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 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 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	$X2_v$_____	
Negative Sequence – unsaturated	$X2_i$_____	
Zero Sequence – saturated	$X0_v$_____	
Zero Sequence – unsaturated	$X0_i$_____	
Leakage Reactance	Xl_m_____	

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_2^2t = _____
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.