Facility having a Generating Facility Capacity of more than 20 MW.

LGIA Milestone shall mean milestones provided in Appendix B of this LGIA

Loss shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnifying Party.

Material Modification shall mean those modifications that have a material impact on the cost or timing of any Interconnection Request with a later or equal Queue Position.

Metering Equipment shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

NERC shall mean the North American Electric Reliability Council or its successor organization.

Network Resource shall mean any designated generating resource owned, purchased, or leased by a Network Customer under the Network Integration Transmission Service Tariff. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis.

Network Resource Interconnection Service shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. Network Resource Interconnection Service in and of itself does not convey transmission service.

Network Upgrades shall mean the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System.

Notice of Dispute shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

OASIS shall mean the Transmission Provider's Open Access Same-Time Information System

Party or Parties shall mean Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

Phase ("Phase 1, Phase 2, Phase 3, or Phase 4") shall mean a distinct part of the Definitive Study Process as described in Section 7.

Point of Change of Ownership shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to the Transmission Provider's Interconnection Facilities.

Point of Interconnection shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Transmission Provider's Transmission System.

Provisional Interconnection Service shall mean interconnection service provided by Transmission Provider associated with interconnecting the Interconnection Customer's Generating Facility to Transmission Provider's Transmission System and enabling that Transmission System to receive electric energy and capacity from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

Provisional Large Generator Interconnection Agreement shall mean the interconnection agreement for Provisional Interconnection Service established between Transmission Provider and/or the Transmission Owner and the Interconnection Customer. This agreement shall take the form of the Large Generator Interconnection Agreement, modified for provisional purposes. Provisional Large Generator Interconnection Agreements are not eligible for suspension.

Queue shall mean a queue for valid Interconnection Requests for the Definitive Interconnection Study Process.

Queue Position shall mean the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, in the Definitive Interconnection Study Process. The Queue Position is established based upon the date and time Interconnection Customer satisfies all of the requirements of Section 7.2 of the Revised LGIP to enter the Definitive Interconnection Study Process.

Readiness Milestone(s) shall have the meaning set forth in Section 7.7 of the Revised LGIP.

Reasonable Efforts shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

Revised LGIP shall mean the Large Generator Interconnection Process as described in this Attachment N.

Resource Plan shall mean any process authorized or required by Applicable Laws and Regulations for, *inter alia*, the selection of Generating Facilities interconnected to the Transmission System of Transmission Provider

Resource Planning Entity shall mean any entity subject to or conducting a Resource Solicitation Process.

Resource Solicitation Cluster shall mean a Cluster Study associated with a Resource Planning Process.

Resource Solicitation Process shall mean any process authorized or required by Applicable Laws and Regulations for the acquisition of Network Resources by an entity interconnected to the Transmission System of Transmission Provider.

Scoping Meeting shall mean the meeting between representatives of the Interconnection Customer and Transmission Provider conducted for the purpose of discussing the proposed Interconnection Request, alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to affect such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection ~~facilities~~ Facilities. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities; or (3) any other documentation that clearly demonstrates the right of the Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition.

Small Generating Facility shall mean a Generating Facility that has a Generating Facility Capacity of no more than 20 MW.

Stand Alone Network Upgrades shall mean Network Upgrades that are not a part of an Affected System that an Interconnection Customer may construct without affecting day-to-day

operations of the Transmission System during their construction. Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the Transmission Provider and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the Transmission Provider must provide the Interconnection Customer a written technical explanation outlining why the Transmission Provider does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

Standard Large Generator Interconnection Agreement (LGIA) shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Provider's Tariff.

Standard Large Generator Interconnection Procedures (LGIP) shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Provider's Tariff.

Surplus Interconnection Service shall mean any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same.

System Protection Facilities shall mean the equipment, including necessary protection signal communications equipment, required to protect (1) the Transmission Provider's Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the Transmission Provider's Transmission System or on other delivery systems or other generating systems to which the Transmission Provider's Transmission System is directly connected.

Tariff shall mean the Transmission Provider's Tariff through which open access transmission service and Interconnection Service are offered, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

Transmission Owner shall mean an entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System at the Point of Interconnection and may be a Party to the Standard Large Generator Interconnection Agreement to the extent necessary.

Transmission Provider shall mean the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity in interstate commerce and provides transmission service under the Tariff. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider.

Transmission Provider's Interconnection Facilities shall mean all facilities and equipment owned, controlled or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use

facilities (e.g. for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Transmission Provider's Interconnection Facilities may be shared by more than one Generating Facility in a given Cluster Study.

Transmission System shall mean the facilities owned, controlled or operated by the Transmission Provider or Transmission Owner that are used to provide transmission service under the Tariff.

Trial Operation shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

Variable Energy Resource shall mean a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator.

Withdrawal Penalty shall have the meaning set forth in Section 3.7.1 of the Revised LGIP.

Article 2. Effective Date, Term, and Termination

2.1 Effective Date.

This LGIA shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by FERC. Transmission Provider shall promptly file this LGIA with FERC upon execution in accordance with Article 3.1, if required.

2.2 Term of Agreement.

Subject to the provisions of Article 2.3, this LGIA shall remain in effect for a period of ten (10) years from the Effective Date or such other longer period as Interconnection Customer may request (Term to be specified in individual agreements) and shall be automatically renewed for each successive one-year period thereafter.

2.3 Termination Procedures.

2.3.1 Written Notice.

This LGIA may be terminated by Interconnection Customer after giving Transmission Provider ninety (90) Calendar Days ~~Advance~~^{advance} written notice, or by Transmission Provider notifying FERC after the Generating Facility permanently ceases Commercial Operation. This LGIA ~~may~~^{shall} be terminated by Transmission Provider if the Generating Facility or a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.4⁴⁵ of the Revised LGIP, including any extension provided thereunder, or, having previously achieved Commercial Operation, ~~—~~has ceased Commercial Operation for three (3) consecutive years, beginning with the last date of Commercial Operation for the Generating Facility, after giving Interconnection

Customer ninety (90) Calendar Days advance written notice. When only a portion of the Generating Facility fails to achieve Commercial Operation by the Commercial Operation Date established in accordance with Section 4.4.45 of the Revised LGIP, including any extension provided thereunder, Transmission Provider shall terminate only that portion of the LGIA. Notwithstanding the foregoing, in the limited circumstance that the Interconnection Request is served by a ~~contingent Interconnection~~ Contingent Facility or Network Upgrade with an in-service date that is later than the Commercial Operation Date permitted under Section 4.4.45 of the Revised LGIP, Transmission Provider shall terminate this LGIA only for failure to achieve Commercial Operation by ninety (90) Calendar Days after that later in-service date of the ~~contingent Interconnection~~ Contingent Facility or Network Upgrade. The Generating Facility will not be deemed to have ceased Commercial Operation for purposes of this Article 2.3.1 if Interconnection Customer can document that it has taken other significant steps to maintain or restore operational readiness of the Generating Facility for the purpose of returning the Generating Facility to Commercial Operation as soon as possible.

2.3.2 Default.

Either Party may terminate this LGIA in accordance with Article 17.

2.3.3 Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this LGIA, which notice has been accepted for filing by FERC.

2.4 Termination Costs.

If a Party elects to terminate this Agreement pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party, as of the date of the other Party's receipt of such notice of termination, that are the responsibility of the Terminating Party under this LGIA. In the event of termination by a Party, the Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this LGIA, unless otherwise ordered or approved by FERC:

2.4.1 With respect to any portion of Transmission Provider's Interconnection Facilities that have not yet been constructed or installed ~~and that are not contingent facilities for any other interconnection project with a lower or equal Queue Position~~, Transmission Provider shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and Transmission Provider shall deliver such material and

equipment, and, if necessary, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Transmission Provider for any or all such costs of materials or equipment not taken by Interconnection Customer, Transmission Provider shall promptly refund such amounts to Interconnection Customer, less any costs, including penalties incurred by Transmission Provider to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which Transmission Provider has incurred expenses and has not been reimbursed by Interconnection Customer.

2.4.2 Transmission Provider may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Transmission Provider shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

2.4.3 With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

~~2.4.4~~ ~~Notwithstanding anything in this Article 2.4, termination of this Agreement shall not entitle Interconnection Customer to refunds of unused deposits or Readiness Milestones payments beyond what is allowed in Revised LGIP Section 12.3.~~ 2.4.4 Transmission Provider shall refund the security provided under Section 10.3 of the Revised LGIP, including any accumulated interest, if applicable. Notwithstanding the foregoing, prior to remitting such security, plus accumulated interest, Transmission Provider shall offset against such security, and accumulated interest, any unpaid costs or penalties arising out of this Agreement or the Revised LGIP. Monies due the Interconnection Customer shall be remitted within 90 days of termination.

2.5 Disconnection.

Upon termination of this LGIA, the Parties will take all appropriate steps to disconnect the Large Generating Facility from the Transmission System. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this LGIA or such non-terminating Party otherwise is responsible for these costs under this LGIA.

2.6 Survival.

This LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this LGIA was in effect; and to permit each Party to have access to the lands of the other Party pursuant to this LGIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment

Article 3. Regulatory Filings

3.1 Filing.

Transmission Provider shall file this LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required. Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If Interconnection Customer has executed this LGIA, or any amendment thereto, Interconnection Customer shall reasonably cooperate with Transmission Provider with respect to such filing and to provide any information reasonably requested by Transmission Provider needed to comply with applicable regulatory requirements.

Article 4. Scope of Service

4.1 Interconnection Product Options.

Interconnection Customer has selected the following (checked) type of Interconnection Service:

4.1.1 Energy Resource Interconnection Service.

4.1.1.1 The Product.

Energy Resource Interconnection Service allows Interconnection Customer to connect the Large Generating Facility to the Transmission System and be eligible to deliver the Large Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. To the extent Interconnection Customer wants to receive Energy Resource Interconnection Service, Transmission Provider shall construct facilities identified in Attachment A.

