

# RULE 3206 REPORT PROPOSED CONSTRUCTION OR EXTENSION OF TRANSMISSION FACILITIES

# 2013 THROUGH 2015

Docket No. 12M-165E

April 30, 2012



P.O. Box 840 Denver, Colorado 80201-0840

April 30, 2012

Mr. Doug Dean, Director Colorado Public Utilities Commission 1560 Broadway, #250 Denver, CO 80202

Re:

Public Service Company of Colorado Rule 3206 Report For 2012 Docket No 12M-165E

Dear Mr. Dean:

In compliance with Rule 3206 of the Commission's Rules Regulating the Service of Electric Utilities, Public Service Company of Colorado ("Public Service" or "Company") submits the attached "Rule 3206 Report: Proposed Construction or Extension of Transmission Facilities, 2013 Through 2015." ("2012 Report").

Pursuant to the changes to the Commission's rules related to the construction or extension of electric facilities, which became effective in late 2010, the 2012 Report is formatted in a manner that is consistent with the new rules, and consists of three major sections: new projects; projects presumed to be in the ordinary course of business; and, projects previously reported. In the section on projects previously reported, the Company has included a more detailed update on the status of the Ptarmigan Substation Project located in Silverthorne, Colorado.

The 2012 Report lists two new projects; Pawnee – Daniels Park 345kV Transmission Line, and the Weld – DCP Midstream 115kV Transmission Line.

Listed among the projects described in the ordinary course of business section of the 2012 Report are two projects Public Service would like to bring to the Commission's attention. These projects are: the Hopkins 230-115kV Transformer, 100 MVA #2 ("Hopkins Project"); and, the Rifle (Ute) 25 MVA 138-69kV Transformer Replacement Project ("Rifle (Ute) Project").

Public Service Company of Colorado Rule 3206 Report For 2012 Docket No. 12M-165E

This Hopkins Project is currently under construction and scheduled to be inservice in June 2012. The planning and budgeting process for the Hopkins Project began in January 2009. Pursuant to the Commission's transmission planning rules in place on April 30, 2009 when Public Service filed its Rule 3206 Report, this project was classified as being in the ordinary course of business, and was not required to be included in the Rule 3206 report. Construction on the Hopkins Project began on November 15, 2010. However, the project experienced significant delays due to weather, and operational limitations caused by delays in the Cameo Station decommissioning and emergent line up-rate projects. The project currently has an in-service date of June 1, 2012. Because the project is not yet in-service, Public Service is including this project in this Rule 3206 Report.

Planning for the Rifle (Ute) Project began in August 2009. Construction of this project was planned to start in February 2011. The original planned in-service date for this project was May 2011.

Construction of this project hinged on meeting certain operational prerequisites, including the completion of the 230 kV and 69 kV projects at both Cameo and Hopkins. Because both of those projects were delayed, progress on the Rifle (Ute) 138/69 kV, 75 MVA Transformer (Replacement) project was also delayed. According to the new schedule, construction for this project will not start until September 2012. The current in-service date is February 2013.

When the Hopkins Project and the Rifle (Ute) Project were conceived, these projects were classified as projects in the ordinary course of business. The Commission's transmission planning rules in effect at the time did not require such projects to be included in the Company's Rule 3206 Reports. As a result, the projects were not included in the Company's 3206 Report filed on April 30, 2010. The Company should have included these two projects in its 2011 Rule 3206 Report; however, due to an administrative oversight they were overlooked. The Company has included both projects in this 2012 report in order to advise the Commission of their existence. Public Service continues to believe that these projects can be constructed in the ordinary course of business

Please forward questions concerning this report to Mr. William Wright at 303-294-2520.

Sincerely,

Karen T. Hyde / Vice President, Rates and Regulatory Affairs

Attachment

## Rule 3206 Report 2013 Through 2015

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**New Projects** 

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## Pawnee – Daniels Park 345 kV Transmission Line Project

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Pawnee – Daniels Park 345 kV Transmission Line Project