4.1.1.2 Transmission Delivery Service Implications.

Under Energy Resource Interconnection Service, Interconnection Customer will be eligible to inject power from the Large Generating Facility into and deliver power across the interconnecting Transmission Provider's Transmission System on an "as available" basis up to the amount of MWs identified in the applicable stability and steady state studies to the extent the upgrades initially required to qualify for Energy Resource Interconnection Service have been constructed. Where eligible to do so (e.g., PJM, ISO-NE, NYISO), Interconnection Customer may place a bid to sell into the market up to the maximum

identified Large Generating Facility output, subject to any conditions specified in the interconnection service approval, and the Large Generating Facility will be dispatched to the extent Interconnection Customer's bid clears. In all other instances, no transmission delivery service from the Large Generating Facility is assured, but Interconnection Customer may obtain Point-to-Point Transmission Service, Network Integration Transmission Service, or be used for secondary network transmission service, pursuant to Transmission Provider's Tariff, up to the maximum output identified in the stability and steady state studies. In those instances, in order for Interconnection Customer to obtain the right to deliver or inject energy beyond the Large Generating Facility Point of Interconnection or to improve its ability to do so, transmission delivery service must be obtained pursuant to the provisions of Transmission Provider's Tariff. The Interconnection Customer's ability to inject its Large Generating Facility output beyond the Point of Interconnection, therefore, will depend on the existing capacity of Transmission Provider's Transmission System at such time as a transmission service request is made that would accommodate such delivery. The provision of firm Point-to-Point Transmission Service or Network Integration Transmission Service may require the construction of additional Network Upgrades.

4.1.2 Network Resource Interconnection Service.

4.1.2.1 The Product.

Transmission Provider must conduct the necessary studies and construct the Network Upgrades needed to integrate the Large Generating Facility (1) in a manner comparable to that in which Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an ISO or RTO with market based congestion management, in the same manner as all Network Resources. To the extent Interconnection Customer wants to receive Network Resource Interconnection Service, Transmission Provider shall construct the facilities identified in Attachment A to this LGIA.

4.1.2.2 Transmission Delivery Service Implications.

Network Resource Interconnection Service allows Interconnection Customer's Large Generating Facility to be designated by any Network Customer under the Tariff on Transmission Provider's Transmission System as a Network Resource, up to the Large Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. Although Network Resource Interconnection Service does not convey a

reservation of transmission service, any Network Customer under the Tariff can utilize its network service under the Tariff to obtain delivery of energy from the interconnected Interconnection Customer's Large Generating Facility in the same manner as it accesses Network Resources. A Large Generating Facility receiving Network Resource Interconnection Service may also be used to provide Ancillary Services after technical studies and/or periodic analyses are performed with respect to the Large Generating Facility's ability to provide any applicable Ancillary Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Network Resource. However, if an Interconnection Customer's Large Generating Facility has not been designated as a Network Resource by any load, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all generating facilities that are similarly situated. The provision of Network Integration Transmission Service or firm Point-to-Point Transmission Service may require additional studies and the construction of additional upgrades. Because such studies and upgrades would be associated with a request for delivery service under the Tariff, cost responsibility for the studies and upgrades would be in accordance with FERC's policy for pricing transmission delivery services.

Network Resource Interconnection Service does not necessarily provide Interconnection Customer with the capability to physically deliver the output of its Large Generating Facility to any particular load on Transmission Provider's Transmission System without incurring congestion costs. In the event of transmission constraints on Transmission Provider's Transmission System, Interconnection Customer's Large Generating Facility shall be subject to the applicable congestion management procedures in Transmission Provider's Transmission System in the same manner as Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that Interconnection Customer's Large Generating Facility be designated as a Network Resource by a Network Service Customer under the Tariff or that Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Large Generating Facility as a Network Resource, it must do so pursuant to Transmission Provider's Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining Network Resource Interconnection Service, any future transmission service request for delivery from the Large Generating Facility within Transmission Provider's Transmission

System of any amount of capacity and/or energy, up to the amount initially studied, will not require that any additional studies be performed or that any further upgrades associated with such Large Generating Facility be undertaken, regardless of whether or not such Large Generating Facility is ever designated by a Network Customer as a Network Resource and regardless of changes in ownership of the Large Generating Facility. However, the reduction or elimination of congestion or redispatch costs may require additional studies and the construction of additional upgrades.

To the extent Interconnection Customer enters into an arrangement for long term transmission service for deliveries from the Large Generating Facility outside Transmission Provider's Transmission System, such request may require additional studies and upgrades in order for Transmission Provider to grant such request.

4.2 Provision of Service.

Transmission Provider shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.

4.3 Performance Standards.

Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith. If such Party is a Transmission Provider or Transmission Owner, then that Party shall amend the LGIA and submit the amendment to FERC for approval.

4.4 No Transmission Delivery Service.

The execution of this LGIA does not constitute a request for, nor the provision of, any transmission delivery service under Transmission Provider's Tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.

4.5 Interconnection Customer Provided Services.

The services provided by Interconnection Customer under this LGIA are set forth in Article 9.6 and Article 13.5.1. Interconnection Customer shall be paid for such services in accordance with Article 11.6.

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

5.1 Options.—

Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall select the In-Service Date, Initial Synchronization Date, and Commercial Operation

Date; and either the Standard Option or Alternate Option set forth below for completion of Transmission Provider's Interconnection Facilities and Network Upgrades as set forth in Appendix A, Interconnection Facilities and Network Upgrades, and such dates and selected option shall be set forth in Appendix B, Milestones. At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in Article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Transmission Provider, the Interconnection Customer shall notify Transmission Provider within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build.

5.1.1 Standard Option.

Transmission Provider shall design, procure, and construct Transmission Provider's Interconnection Facilities and Network Upgrades, using Reasonable Efforts to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the dates set forth in Appendix B, LGIA Milestones. Transmission Provider shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event Transmission Provider reasonably expects that it will not be able to complete Transmission Provider's Interconnection Facilities and Network Upgrades by the specified dates, Transmission Provider shall promptly provide written notice to Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

5.1.2 Alternate Option.

If the dates designated by Interconnection Customer are acceptable to Transmission Provider, Transmission Provider shall so notify Interconnection Customer within thirty (30) Calendar Days, and shall assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities by the designated dates.

If Transmission Provider subsequently fails to complete Transmission Provider's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B, LGIA Milestones; Transmission Provider shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each day that the applicable RTO or ISO refuses to grant clearances to install equipment.

5.1.3 Option to Build.

Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2. Transmission Provider and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

5.1.4 Negotiated Option.

—If the dates designated by Interconnection Customer are not acceptable to Transmission Provider, the Parties shall in good faith attempt to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3) If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Transmission Provider shall assume responsibility for the design, procurement and construction of all facilities other than Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

5.2 General Conditions Applicable to Option to Build.

If Interconnection Customer assumes responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades,

- (1) Interconnection Customer shall engineer, procure equipment, and construct Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Provider;
- (2) Interconnection Customer's engineering, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Transmission Provider would be subject in the engineering, procurement or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (3) Transmission Provider shall review and approve the engineering design, equipment acceptance tests, and the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

- (4) Prior to commencement of construction, Interconnection Customer shall provide to Transmission Provider a schedule for construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider;
- (5) At any time during construction, Transmission Provider shall have the right to gain unrestricted access to Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;
- (6) At any time during construction, should any phase of the engineering, equipment procurement, or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Provider, Interconnection Customer shall be obligated to remedy deficiencies in that portion of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;
- (7) Interconnection Customer shall indemnify Transmission Provider for claims arising from Interconnection Customer's construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 Indemnity;
- (8) Interconnection Customer shall transfer control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Provider;
- (9) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Transmission Provider's Interconnection Facilities and Stand-Alone Network Upgrades to Transmission Provider;
- (10) Transmission Provider shall approve and accept for operation and maintenance Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2; and
- (11) Interconnection Customer shall deliver to Transmission Provider "as-built" drawings, information, and any other documents that are reasonably required by Transmission Provider to assure that the Interconnection Facilities and Stand-Alone Network Upgrades are built to the standards and specifications required by Transmission Provider.
- (12) If Interconnection Customer exercises the Option to Build pursuant to Article 5.1.3, Interconnection Customer shall pay Transmission

Provider the agreed upon amount of [\$ PLACEHOLDER] for Transmission Provider to execute the responsibilities enumerated to Transmission Provider under Article 5.2. Transmission Provider shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

5.3 Liquidated Damages.

The actual damages to Interconnection Customer, in the event Transmission Provider's Interconnection Facilities or Network Upgrades are not completed by the dates designated by Interconnection Customer and accepted by Transmission Provider pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by Transmission Provider to Interconnection Customer in the event that Transmission Provider does not complete any portion of Transmission Provider's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to $\frac{1}{2}$ of 1 percent per day of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades, in the aggregate, for which Transmission Provider has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of Transmission Provider's Interconnection Facilities and Network Upgrades for which Transmission Provider has assumed responsibility to design, procure, and construct. The foregoing payments will be made by Transmission Provider to Interconnection Customer as just compensation for the damages caused to Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this LGIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Transmission Provider's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for the Large Generating Facility's Trial Operation or to export power from the Large Generating Facility on the specified dates, unless Interconnection Customer would have been able to commence use of Transmission Provider's Interconnection Facilities or Network Upgrades to take the delivery of power for Large Generating Facility's Trial Operation or to export power from the Large Generating Facility, but for Transmission Provider's delay; (2) Transmission Provider's failure to meet the specified dates is the result of the action or inaction of Interconnection Customer or any other Interconnection Customer who has entered into an LGIA with Transmission Provider or any cause beyond Transmission Provider's reasonable control or reasonable ability to cure; (3) the Interconnection Customer has assumed responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades; or (4) the Parties have otherwise agreed.

5.4 Power System Stabilizers.

The Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the Applicable Reliability Council. Transmission Provider reserves the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. If the Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative. The requirements of this paragraph shall not apply to wind generators.

5.5 Equipment Procurement.

If responsibility for construction of Transmission Provider's Interconnection Facilities or Network Upgrades is to be borne by Transmission Provider, then Transmission Provider shall commence design of Transmission Provider's Interconnection Facilities or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

- 5.5.1** Transmission Provider has completed the Interconnection Facilities Study pursuant to the Interconnection Facilities Study Agreement;
- 5.5.2** Transmission Provider has received written authorization to proceed with design and procurement from Interconnection Customer by the date specified in Appendix B, LGIA Milestones; and
- 5.5.3** Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, LGIA Milestones.

5.6 Construction Commencement.

Transmission Provider shall commence construction of Transmission Provider's Interconnection Facilities and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

- 5.6.1** Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;
- 5.6.2** Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of Transmission Provider's Interconnection Facilities and Network Upgrades;
- 5.6.3** Transmission Provider has received written authorization to proceed with construction from Interconnection Customer by the date specified in Appendix B, LGIA Milestones; and
- 5.6.4** Interconnection Customer has provided security to Transmission Provider in accordance with Article 11.5 by the dates specified in Appendix B, LGIA Milestones.

5.7 Work Progress.

The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time, request a progress report from the other Party. If, at any time, Interconnection Customer determines that the completion of Transmission Provider's Interconnection Facilities will not be required until after the specified In-Service Date, Interconnection Customer will provide written notice to Transmission Provider of such later date upon which the completion of Transmission Provider's Interconnection Facilities will be required.

5.8 Information Exchange.

As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with Transmission Provider's Transmission System, and shall work diligently and in good faith to make any necessary design changes.

5.9 Other Interconnection Options

5.9.1 Limited Operation.

—If any of Transmission Provider's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Large Generating Facility, Transmission Provider shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Large Generating Facility and Interconnection Customer's Interconnection Facilities may operate prior to the completion of Transmission Provider's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this LGIA. Transmission Provider shall permit Interconnection Customer to operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.

5.9.2- Provisional Interconnection Service.

Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities Transmission Provider may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with the Interconnection Customer for limited Interconnection Service at the discretion of Transmission Provider based upon an evaluation that will consider the results of available studies. Transmission Provider shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Generating Facility or Transmission System.

Transmission Provider shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Generating Facility are in place prior to the commencement of Interconnection Service from the Generating Facility. Where available studies indicate that such, Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Generating Facility are not currently in place, Transmission Provider will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated if necessary on a quarterly basis and at the Interconnection Customer's expense. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

5.10 Interconnection Customer's Interconnection Facilities ("ICIF").

Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.10.1 Interconnection Customer's Interconnection Facility Specifications.

Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Transmission Provider at least one-hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Transmission Provider shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Provider and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

5.10.2 Transmission Provider's Review.

Transmission Provider's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Transmission Provider, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of Transmission Provider.

5.10.3 ICIF Construction.

The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one-hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Interconnection Customer shall deliver to Transmission Provider "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with Interconnection Customer's step-up transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facility. The Interconnection Customer shall provide Transmission Provider specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

5.11 Transmission Provider's Interconnection Facilities Construction.

Transmission Provider's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one-hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, Transmission Provider shall deliver to Interconnection Customer the following "as-built" drawings, information and documents for Transmission Provider's Interconnection Facilities [include appropriate drawings and relay diagrams]. Transmission Provider will obtain control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities.

5.12 Access Rights.

Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents (if allowed under the applicable agency agreement), or any Affiliate, that are necessary to enable the Access Party to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Large Generating Facility with the Transmission System; (ii) operate and maintain the Large Generating Facility, the Interconnection Facilities and the Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this LGIA. In exercising such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

5.13 Lands of Other Property Owners.

If any part of Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Transmission Provider or Transmission Owner, Transmission Provider or Transmission Owner shall at Interconnection Customer's expense use efforts, similar in nature and extent to those that it typically undertakes on its own behalf or on behalf of its Affiliates, including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove Transmission Provider or Transmission Owner's Interconnection Facilities and/or Network Upgrades upon such property.

5.14 Permits.

Transmission Provider or Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Transmission Provider or Transmission Owner shall provide permitting assistance to Interconnection Customer comparable to that provided to Transmission Provider's own, or an Affiliate's generation.

5.15 Early Construction of Base Case Facilities.

Interconnection Customer may request Transmission Provider to construct, and Transmission Provider shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades required for Interconnection Customer to be interconnected to the Transmission System which are included in the Base Case of the Facilities Study for Interconnection Customer, and which also are required to be constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date.

5.16 Suspension.

Interconnection Customer reserves the right, upon written notice to Transmission Provider, to suspend at any time all work by Transmission Provider associated with the construction and installation of Transmission Provider's Interconnection Facilities, ~~and/or Distribution Upgrades~~ and/or Network Upgrades required under this LGIA ~~that have no negative impact on equal or lower queued Interconnection Requests~~ with the condition that Transmission System shall be left in a safe and reliable condition in accordance with Good Utility Practice and Transmission Provider's safety and reliability criteria. ~~All other Transmission Provider's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades must be fully funded by Interconnection Customer according to timeline identified in and will commence construction according to the schedule described in the Appendices of this LGIA. Acceptable funding mechanisms include cash or an irrevocable letter of credit. If Transmission Provider later identifies Transmission Provider's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades that will impact lower queued after Interconnection Customer suspends work, In such facilities must be fully funded to commence construction. Failure to fully fund Transmission Provider's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades according to the~~

~~schedule described in the Appendices or according to the timeline the Transmission provider determines an equal or lower queued project needs such facilities shall result in the termination of this LGIA. Interconnection Customer may request Transmission Provider perform a study or otherwise evaluate, at Interconnection Customer's expense, the equal or lower queued customer's reliance on such facilities, including the timing thereof.~~

~~If the Interconnection Customer has fully funded and the Transmission Provider has constructed the Transmission Provider's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades and the Interconnection Customer fails to achieve Commercial Operation, but it or another Generating Facility is constructed within four (4) years of the Interconnection Customer's failure to reach Commercial Operation and it or another Generating Facility makes use (as identified in the large generator interconnection process) of the portion of the Transmission Provider's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades that was reserved for the first Generating Facility, Transmission Provider and Affected System Operator shall at that time reimburse Interconnection Customer for the amounts advanced for the Transmission Provider's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades without interest. Before any such reimbursement can occur, the new Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which reimbursement must be made.~~

~~Network Upgrades, Distribution Upgrades, and Transmission Provider's Interconnection Facilities will be constructed on the schedule described in the Appendices of this LGIA unless: (1) construction is prevented by the order of a Governmental Authority; (2) the Network Upgrades or Distribution Upgrades are not needed by any other project and the Interconnection Customer has entered suspension under Article 5.16; or (3) Transmission Provider determines that a Force Majeure event prevents construction. In the event of clauses (1), (2), or (3), funding shall be released by the Transmission Provider to the Interconnection Customer upon the determination that the Network Upgrades and/or Distribution Upgrades will no longer be constructed. If suspension occurs, the Transmission or Distribution System, as applicable, shall be left in a safe and reliable condition in accordance with Good Utility Practice and Transmission Provider's safety and reliability criteria. If work on Transmission Provider's Interconnection Facilities, Distribution Upgrades, and/or Network Upgrades was originally suspended, but later were identified as needed by a lower queued Interconnection Request, work on such facilities shall commence according to the schedule determined by the need of the impacted lower queued Interconnection Customer.~~

~~In the event the Interconnection Customer suspends work by Transmission Provider, Interconnection Customer shall be responsible for all reasonable and necessary costs thatwhich Transmission Provider (i) has incurred pursuant to this LGIA prior to the suspension; and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property~~

and the integrity of the Transmission ~~or Distribution~~ System, ~~as applicable~~, during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Transmission Provider cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Transmission Provider shall obtain Interconnection Customer's authorization to do so.

Transmission Provider shall ~~each~~ invoice Interconnection Customer for such costs pursuant to Article 12 and shall use ~~Reasonable Efforts~~ due diligence to minimize its costs. In the event Interconnection Customer suspends work by Transmission Provider required under this LGIA pursuant to this Article 5.16, and has not requested Transmission Provider to recommence the work required under this LGIA on or before the expiration of three (3) years following commencement of such suspension, this LGIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Transmission Provider, if no effective date is specified. ~~To the extent the transmission topology or studied assumptions have changed, Transmission Provider may need to Re-Study Interconnection Customer prior to emerging suspension.~~

5.16.1- Effect of Missed Interconnection Customer LGIA Milestones.

If Interconnection Customer fails to provide notice of suspension pursuant to Article 5.16, and Interconnection Customer fails to fulfill or complete any Interconnection Customer LGIA Milestone provided in Appendix B ("LGIA Milestone"), this constitutes a Breach under this LGIA. Depending upon the consequences of the Breach and effectiveness of the cure pursuant to Article 17, Transmission Provider's LGIA Milestones may be revised, following consultation with Interconnection Customer, consistent with Reasonable Efforts, and in consideration of all relevant circumstances. Parties shall employ Reasonable Efforts to maintain their remaining respective LGIA Milestones.