## Function of the project:

This project consists of building approximately 125 miles of new 345 kV transmission circuit between the Pawnee Substation and the Daniels Park Substation. The transmission circuit will likely interconnect with the Missile Site Substation and the proposed Harvest Mile Substation. The proposed Harvest Mile Substation Project has been contained in prior 3206 Reports. The status of the Harvest Mile Substation Project is described in the 3206 Report in the section entitled "Status of Projects Contained in Prior Reports" at Item # 47, infra. This project has been identified in Public Service Company of Colorado's ("Public Service" or the "Company") prior Senate Bill (SB) 07-100 filings, and was also mentioned in the proceedings to obtain a Certificate of Public Convenience and Necessity ("CPCN") for the Pawnee – Smoky Hill 345 kV Transmission Project. The Pawnee – Daniels Park 345 kV Transmission Line Project will accommodate additional generation resources in northeast Colorado. The region has been designated in the Company's prior SB 07-100 filings as Energy Resource Zone 1 ("ERZ-1"). ERZ-1 has a high potential for wind generation development. In addition, Public Service Resource Planning personnel believe the region has good potential for gas-fired generation development. This project also improves reliability of the Public Service transmission network by completing a 345 kV path along the Front Range from Pawnee Substation to the Comanche plant in Pueblo. This new 345 kV transmission line will be located in Morgan, Adams, Arapahoe, and Douglas counties, between the existing Pawnee and Daniels Park Substations. Please see Attachment A for the orientation map of the project.

## Estimated cost of the project:

\$ 147 million (Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

2016

## Estimated date of completion of the project:

2018-19

## Estimated in-service date of the project:

2018-19

#### Proposed general location:

The general location of the transmission for the project can best be described in four basic sections. The first three sections expand on the existing Pawnee - Smoky Hill 345 kV Transmission Project.

Section 1 – Utilize the second 345 kV circuit of the 65-mile section of the Pawnee - Smoky Hill 345 kV Transmission Project that lies between the Pawnee Substation and a point known as the Byers Transition (approximately 13 miles west of Missile Site Substation). This section of the Pawnee - Smoky Hill transmission line uses double-circuit capable structures. The 52 miles of this section between Pawnee and Missile Site will have the second circuit pre-strung as part of the Pawnee – Smoky Hill Project. The remaining 13 miles between Missile Site and Byers Transition will be strung as part of the Pawnee – Daniels Park Project.

Section 2 – Between the Byers Transition and a point about a mile east of Smoky Hill Substation (approximately the site of Harvest Mile), rebuild approximately 29 miles of the existing 230 kV single-circuit wood pole transmission to double-circuit 345 kV capable steel-pole transmission. There will then be two 345 kV capable double-circuit transmission lines in this section (four circuits). Two circuits will operate at 345 kV and two circuits will operate at 230 kV. One of the 345 kV circuits will be the operating Pawnee - Smoky Hill 345 kV line and the other circuit will be the Pawnee - Daniels Park 345 kV Transmission Project. The remaining two circuits will consist of the existing 230 kV transmission lines between Pawnee and Smoky Hill and Pawnee - Daniels Park.

Section 3 – Similar to Section 1, there is a section of the Pawnee - Smoky Hill 345 kV Transmission Project that runs from Smoky Hill Substation, to a point approximately one mile east of Smoky Hill Substation. This onemile span of the Pawnee - Smoky Hill 345 kV Transmission Project is being built with double-circuit capable structures, but will have only one circuit strung initially. Section 3 of the Pawnee - Daniels Park 345 kV Project will require placing the second 345 kV circuit on that one mile of double-circuit capable structures.

Section 4 – Build approximately 30 miles of new double-circuit 345 kV transmission structures, between the Smoky Hill Substation and the Daniels Park Substation. String both circuits of the transmission line. One circuit will complete the Pawnee - Missile Site - Daniels Park 345 kV Line Transmission Project. The other circuit will create a new Smoky Hill - Daniels Park 345 kV line. Section 4 of the transmission line will be built in existing right-of-way controlled by Public Service, and be located adjacent to the existing 230 kV transmission lines in the corridor between Smoky Hill and Daniels Park Substations.

The proposed 345 kV transmission line will be located in Morgan, Adams, Arapahoe, and Douglas counties between the existing Pawnee and Daniels Park Substations.

#### Prudent avoidance measures being evaluated for transmission facilities:

The project will be built to meet all prudent avoidance requirements for noise and EMF.

#### Attachment A



Figure 1: Approximate Location of the Pawnee – Daniels Park 345 kV Transmission Line Project

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## Weld – DCP Midstream 115 kV Line

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Weld – DCP Midstream 115 kV Line

## Function of the project:

In this project the Company proposes to construct a new 115 kV transmission line; approximately nine miles in length, from the Weld Substation to the DCP Midstream Substation (located approximately three miles west of the town of Lucerne). This transmission line will be a single 115 kV circuit routed along the northwestern area of Greeley and will require an expansion of existing transmission corridor or acquisition of new transmission corridor. With the completion of the "Monfort - DCP Midstream 115 kV Line" described below and in the Company's Petition for Declaratory Order filed on March 9, 2012 in Docket No. 12D-227E, constructing this proposed transmission circuit from Weld Substation to DCP Midstream Substation will provide an alternative 115 kV transmission source from Weld Substation to Monfort Substation (Weld – DCP Midstream – Monfort). The project will increase the reliability of the 115 kV system in Greeley, as well as increase reliability to the DCP Midstream Substation. This project eliminates thermal overloads on the Weld -Arrowhead Lake 115 kV line under certain single contingency outage conditions. This project also provides added capacity on the 115 kV system for future load growth in the area. The proposed 115 kV line will be built from the Weld Substation to the DCP Midstream Substation, both located in Weld County, Colorado. Please refer to Attachment B for the orientation map of the project.