5.16.2 Effect of Suspension; Parties Obligations.

In the event that Interconnection Customer suspends work pursuant to this Article 5.16, the applicable construction duration, timelines and schedules set forth in Appendix B shall be suspended during the period of suspension ~~unless (1) construction is prevented by the order of a Governmental Authority; (2) the Network Upgrades or Distribution Upgrades are not needed by any other project and the Interconnection Customer has entered suspension under Article 5.16; or (3) Transmission Provider determines that a Force Majeure event prevents construction. Should Interconnection Customer thereafter request that work be recommenced, Transmission Provider shall be obligated to proceed with Reasonable Efforts and in consideration of all relevant circumstances including regional outage schedules, construction availability and material procurement in performing the work as described in Appendix A and Appendix B. Transmission Provider will provide Interconnection Customer with a revised schedule for the design, procurement, construction, installation and testing of the Transmission Owner's Interconnection Facilities and Network Upgrades. Upon any suspension by Interconnection Customer pursuant to Article 5.16, Interconnection Customer~~

shall be responsible for only those costs specified in this Article 5.16.. Should Interconnection Customer thereafter request that work be recommenced, Appendix A and Appendix B may be revised to account for construction sequencing and modified milestones. If the Commercial Operation Date is extended beyond three (3) cumulative years described in Section 4.4.5 of the Revised LGIP and Article 2.3.1 of this LGIA, such an extension may be considered a Material Modification and result in the termination of the LGIA under Article 2.3.1. Interconnection Customer is required to maintain Site Control while this LGIA is in effect, including during suspension.

5.17 Taxes

5.17.1 Interconnection Customer Payments Not Taxable.

The Parties intend that all payments or property transfers made by Interconnection Customer to Transmission Provider for the installation of Transmission Provider's Interconnection Facilities and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

5.17.2 Representations and Covenants.

In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to Transmission Provider for Transmission Provider's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of Transmission Provider's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. For this purpose, "de minimis amount" means no more than percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 88-129. This is not intended to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Transmission Provider's request, Interconnection Customer shall provide Transmission Provider with a report from an independent engineer confirming its representation in clause (iii), above. Transmission Provider represents and covenants that the cost of Transmission Provider's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon the Transmission Provider.

Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Transmission Provider from the cost consequences of any current tax liability imposed against Transmission Provider as the result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA for Interconnection Facilities, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Transmission Provider.

Transmission Provider shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this LGIA unless (i) Transmission Provider has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Transmission Provider should be reported as income subject to taxation or (ii) any Governmental Authority directs Transmission Provider to report payments or property as income subject to taxation; provided, however, that Transmission Provider may require Interconnection Customer to provide security for Interconnection Facilities, in a form reasonably acceptable to Transmission Provider (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Transmission Provider for such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Transmission Provider of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten-year testing period and the applicable statute of limitation, as it may be extended by Transmission Provider upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

5.17.4 Tax Gross-Up Amount.

Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Transmission Provider, in addition to the amount paid for the Interconnection Facilities and Network Upgrades, an amount equal to (1) the current taxes imposed on Transmission Provider ("Current Taxes") on the excess of (a) the gross income realized by Transmission Provider as a result of payments or property transfers made by Interconnection Customer to Transmission Provider under this LGIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit Transmission Provider to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1).

For this purpose, (i) Current Taxes shall be computed based on Transmission Provider's composite federal and state tax rates at the time the payments or property transfers are received and Transmission Provider will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Transmission Provider's anticipated tax depreciation deductions as a result of such payments or property transfers by Transmission Provider's current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows: $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$. Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades.

5.17.5 Private Letter Ruling or Change or Clarification of Law.

At Interconnection Customer's request and expense, Transmission Provider shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Transmission Provider under this LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Transmission Provider and Interconnection Customer shall cooperate in good faith with respect to the submission of such request. Transmission Provider shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Transmission Provider shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

5.17.6 Subsequent Taxable Events.

If, within ten (10) years from the date on which the relevant Transmission Provider's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenants contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii) this LGIA terminates and Transmission Provider retains ownership of the Interconnection Facilities and Network Upgrades, Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Transmission Provider, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

5.17.7 Contests.

In the event any Governmental Authority determines that Transmission Provider's receipt of payments or property constitutes income that is subject to taxation, Transmission Provider shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Transmission Provider may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Transmission Provider reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Transmission Provider shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.

Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Transmission Provider may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Transmission Provider, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally-recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Transmission Provider for the tax at issue in the contest.

5.17.8 Refund.

In the event that (a) a private letter ruling is issued to Transmission Provider which holds that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Provider under the terms of this LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Transmission Provider in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Transmission Provider under the terms of this LGIA is not taxable to Transmission Provider, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Transmission Provider are not subject to federal

income tax, or (d) if Transmission Provider receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Transmission Provider pursuant to this LGIA, Transmission Provider shall promptly refund to Interconnection Customer the following:

- (i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,
- (ii) interest on any amount paid by Interconnection Customer to Transmission Provider for such taxes which Transmission Provider did not submit to the taxing authority, calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Transmission Provider refunds such payment to Interconnection Customer, and
- (iii) with respect to any such taxes paid by Transmission Provider, any refund or credit Transmission Provider receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to Transmission Provider for such overpayment of taxes (including any reduction in interest otherwise payable by Transmission Provider to any Governmental Authority resulting from an offset or credit); provided, however, that Transmission Provider will remit such amount promptly to Interconnection Customer only after and to the extent that Transmission Provider has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to Transmission Provider's Interconnection Facilities. The intent of this provision is to leave the Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

5.17.9 Taxes Other Than Income Taxes.

Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Transmission Provider may appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Transmission Provider for which Interconnection Customer may be required to reimburse Transmission Provider under the terms of this LGIA. Interconnection Customer shall pay to Transmission Provider on a periodic basis, as invoiced by Transmission Provider, Transmission Provider's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Transmission Provider shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or

abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Transmission Provider for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Transmission Provider.

5.17.10 Transmission Owners Who Are Not Transmission Providers.

If Transmission Provider is not the same entity as the Transmission Owner, then (i) all references in this Article 5.17 to Transmission Provider shall be deemed also to refer to and to include the Transmission Owner, as appropriate, and (ii) this LGIA shall not become effective until such Transmission Owner shall have agreed in writing to assume all of the duties and obligations of Transmission Provider under this Article 5.17 of this LGIA.

5.18 Tax Status.

Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this LGIA is intended to adversely affect any Transmission Provider's tax exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

5.19 Modification.

5.19.1 General.

Either Party may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, that Party shall provide to the other Party sufficient information regarding such modification so that the other Party may evaluate the potential impact of such modification prior to commencement of the work. Such information shall be deemed to be confidential hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed.

In the case of Large Generating Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Transmission Provider shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the Transmission System, Transmission Provider's Interconnection Facilities or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

5.19.2 Standards.

Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed, and operated in accordance with this LGIA and Good Utility Practice.

5.19.3 Modification Costs.

Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Transmission Provider makes to Transmission Provider's Interconnection Facilities or the Transmission System to facilitate the interconnection of a third party to Transmission Provider's Interconnection Facilities or the Transmission System, or to provide transmission service to a third party under Transmission Provider's Tariff. Interconnection Customer shall be responsible for the costs of any additions, modifications, or replacements to Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

Article 6. Testing and Inspection

6.1 Pre-Commercial Operation Date Testing and Modifications.

Prior to the Commercial Operation Date, Transmission Provider shall test Transmission Provider's Interconnection Facilities and Network Upgrades and Interconnection Customer shall test the Large Generating Facility and Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.

6.2 Post-Commercial Operation Date Testing and Modifications.

Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Large Generating Facility with the Transmission System in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, as may be in accordance with Good Utility Practice.

6.3 Right to Observe Testing.

Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities. The other Party has the right, at its own expense, to observe such testing.

6.4 Right to Inspect.

Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's tests and/or inspection of any of its System Protection Facilities and other

protective equipment, including Power System Stabilizers; (ii) review the settings of the other Party's System Protection Facilities and other protective equipment; and (iii) review the other Party's maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Party. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be deemed to be Confidential Information and treated pursuant to Article 22 of this LGIA.

Article 7. Metering

7.1 General.

Each Party shall comply with the Applicable Reliability Council requirements. Unless otherwise agreed by the Parties, Transmission Provider shall install Metering Equipment at the Point of Interconnection prior to any operation of the Large Generating Facility and shall own, operate, test and maintain such Metering Equipment. Power flows to and from the Large Generating Facility shall be measured at or, at Transmission Provider's option, compensated to, the Point of Interconnection. Transmission Provider shall provide metering quantities, in analog and/or digital form, to Interconnection Customer upon request. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment.

7.2 Check Meters.

Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Transmission Provider's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this LGIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Transmission Provider or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.

7.3 Standards.

Transmission Provider shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards.

7.4 Testing of Metering Equipment.

Transmission Provider shall inspect and test all Transmission Provider-owned Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by Interconnection Customer, Transmission Provider shall, at Interconnection Customer's expense, inspect or test Metering Equipment more frequently than every two (2) years. Transmission Provider shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer

may have representatives present at the test or inspection. If at any time Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering, unless the inaccuracy or defect is due to Transmission Provider's failure to maintain, then Transmission Provider shall pay. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than two percent from the measurement made by the standard meter used in the test, Transmission Provider shall adjust the measurements by correcting all measurements for the period during which Metering Equipment was in error by using Interconnection Customer's check meters, if installed. If no such check meters are installed or if the period cannot be reasonably ascertained, the adjustment shall be for the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment.

7.5 Metering Data.

At Interconnection Customer's expense, the metered data shall be telemetered to one or more locations designated by Transmission Provider and one or more locations designated by Interconnection Customer. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection.

Article 8. Communications

8.1 Interconnection Customer Obligations.

Interconnection Customer shall maintain satisfactory operating communications with Transmission Provider's Transmission System dispatcher or representative designated by Transmission Provider. Interconnection Customer shall provide standard voice line, dedicated voice line and facsimile communications at its Large Generating Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Interconnection Customer shall also provide the dedicated data circuit(s) necessary to provide Interconnection Customer data to Transmission Provider as set forth in Appendix D, Security Arrangements Details. The data circuit(s) shall extend from the Large Generating Facility to the location(s) specified by Transmission Provider. Any required maintenance of such communications equipment shall be performed by Interconnection Customer. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data

8.2 Remote Terminal Unit.

Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer, or by Transmission Provider at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by Transmission Provider through use of a dedicated point-to-point data circuit(s) as indicated in Article 8.1. The communication protocol for the data circuit(s) shall be specified by Transmission Provider.

Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by Transmission Provider.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

8.3 No Annexation.

Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

8.4 Provision of Data from a Variable Energy Resource.

The Interconnection Customer whose Generating Facility is a Variable Energy Resource shall provide meteorological and forced outage data to the Transmission Provider to the extent necessary for the Transmission Provider's development and deployment of power production forecasts for that class of Variable Energy Resources.

The Interconnection Customer with a Variable Energy Resource having wind as the energy source, at a minimum, will be required to provide the Transmission Provider with site-specific meteorological data including: manufacturer, model, and year of all wind turbines and meteorological instrumentation, latitude, longitude and hub height at every wind turbine and meteorological tower, real-time data including turbine generation (kW), wind speed (mph), turbine availability, wind direction (in degrees relative to true north), temperature (Celsius and F), pressure (mb), air density and turbine manufacturer power curve. The information provided shall be refreshed in approximately four-ten (4-10) second intervals with regard to its generation of Renewable Energy at the Facility.

The Interconnection Customer with a Variable Energy Resource having solar as the energy source, at a minimum, will be required to provide the Transmission Provider with site-specific meteorological data including: manufacturer, model and year of all panels, inverters and meteorological instrumentation, latitude and longitude of the center of the solar panels for every inverter and every meteorological tower, real-time data including inverter generation (kW), inverter availability, direct normal solar insolation (solar intensity), temperature, barometric pressure, wind speed (mph), wind direction (degrees relative to true north) and solar panel manufacturer power curve. The information provided shall be refreshed as frequently as allowed by the SCADA System, not to exceed sixty (60) second intervals.

The Transmission Provider and Interconnection Customer whose Generating Facility is a Variable Energy Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power production forecast. The Interconnection Customer whose Generating Facility is a Variable Energy Resource also shall submit data to the Transmission Provider regarding all forced outages to the extent necessary for the Transmission Provider's development and deployment of power

production forecasts for that class of Variable Energy Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the Transmission Provider including the frequency and timing of data submittals shall be made taking into account the size and configuration of the Variable Energy Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the Transmission Provider. Such requirements for meteorological and forced outage data are set forth in Appendix C, Interconnection Details, of this LGIA, as they may change from time to time.

Article 9. Operations

- 9.1 General.** Each Party shall comply with the Applicable Reliability Council requirements. Each Party shall provide to the other Party all information that may reasonably be required by the other Party to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 Control Area Notification.** At least three months before Initial Synchronization Date, Interconnection Customer shall notify Transmission Provider in writing of the Control Area in which the Large Generating Facility will be located. If Interconnection Customer elects to locate the Large Generating Facility in a Control Area other than the Control Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this LGIA, and remote Control Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented prior to the placement of the Large Generating Facility in the other Control Area.
- 9.3 Transmission Provider Obligations.** Transmission Provider shall cause the Transmission System and Transmission Provider's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA. Transmission Provider may provide operating instructions to Interconnection Customer consistent with this LGIA and Transmission Provider's operating protocols and procedures as they may change from time to time. Transmission Provider will consider changes to its operating protocols and procedures proposed by Interconnection Customer.
- 9.4 Interconnection Customer Obligations.** Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA. Interconnection Customer shall operate the Large Generating Facility and Interconnection Customer's Interconnection Facilities in accordance with all applicable requirements of the Control Area of which it is part, as such requirements are set forth in Appendix C, Interconnection Details, of this LGIA. Appendix C, Interconnection Details, will be modified to reflect changes to the requirements as they may change from time to time. Either Party may request that the other Party provide copies of the requirements set forth in Appendix C, Interconnection Details, of this LGIA.

9.5 Start-Up and Synchronization. Consistent with the Parties' mutually acceptable procedures, Interconnection Customer is responsible for the proper synchronization of the Large Generating Facility to Transmission Provider's Transmission System.

9.6 Reactive Power and Primary Frequency Response.

9.6.1 Power Factor Design Criteria.

9.6.1.1 Synchronous Generation. Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Provider has established different requirements that apply to all synchronous generators in the Control Area on a comparable basis.

9.6.1.2 Non-Synchronous Generation. Interconnection Customer shall design the Large Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Transmission Provider has established a different power factor range that applies to all non-synchronous generators in the Control Area on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two. This requirement shall only apply to newly interconnecting non-synchronous generators that have not yet executed a Facilities Study Agreement as of the effective date of the Final Rule establishing this requirement (Order No. 827).¹ This requirement also applies to existing non-synchronous generators making upgrades that require a new Generator Interconnection Agreement where the System Impact Study shows the need for reactive power as a result of an upgrade.

[1] The effective date of Order 827 is October 14, 2016.

9.6.2 Voltage Schedules. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Transmission Provider shall require Interconnection Customer to operate the Large Generating Facility to produce or absorb reactive power within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). Transmission Provider's voltage schedules shall treat all sources of reactive power in the Control Area in an equitable and not unduly discriminatory manner. Transmission Provider shall exercise

Reasonable Efforts to provide Interconnection Customer with such schedules at least one (1) day in advance, and may make changes to such schedules as necessary to maintain the reliability of the Transmission System. Interconnection Customer shall operate the Large Generating Facility to maintain the specified output voltage or power factor at the Point of Interconnection within the design limitations of the Large Generating Facility set forth in Article 9.6.1 (Power Factor Design Criteria). If Interconnection Customer is unable to maintain the specified voltage or power factor, it shall promptly notify the System Operator.

9.6.2.1 Voltage Regulators.

Whenever the Large Generating Facility is operated in parallel with the Transmission System and voltage regulators are capable of operation, Interconnection Customer shall operate the Large Generating Facility with its voltage regulators in automatic operation. If the Large Generating Facility's voltage regulators are not capable of such automatic operation, Interconnection Customer shall immediately notify Transmission Provider's system operator, or its designated representative, and ensure that such Large Generating Facility's reactive power production or absorption (measured in MVARs) are within the design capability of the Large Generating Facility's generating unit(s) and steady state stability limits. Interconnection Customer shall not cause its Large Generating Facility to disconnect automatically or instantaneously from the Transmission System or trip any generating unit comprising the Large Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Control Area on a comparable basis.

9.6.3 Payment for Reactive Power.

Transmission Provider is required to pay Interconnection Customer for reactive power that Interconnection Customer provides or absorbs from the Large Generating Facility when Transmission Provider requests Interconnection Customer to operate its Large Generating Facility outside the range specified in Article 9.6.1, provided that if Transmission Provider pays its own or affiliated generators for reactive power service within the specified range, it must also pay Interconnection Customer. Payments shall be pursuant to Article 11.6 or such other agreement to which the Parties have otherwise agreed.

9.6.4 Primary Frequency Response.-

Interconnection Customer shall ensure the primary frequency response capability of its Large Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term "functioning governor or equivalent controls" as

used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility's real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ± 0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Large Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility's real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Large Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify Transmission Provider that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Large Generating Facility with the Transmission System, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in Articles 9.6.4.1 and 9.6.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

9.6.4.1 Governor or Equivalent Controls.

Whenever the Large Generating Facility is operated in parallel with the Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with Transmission Provider and/or the relevant balancing authority, set the deadband parameter to: (1) a maximum of ± 0.036 Hz and set the droop parameter to a maximum of 5 percent or (2) implement

the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to Transmission Provider and/or the relevant balancing authority upon request. If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify Transmission Provider and the relevant balancing authority, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the Transmission System.

9.6.4.2 Timely and Sustained Response.

Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Large Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

9.6.4.3 Exemptions.

Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Articles 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating Facilities that are behind the meter generation that is sized-to-load

(i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Article 9.6.4, but shall be otherwise exempt from the operating requirements in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

9.6.4.4 Electric Storage Resources.

Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.3 of this Agreement. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by Transmission Provider and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Article 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the Transmission System and/or receive electricity from the Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the Transmission System and/or dispatched to receive electricity from the Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change

from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

9.7 Outages and Interruptions.

9.7.1 Outages.

9.7.1.1 Outage Authority and Coordination.

Each Party may in accordance with Good Utility Practice in coordination with the other Party remove from service any of its respective Interconnection Facilities or Network Upgrades that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent an Emergency Condition, the Party scheduling a removal of such facility(ies) from service will use Reasonable Efforts to schedule such removal on a date and time mutually acceptable to the Parties. In all circumstances, any Party planning to remove such facility(ies) from service shall use Reasonable Efforts to minimize the effect on the other Party of such removal.

9.7.1.2 Outage Schedules.

Transmission Provider shall post scheduled outages of its transmission facilities on the OASIS. Interconnection Customer shall submit its planned maintenance schedules for the Large Generating Facility to Transmission Provider for a minimum of a rolling twenty-four month period. Interconnection Customer shall update its planned maintenance schedules as necessary. Transmission Provider may request Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the Transmission System; provided, however, adequacy of generation supply shall not be a criterion in determining Transmission System reliability. Transmission Provider shall compensate Interconnection Customer for any additional direct costs that Interconnection Customer incurs as a result of having to reschedule maintenance, including any additional overtime, breaking of maintenance contracts or other costs above and beyond the cost Interconnection Customer would have incurred absent Transmission Provider's request to reschedule maintenance. Interconnection Customer will not be eligible to receive compensation, if during the twelve (12) months prior to the date of the scheduled maintenance, Interconnection Customer had modified its schedule of maintenance activities.

9.7.1.3 Outage Restoration.

If an outage on a Party's Interconnection Facilities or Network Upgrades adversely affects the other Party's operations or facilities, the Party that owns or controls the facility that is out of

service shall use Reasonable Efforts to promptly restore such facility(ies) to a normal operating condition consistent with the nature of the outage. The Party that owns or controls the facility that is out of service shall provide the other Party, to the extent such information is known, information on the nature of the Emergency Condition, an estimated time of restoration, and any corrective actions required. Initial verbal notice shall be followed up as soon as practicable with written notice explaining the nature of the outage.