## Estimated cost of the project:

\$ 15 million (Transmission dollars) Manner in which the project is expected to be financed:

Public Service approved capital budget

## Projected date for the start of construction of the project:

2014

## Estimated date of completion of the project:

2015

## Estimated in-service date of the project:

2015

## Proposed general location:

The proposed 115 kV line will be built from the Weld Substation to the DCP Midstream Substation, both located in Weld County, Colorado

## Prudent avoidance measures being evaluated for transmission facilities:

The 115 kV transmission line will be built to meet all prudent avoidance requirements for noise and EMF.

## Attachment B



Figure 2: Approximate Location of the Weld – DCP Midstream 115 kV Line Project

## **Ordinary Course of Business Projects**

**Note:** Public Service Company of Colorado recommends that the following projects be considered as "Ordinary Course of Business Projects". Attachments C and D show the geographical location of the projects in the Western slope area and Attachment E shows the geographical location of the projects in the Denver Metro and Greeley areas. This list also includes distribution projects with transmission work. All of the costs given below are in transmission dollars. All of the projects below except the "Monfort to DCP Midstream 115 kV Line" project will be located inside the substation and are shown on the maps by a circle and the corresponding project name.

Monfort to DCP Midstream 115 kV

## Monfort to DCP Midstream 115 kV Line Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Please see the Petition for a Declaratory Order filed by Public Service on March 9, 2012 in Docket No. 12D-227E for further information on this project.

## Rifle (Ute) 138/69 kV, 75 MVA Transformer (Replacement)

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Rifle (Ute) 138/69 kV, 75 MVA Transformer (Replacement)

## Function of the project:

This project consists of replacing the 138/69 kV, 25 MVA transformer at the Rifle (Ute) Substation with a 138/69 kV, 45/60/75 MVA transformer. The project is needed to alleviate thermal overloads on the existing Rifle (Ute) 138/69 kV, 25 MVA transformer under certain single contingency outage conditions.

In August 2008, the Commission approved Public Service's plan to shut down the Cameo Generation Station. The 73 MW Cameo coal-fired generating plant was located in the De Beque Canyon of the Colorado River, east of Grand Junction. In late 2009, Public Service Transmission Planning personnel conducted an independent study entitled the "Cameo Generation Retirement and Replacement Study." The study concluded that there was a need to install a second 138/69 kV, 25 MVA transformer and to replace the existing 25 MVA transformer with a larger transformer. Based on cost estimates, the least cost alternative of replacing the existing transformer with a 138/69 kV, 45/60/75 MVA transformer was selected. The new transformer will be located inside the existing Rifle (Ute) Substation in Garfield County, Colorado. Please see Attachment C for the orientation map of the project.

Planning for this project began in August 2009. Construction of this project was planned to start in February 2011. The original planned inservice date for this project was May 2011.

Construction of this project hinged on meeting operational requirements that were to be provided by completing 230 kV and 69 kV projects at both the Cameo Decommissioning and the Hopkins 230-115 kV Transformer Projects. Because both of those projects were delayed, progress on the Rifle (Ute) 138/69 kV, 75 MVA Transformer (Replacement) Project was also delayed. According to the new schedule, construction for this project will not start until September 2012. The current in-service date is February 2013.