9.7.2 Interruption of Service.

If required by Good Utility Practice to do so, Transmission Provider may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect Transmission Provider's ability to perform such activities as are necessary to safely and reliably operate and maintain the Transmission System. The following provisions shall apply to any interruption or reduction permitted under this Article 9.7.2:

- 9.7.2.1** The interruption or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;
- 9.7.2.2** Any such interruption or reduction shall be made on an equitable, non-discriminatory basis with respect to all generating facilities directly connected to the Transmission System;
- 9.7.2.3** When the interruption or reduction must be made under circumstances which do not allow for advance notice, Transmission Provider shall notify Interconnection Customer by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction, and, if known, its expected duration. Telephone notification shall be followed by written notification as soon as practicable;
- 9.7.2.4** Except during the existence of an Emergency Condition, when the interruption or reduction can be scheduled without advance notice, Transmission Provider shall notify Interconnection Customer in advance regarding the timing of such scheduling and further notify Interconnection Customer of the expected duration. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the interruption or reduction during periods of least impact to Interconnection Customer and Transmission Provider; and
- 9.7.2.5** The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Large Generating Facility, Interconnection Facilities, and the Transmission System to their

normal operating state, consistent with system conditions and Good Utility Practice.

9.7.3 Under-Frequency and Over Frequency Conditions.

The Transmission System is designed to automatically activate a load-shed program as required by the Applicable Reliability Council in the event of an under-frequency system disturbance. Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the Applicable Reliability Council to ensure "ride through" capability of the Transmission System. Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with Transmission Provider in accordance with Good Utility Practice. The term "ride through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the Transmission System during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice.

9.7.4 System Protection and Other Control Requirements.

9.7.4.1 System Protection Facilities. Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Provider shall install at Interconnection Customer's expense any System Protection Facilities that may be required on Transmission Provider's Interconnection Facilities or the Transmission System as a result of the interconnection of the Large Generating Facility and Interconnection Customer's Interconnection Facilities.

9.7.4.2 Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.

9.7.4.3 Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

9.7.4.4 Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Article 6. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and/or the tripping of Interconnection Customer's units.

9.7.4.5 Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice.

9.7.4.6 Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated

9.7.5 Requirements for Protection.

In compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the Transmission System not otherwise isolated by Transmission Provider's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the Transmission System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large Generating Facility and Interconnection Customer's other equipment if conditions on the Transmission System could adversely affect the Large Generating Facility.

9.7.6 Power Quality.

Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard, ANSI Standard C84.1-1989, or the applicable superseding electric industry standard, shall control.

9.8 Switching and Tagging Rules.

Each Party shall provide the other Party a copy of its switching and tagging rules that are applicable to the other Party's activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

9.9 Use of Interconnection Facilities by Third Parties.

9.9.1 Purpose of Interconnection Facilities.

Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Transmission System and shall be used for no other purpose.

9.9.2 Third Party Users.

If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use Transmission Provider's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually-agreed upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Transmission Provider, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to FERC for resolution.

9.10 Disturbance Analysis Data Exchange.

The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or Transmission Provider's Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by Good Utility Practice

Article 10. Maintenance.

10.1 Transmission Provider Obligations.

Transmission Provider shall maintain the Transmission System and Transmission Provider's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.2 Interconnection Customer Obligations.

Interconnection Customer shall maintain the Large Generating Facility and Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA.

10.3 Coordination.

The Parties shall confer regularly to coordinate the planning, scheduling and performance of preventive and corrective maintenance on the Large Generating Facility and the Interconnection Facilities.

10.4 Secondary Systems.

Each Party shall cooperate with the other in the inspection, maintenance, and testing of control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers that directly affect the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. Each Party shall provide advance notice to the other Party before undertaking any work on such circuits, especially on electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

10.5 Operating and Maintenance Expenses.

Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Transmission Provider's Interconnection Facilities.

Article 11. Performance Obligation.

11.1 Interconnection Customer Interconnection Facilities.

Interconnection Customer shall design, procure, construct, install, own and/or control Interconnection Customer Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at its sole expense.

11.2 Transmission Provider's Interconnection Facilities.

Transmission Provider or Transmission Owner shall design, procure, construct, install, own and/or control the Transmission Provider's Interconnection Facilities described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades, at the sole expense of the Interconnection Customer.

11.3 Network Upgrades and Distribution Upgrades.

Transmission Provider or Transmission Owner shall design, procure, construct, install, and own the Network Upgrades and Distribution Upgrades described in Appendix A, Interconnection Facilities, Network Upgrades and Distribution Upgrades. The

Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Unless Transmission Provider or Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by Interconnection Customer.

11.4 Transmission Credits.

11.4.1 Repayment of Amounts Advanced for Network Upgrades.

Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to Transmission Provider and Affected System Operator, if any, for the Network Upgrades, including any tax gross-up or other tax-related payments associated with Network Upgrades, and not refunded to Interconnection Customer pursuant to Article 5.17.8 or otherwise, to be paid to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under Transmission Provider's Tariff and Affected System's Tariff for transmission services with respect to the Large Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii) from the date of any cash payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. Interconnection Customer may assign such repayment rights to any person.

Notwithstanding the foregoing, Interconnection Customer, Transmission Provider, and Affected System Operator may adopt any alternative payment schedule that is mutually agreeable so long as Transmission Provider and Affected System Operator take one of the following actions no later than five years from the Commercial Operation Date: (1) return to Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that Transmission Provider or Affected System Operator will continue to provide payments to Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the Commercial Operation Date.

If the Large Generating Facility fails to achieve Commercial Operation, but it or another Generating Facility is later constructed and makes use of the Network Upgrades, Transmission Provider and Affected System Operator shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, the Interconnection Customer, or the entity that ultimately constructs the Generating Facility, if different, is responsible for identifying the entity to which reimbursement must be made.

11.4.2 Special Provisions for Affected Systems.

Unless Transmission Provider provides, under the LGIA, for the repayment of amounts advanced to Affected System Operator for Network Upgrades, Interconnection Customer and Affected System Operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by Interconnection Customer to the Affected System Operator as well as the repayment by the Affected System Operator.

- 11.4.3** Notwithstanding any other provision of this LGIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that Interconnection Customer, shall be entitled to, now or in the future under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Large Generating Facility.

11.5 Provision of Security.

At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of a Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades, Interconnection Customer shall provide Transmission Provider, at Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Transmission Provider and is consistent with the Uniform Commercial Code of the jurisdiction identified in Article 14.2.1. Such security for payment shall be in an amount sufficient to cover the costs for constructing, procuring and installing the applicable portion of Transmission Provider's Interconnection Facilities, Network Upgrades, or Distribution Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to Transmission Provider for these purposes.

In addition:

- 11.5.1** The guarantee must be made by an entity that meets the creditworthiness requirements of Transmission Provider, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.
- 11.5.2** The letter of credit must be issued by a financial institution reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.
- 11.5.3** The surety bond must be issued by an insurer reasonably acceptable to Transmission Provider and must specify a reasonable expiration date.

11.6 Interconnection Customer Compensation.

If Transmission Provider requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.5.1 of this LGIA,

Transmission Provider shall compensate Interconnection Customer in accordance with Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to an RTO or ISO FERC-approved rate schedule. Interconnection Customer shall serve Transmission Provider or RTO or ISO with any filing of a proposed rate schedule at the time of such filing with FERC. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb any Reactive Power under this LGIA, Transmission Provider agrees to compensate Interconnection Customer in such amount as would have been due Interconnection Customer had the rate schedule been in effect at the time service commenced; provided, however, that such rate schedule must be filed at FERC or other appropriate Governmental Authority within sixty (60) Calendar Days of the commencement of service

11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition.

Transmission Provider or RTO or ISO shall compensate Interconnection Customer for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the Transmission System during an Emergency Condition in accordance with Article 11.6.

Article 12. Invoice.

12.1 General.

Each Party shall submit to the other Party, on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under this LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

12.2 Final Invoice.

Within six months after completion of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades, Transmission Provider shall provide an invoice of the final cost of the construction of Transmission Provider's Interconnection Facilities and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Provider shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

12.3 Payment.

Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other

Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by either Party will not constitute a waiver of any rights or claims either Party may have under this LGIA. If Interconnection Customer has not paid the final invoice following a withdrawal within thirty (30) Calendar Days, Transmission Provider shall draw upon the security provided under this LGIA to settle all accounts, which shall include any offsets of amounts due and owing by Transmission Provider. After the final invoice is paid and all accounts are settled, Transmission Provider shall refund all remaining security.

12.4 Disputes.

In the event of a billing dispute between Transmission Provider and Interconnection Customer, Transmission Provider shall continue to provide Interconnection Service under this LGIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Provider may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in FERC's regulations at 18 CFR § 35.19a(a)(2)(iii)

Article 13. Emergencies

13.1 Definition.

Emergency Condition" shall mean a condition or situation: (i) that in the judgment of the Party making the claim is imminently likely to endanger life or property; (ii) that, in the case of Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission System, Transmission Provider's Interconnection Facilities or the Transmission Systems of others to which the Transmission System is directly connected; or (iii) that, in the case of Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Large Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided, that Interconnection Customer is not obligated by this LGIA to possess black start capability.

13.2 Obligations.

Each Party shall comply with the Emergency Condition procedures of the applicable ISO/RTO, NERC, the Applicable Reliability Council, Applicable Laws and Regulations, and any emergency procedures agreed to by the Joint Operating Committee.

13.3 Notice.

Transmission Provider shall notify Interconnection Customer promptly when it becomes aware of an Emergency Condition that affects Transmission Provider's Interconnection Facilities or the Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or Interconnection

Customer's Interconnection Facilities. Interconnection Customer shall notify Transmission Provider promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the Transmission System or Transmission Provider's Interconnection Facilities. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Transmission Provider's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.

13.4 Immediate Action.

Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Transmission Provider, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by Transmission Provider or otherwise regarding the Transmission System.

13.5 Transmission Provider Authority.

13.5.1 General.

Transmission Provider may take whatever actions or inactions with regard to the Transmission System or Transmission Provider's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Transmission System or Transmission Provider's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.

Transmission Provider shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or Interconnection Customer's Interconnection Facilities. Transmission Provider may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.5.2; directing Interconnection Customer to assist with blackstart (if available) or restoration efforts; or altering the outage schedules of the Large Generating Facility and Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of Transmission Provider's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

13.5.2 Reduction and Disconnection.

Transmission Provider may reduce Interconnection Service or disconnect the Large Generating Facility or Interconnection Customer's Interconnection Facilities, when such, reduction or disconnection is necessary under Good Utility Practice due to Emergency Conditions. These rights are separate and distinct from any right of curtailment of Transmission Provider pursuant to Transmission Provider's Tariff. When Transmission Provider can schedule the reduction or disconnection in advance, Transmission Provider shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. Transmission Provider shall coordinate with Interconnection Customer using Good Utility Practice to schedule the reduction or disconnection during periods of least impact to Interconnection Customer and Transmission Provider. Any reduction or disconnection shall continue only for so long as reasonably necessary under Good Utility Practice. The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the Transmission System to their normal operating state as soon as practicable consistent with Good Utility Practice.

13.6 Interconnection Customer Authority.

Consistent with Good Utility Practice and the LGIA and the Revised LGIP, Interconnection Customer may take actions or inactions with regard to the Large Generating Facility or Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Large Generating Facility or Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Transmission System and Transmission Provider's Interconnection Facilities. Transmission Provider shall use Reasonable Efforts to assist Interconnection Customer in such actions.

13.7 Limited Liability.

Except as otherwise provided in Article 11.6.1 of this LGIA, neither Party shall be liable to the other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and is consistent with Good Utility Practice.

Article 14. Regulatory Requirements and Governing Law

14.1 Regulatory Requirements.

Each Party's obligations under this LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978.

14.2 Governing Law.

- 14.2.1** The validity, interpretation and performance of this LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.
- 14.2.2** This LGIA is subject to all Applicable Laws and Regulations.
- 14.2.3** Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

Article 15. Notices

15.1 General.

Unless otherwise provided in this LGIA, any notice, demand or request required or permitted to be given by either Party to the other and any instrument required or permitted to be tendered or delivered by either Party in writing to the other shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F, Addresses for Delivery of Notices and Billings.

Either Party may change the notice information in this LGIA by giving five (5) Business Days written notice prior to the effective date of the change.

15.2 Billings and Payments.

Billings and payments shall be sent to the addresses set out in Appendix F.

15.3 Alternative Forms of Notice.

Any notice or request required or permitted to be given by a Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

15.4 Operations and Maintenance Notice.

Each Party shall notify the other Party in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

Article 16. Force Majeure

16.1 Force Majeure.

- 16.1.1** Economic hardship is not considered a Force Majeure event.

- 16.1.2** Neither Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

Article 17. Default

17.1 Default.

17.1.1 General.

No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this LGIA or the result of an act of omission of the other Party. Upon a Breach, the non-breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the breaching Party shall have thirty (30) Calendar Days from receipt of the Default notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Default notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

17.1.2 Right to Terminate.

If a Breach is not cured as provided in this article, or if a Breach is not capable of being cured within the period provided for herein, the non-breaching Party shall have the right to declare a Default and terminate this LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this LGIA, to recover from the breaching Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this LGIA.

Article 18. Indemnity, Consequential Damages and Insurance

18.1 Indemnity.

The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnified Party.

18.1.1 Indemnified Person.

If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

18.1.2 Indemnifying Party.

If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

18.1.3 Indemnity Procedures.

Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party

(i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in such event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

18.2 Consequential Damages.

Other than the Liquidated Damages heretofore described, in no event shall either Party be liable under any provision of this LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

18.3 Insurance.

Each party shall, at its own expense, maintain in force throughout the period of this LGIA, and until released by the other Party, the following minimum insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

18.3.1 Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

18.3.2 Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.

18.3.3 Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.

- 18.3.4** Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.3.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.
- 18.3.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.
- 18.3.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.
- 18.3.8** The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this LGIA.
- 18.3.9** Within ten (10) Calendar Days following execution of this LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) Calendar Days thereafter, each Party shall provide certification of all insurance required in this LGIA, executed by each insurer or by an authorized representative of each insurer.
- 18.3.10** In addition to the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program; provided that, such Party's self-insurance program meets the minimum insurance requirements of Articles

18.3.2 through 18.3.8. In the event that a Party is permitted to self-insure pursuant to this article, it shall certify to the other Party with a letter of self-insurance that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

- 18.3.11** The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this LGIA.

Article 19. Assignment

19.1 Assignment.

This LGIA may be assigned by either Party only with the written consent of the other; provided that either Party may assign this LGIA without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this LGIA; and provided further that Interconnection Customer shall have the right to assign this LGIA, without the consent of Transmission Provider, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that Interconnection Customer will promptly notify Transmission Provider of any such assignment. Any financing arrangement entered into by Interconnection Customer pursuant to this article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify Transmission Provider of the date and particulars of any such exercise of assignment right(s), including providing the Transmission Provider with proof that it meets the requirements of Articles 11.5 and 18.3. Any attempted assignment that violates this article is void and ineffective. Any assignment under this LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

Article 20. Severability

- 20.1 Severability.** If any provision in this LGIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this LGIA; provided that if Interconnection Customer (or any third party, but only if such third party is not acting at the direction of Transmission Provider) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1)

Article 21. Comparability

21.1 Comparability.

The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

Article 22. Confidentiality

22.1 Confidentiality.

Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by either Party, the other Party shall provide in writing, the basis for asserting that the information referred to in this Article 22 warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

22.1.1 Term.

During the term of this LGIA, and for a period of three (3) years after the expiration or termination of this LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

22.1.2 Scope.

Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this LGIA; or (6) is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

22.1.3 Release of Confidential Information.

Neither Party shall release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this LGIA, unless such person has first been advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

22.1.4 Rights.

Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

22.1.5 No Warranties.

By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

22.1.6 Standard of Care.

Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party under this LGIA or its regulatory requirements.

22.1.7 Order of Disclosure.

If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

22.1.8 Termination of Agreement.

Upon termination of this LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the other Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.

22.1.9 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Article 22. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

22.1.10 Disclosure to FERC, its Staff, or a State.

Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR section 1b.20, if FERC or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this LGIA, the Party shall provide the requested information to FERC or its staff, within the time provided for in the request for information. In providing the information to FERC or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by FERC and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party to this LGIA prior to the release of the Confidential Information to FERC or its staff. The Party shall notify the other Party to the LGIA when it is notified by FERC or its staff that a request to release Confidential Information has been received by FERC, at which time either of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

22.1.11 Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this LGIA ("Confidential Information") shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent

disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIA or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

Article 23. Environmental Releases

- 23.1** Each Party shall notify the other Party, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Party copies of any publicly available reports filed with any Governmental Authorities addressing such events.

Article 24. Information Requirements

24.1 Information Acquisition.

Transmission Provider and Interconnection Customer shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

24.2 Information Submission by Transmission Provider.

The initial information submission by Transmission Provider shall occur no later than one hundred eighty (180) Calendar Days prior to Trial Operation and shall include Transmission System information necessary to allow Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise agreed to by the Parties. On a monthly basis Transmission Provider shall provide Interconnection Customer a status report on the construction and installation of Transmission Provider's Interconnection Facilities and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

24.3 Updated Information Submission by Interconnection Customer.

The updated information submission by Interconnection Customer, including manufacturer information, shall occur no later than one-hundred eighty (180) Calendar Days prior to the Trial Operation. Interconnection Customer shall submit a completed copy of the Large Generating Facility data requirements contained in Appendix 1 to the Revised LGIP. It shall also include any additional information provided to Transmission Provider for the Definitive Interconnection System Impact Study and Interconnection Facilities Study. Information in this submission shall be the most current Large Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Transmission Provider standard models. If there is no compatible model, Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information.

If Interconnection Customer's data is materially different from what was originally provided to Transmission Provider pursuant to the Interconnection Study Agreement between Transmission Provider and Interconnection Customer, then Transmission Provider will conduct appropriate studies to determine the impact on Transmission Provider Transmission System based on the actual data submitted pursuant to this Article 24.3. The Interconnection Customer shall not begin Trial Operation until such studies are completed.

24.4 Information Supplementation.

Prior to the Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information or "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Large Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to Transmission Provider for each individual generating unit in a station.

Subsequent to the Operation Date, Interconnection Customer shall provide Transmission Provider any information changes due to equipment replacement, repair, or adjustment. Transmission Provider shall provide Interconnection Customer any information changes due to equipment replacement, repair or adjustment in the directly

connected substation or any adjacent Transmission Provider-owned substation that may affect Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information no later than thirty (30) Calendar Days after the date of the equipment replacement, repair or adjustment.

Article 25. Information Access and Audit Rights

25.1 Information Access.

Each Party (the "disclosing Party") shall make available to the other Party information that is in the possession of the disclosing Party and is necessary in order for the other Party to: (i) verify the costs incurred by the disclosing Party for which the other Party is responsible under this LGIA; and (ii) carry out its obligations and responsibilities under this LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this LGIA.

25.2 Reporting of Non-Force Majeure Events.

Each Party (the "notifying Party") shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this LGIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this LGIA.

25.3 Audit Rights.

Subject to the requirements of confidentiality under Article 22 of this LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit at its own expense the other Party's accounts and records pertaining to either Party's performance or either Party's satisfaction of obligations under this LGIA. Such audit rights shall include audits of the other Party's costs, calculation of invoiced amounts, Transmission Provider's efforts to allocate responsibility for the provision of reactive support to the Transmission System, Transmission Provider's efforts to allocate responsibility for interruption or reduction of generation on the Transmission System, and each Party's actions in an Emergency Condition. Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this LGIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

25.4 Audit Rights Periods.

25.4.1 Audit Rights Period for Construction-Related Accounts and Records.

Accounts and records related to the design, engineering, procurement, and construction of Transmission Provider's Interconnection Facilities and Network Upgrades shall be subject to audit for a period of twenty-four months

following Transmission Provider's issuance of a final invoice in accordance with Article 12.2.

25.4.2 Audit Rights Period for All Other Accounts and Records.

Accounts and records related to either Party's performance or satisfaction of all obligations under this LGIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four months after the event for which the audit is sought.

25.5 Audit Results.

If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party together with those records from the audit which support such determination.

Article 26. Subcontractors

26.1 General.

Nothing in this LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this LGIA in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

26.2 Responsibility of Principal.

The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this LGIA. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall Transmission Provider be liable for the actions or inactions of Interconnection Customer or its subcontractors with respect to obligations of Interconnection Customer under Article 5 of this LGIA. Any applicable obligation imposed by this LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

26.3 No Limitation by Insurance.

The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

Article 27. Disputes

27.1 Submission.

In the event either Party has a dispute, or asserts a claim, that arises out of or in connection with this LGIA or its performance, such Party (the "disputing Party") shall provide the other Party with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each

Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party. In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

27.2 External Arbitration Procedures.

Any arbitration initiated under this LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) Calendar Days select a third arbitrator to chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Arbitration Rules") and any applicable FERC regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail.

27.3 Arbitration Decisions.

Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of this LGIA and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with FERC if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

27.4 Costs.

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen; or (2) one-half the cost of the single arbitrator jointly chosen by the Parties.

Article 28. Representations, Warranties, and Covenants

28.1 General.

Each Party makes the following representations, warranties and covenants:

28.1.1 Good Standing.

Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this LGIA.

28.1.2 Authority.

Such Party has the right, power and authority to enter into this LGIA, to become a Party hereto and to perform its obligations hereunder. This LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

28.1.3 No Conflict.

The execution, delivery and performance of this LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

28.1.4 Consent and Approval.

Such Party has sought or obtained, or, in accordance with this LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this LGIA, and it will provide to any Governmental Authority notice of any actions under this LGIA that are required by Applicable Laws and Regulations

Article 29. Joint Operating Committee

29.1 Joint Operating Committee.

Except in the case of ISOs and RTOs, Transmission Provider shall constitute a Joint Operating Committee to coordinate operating and technical considerations of Interconnection Service. At least six (6) months prior to the expected Initial Synchronization Date, Interconnection Customer and Transmission Provider shall each appoint one representative and one alternate to the Joint Operating Committee. Each Interconnection Customer shall notify Transmission Provider of its appointment in

writing. Such appointments may be changed at any time by similar notice. The Joint Operating Committee shall meet as necessary, but not less than once each calendar year, to carry out the duties set forth herein. The Joint Operating Committee shall hold a meeting at the request of either Party, at a time and place agreed upon by the representatives. The Joint Operating Committee shall perform all of its duties consistent with the provisions of this LGIA. Each Party shall cooperate in providing to the Joint Operating Committee all information required in the performance of the Joint Operating Committee's duties. All decisions and agreements, if any, made by the Joint Operating Committee, shall be evidenced in writing. The duties of the Joint Operating Committee shall include the following:

- 29.1.1** Establish data requirements and operating record requirements.
- 29.1.2** Review the requirements, standards, and procedures for data acquisition equipment, protective equipment, and any other equipment or software.
- 29.1.3** Annually review the one (1) year forecast of maintenance and planned outage schedules of Transmission Provider's and Interconnection Customer's facilities at the Point of Interconnection.
- 29.1.4** Coordinate the scheduling of maintenance and planned outages on the Interconnection Facilities, the Large Generating Facility and other facilities that impact the normal operation of the interconnection of the Large Generating Facility to the Transmission System.
- 29.1.5** Ensure that information is being provided by each Party regarding equipment availability.
- 29.1.6** Perform such other duties as may be conferred upon it by mutual agreement of the Parties.

Article 30. Miscellaneous

30.1 Binding Effect.

This LGIA and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

30.2 Conflicts.

In the event of a conflict between the body of this LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this LGIA shall prevail and be deemed the final intent of the Parties.

30.3 Rules of Interpretation.

This LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this LGIA, and reference to a person in a particular capacity excludes such person in any other capacity

or individually; (3) reference to any agreement (including this LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this LGIA or such Appendix to this LGIA, or such Section to the Revised LGIP or such Appendix to the Revised LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

30.4 Entire Agreement.

This LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this LGIA. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this LGIA.

30.5 No Third Party Beneficiaries.

This LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

30.6 Waiver.

The failure of a Party to this LGIA to insist, on any occasion, upon strict performance of any provision of this LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this LGIA. Termination or Default of this LGIA for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer's legal rights to obtain an interconnection from Transmission Provider. Any waiver of this LGIA shall, if requested, be provided in writing.

30.7 Headings.

The descriptive headings of the various Articles of this LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this LGIA.

30.8 Multiple Counterparts.

This LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

30.9 Amendment.

The Parties may by mutual agreement amend this LGIA by a written instrument duly executed by the Parties.

30.10 Modification by the Parties.

The Parties may by mutual agreement amend the Appendices to this LGIA by a written instrument duly executed by the Parties. Such amendment shall become effective and a part of this LGIA upon satisfaction of all Applicable Laws and Regulations.

30.11 Reservation of Rights.

Transmission Provider shall have the right to make a unilateral filing with FERC to modify this LGIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this LGIA pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this LGIA shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

30.12 No Partnership.

This LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

IN WITNESS WHEREOF, the Parties have executed this LGIA in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

[Insert name of Transmission Provider or Transmission Owner, if applicable]

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Appendix A to LGIA

Interconnection Facilities, Network Upgrades and Distribution Upgrades

1. Interconnection Facilities:

(a) [insert Interconnection Customer's Interconnection Facilities]:

(b) [insert Transmission Provider's Interconnection Facilities]:

2. Network Upgrades:

(a) [insert Stand Alone Network Upgrades]:

(b) [insert Other Network Upgrades]:

3. Distribution Upgrades:

Appendix B to LGIA

LGIA Milestones

Appendix C to LGIA
Interconnection Details

Appendix D to LGIA

Security Arrangements Details

Infrastructure security of Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day Transmission System reliability and operational security. FERC will expect all Transmission Providers, market participants, and Interconnection Customers interconnected to the Transmission System to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

Appendix E to LGIA
Commercial Operation Date

This Appendix E is a part of the LGIA between Transmission Provider and Interconnection Customer.

[Date]

[Transmission Provider Address]

Re: _____ Large Generating Facility

Dear: _____

On **[Date]** **[Interconnection Customer]** has completed Trial Operation of Unit No. _____. This letter confirms that **[Interconnection Customer]** commenced Commercial Operation of Unit No. _____ at the Large Generating Facility, effective as of **[Date plus one day]**.

Thank you.

[Signature]

[Interconnection Customer Representative]

Appendix F to LGIA

Addresses for Delivery of Notices and Billings

Notices:.

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Billings and Payments:

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

Alternative Forms of Delivery of Notices (telephone, facsimile or email):

Transmission Provider:

[To be supplied.]

Interconnection Customer:

[To be supplied.]

APPENDIX G

INTERCONNECTION REQUIREMENTS FOR A WIND GENERATING PLANT

Appendix G sets forth requirements and provisions specific to a wind generating plant. All other requirements of this LGIA continue to apply to wind generating plant interconnections.

A. Technical Standards Applicable to a Wind Generating Plant

i. Low Voltage Ride-Through (LVRT) Capability

A wind generating plant shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

Transition Period LVRT Standard

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by Transmission Provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or “GSU”), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.

5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

Post-transition Period LVRT Standard

All wind generating plants subject to FERC Order No. 661 and not covered by the transition period described above must meet the following requirements:

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by Transmission Provider. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be nine (9) cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system. A wind generating plant shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero (0) volts, as measured at the high voltage side of the wind GSU.
2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix G LVRT Standard.

ii. Power Factor Design Criteria (Reactive Power)

The following reactive power requirements apply only to a newly interconnecting wind generating plant that has executed a Facilities Study Agreement as of the effective date of the Final Rule establishing the reactive power requirements for non-synchronous generators in Article 9.6.1 of this LGIA (Order No. 827).² A wind generating plant to

which this provision applies shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this LGIA, if Transmission Provider's System Impact Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by Transmission Provider, or a combination of the two. The Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the System Impact Study shows this to be required for system safety or reliability.

- [2] If identified in the System Impact Study as necessary to ensure safety or reliability, existing Generating Facilities being upgraded that require a new interconnection request are subject to this reactive power requirement.

iii. Supervisory Control and Data Acquisition (SCADA) Capability

The wind plant shall provide SCADA capability to transmit data and receive instructions from Transmission Provider to protect system reliability. Transmission Provider and the wind plant Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

APPENDIX 6.1to Revised LGIP

INTERCONNECTION PROCEDURES FOR A WIND GENERATING PLANT

Appendix G to the LGIA sets forth procedures specific to a wind generating plant. All other requirements of this Revised LGIP continue to apply to wind generating plant interconnections.

A. Special Procedures Applicable to Wind Generators

The wind plant Interconnection Customer, in completing the Interconnection Request required by section 3.4 of this Revised LGIP, may provide to Transmission Provider a set of preliminary electrical design specifications depicting the wind plant as a single equivalent generator. Upon satisfying these and other applicable Interconnection Request conditions, the wind plant may enter the Queue and receive the base case data as provided for in this Revised LGIP.

No later than six months after submitting an Interconnection Request completed in this manner, the wind plant Interconnection Customer must submit completed detailed electrical design specifications and other data (including collector system layout data) needed to allow Transmission Provider to complete the System Impact Study.