## Estimated cost of the project:

\$ 3.72 Million (Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

September, 2012

## Estimated date of completion of the project:

January, 2013

## Estimated in-service date of the project:

January, 2013

## **Proposed general location:**

The proposed project will be located inside the Rifle (Ute) Substation in Garfield County, Colorado

## Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

# Hopkins 230/115 kV, 100 MVA #2

## Public Service Company of Colorado Transmission Construction Project

#### Name of the project:

Hopkins 230/115 kV, 100 MVA #2

## Function of the project:

In this project the Company proposes to install a second 230/115 kV, 100 MVA transformer at the existing Hopkins Substation. The project is needed to alleviate thermal overloads on the Hopkins 230/115 kV, 100 MVA Transformer #1 under certain single contingency outage conditions. The flow across the Hopkins 230/115 kV, 100 MVA Transformer #1 is primarily impacted by three factors - local area loads (Mountain Area), Shoshone Hydro generation levels, and TOT 5 Transfer Path flows. During winter peak demand conditions and higher west-to-east TOT 5 flows, the Hopkins 230/115 kV Transformer #1 overloads beyond 100% of its thermal rating for single contingency loss of Hayden - Foidel Creek 230 kV or the Foidel Creek - Wolcott 230 kV or the Hopkins - Malta 230 kV lines. The second 230/115 kV, 100 MVA #2 transformer will alleviate single contingency thermal overloads on the Hopkins 230/115 kV, 100 MVA #1 transformer. The second transformer will be located inside the existing Hopkins Substation in Garfield County, Colorado. Please see Attachment C for the orientation map of the project.

This project is currently under construction and scheduled to be in-service in June 2012. The planning and budgeting process for the Hopkins 230/115 kV, 100 MVA #2 project began in January 2009. Pursuant to the Commission's transmission planning rules in place on April 30, 2009 when Public Service filed its Rule 3206 Report, this project was classified as being in the ordinary course of business, and was not required to be included in the Rule 3206 report. Construction on the Hopkins Project began on November 15, 2010. However, the project experienced significant delays due to weather, and operational limitations caused by delays in the Cameo Station decommissioning and emergent line up-rate projects. The project currently has an in-service date of June 1, 2012.

## Estimated cost of the project:

\$8.4 Million (Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

Under Construction, Construction started in November 2010.

## Estimated date of completion of the project:

June, 2012

## Estimated in-service date of the project:

June, 2012

#### Proposed general location:

The proposed project will be located inside Public Service's existing Hopkins Substation in Garfield County, Colorado.

## Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

## Hayden 230/138 kV, 250 MVA #KZ2A Transformer (Replacement, Western Area Power Administration's Project)

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Hayden 230/138 kV, 250 MVA #KZ2A Transformer (Replacement, Western Area Power Administration's Project)

#### Function of the project:

This project would replace the existing 230/138 kV, 150 MVA #KZ2A transformer at Western Area Power Administration's ("Western") Hayden Substation with a 230/138 kV, 250 MVA transformer. The project is 100 % owned and operated by Western. Public Service will have capacity rights in this transformer. Public Service requires this capacity in order to continue supplying station service power to its Hayden generation plant and Yampa Valley Rural Electric Association loads at Mt. Harris Substation, both of which are currently being served by Hayden transformers through a transmission service contract. Western is proposing this transformer replacement project in order to eliminate thermal overloads on the existing 230/138 kV, 150 MVA#KZ2A transformer when the other parallel 230/138 kV, 250 MVA #KZ1A transformer is not available. Western has also described this project in their Rule 3627 Report on page D-10. The agreement between Western and Public Service (SLC-0229 Exhibit F) stipulates that parties negotiate good faith participation in the projects when the transformer needs to be replaced. Pursuant to the discussions between the participating entities (Western, Tri State Generation & Transmission ("TSGT") and Public Service), Western will be responsible for installing and maintaining the transformers and Public Service will have 20% capacity rights in the transformer. This project will be located inside Western's Hayden Substation in Moffat County, Colorado. Please see Attachment D for the orientation map of the project.

## Estimated cost of the project:

\$2.02 Million (Public Service's share, Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

2012

## Estimated date of completion of the project:

2014

## Estimated in-service date of the project:

2014

## **Proposed general location:**

The proposed project will be located inside Western's existing Hayden Substation in Moffat County, Colorado

## Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

## Leetsdale 230/115 kV, 280 MVA #2

## Public Service Company of Colorado Transmission Construction Project

#### Name of the project:

Leetsdale 230/115 kV, 280MVA #2

## Function of the project:

In compliance with the final Commission Order in the Clean Air Clean Jobs Act ("CACJA") in Docket No: 10M-245E, Public Service will retire Cherokee Units 1 & 2 in 2012. Public Service also plans to operate Arapahoe Unit 4 only as needed during peak system conditions.

As was foreshadowed in the Settlement Agreement approved by the Commission in Docket No. 11A-209E, in the Company's view it is likely that the Arapahoe 3 synchronous condenser approved in the CACJA docket will not be needed, and that the unit can be retired. See Decision No. R11-0854. Finally, Public Service's contracts for power from Arapahoe Units 5, 6, & 7 and Valmont Units 7 & 8 expire in 2012. Under these conditions, the Capitol Hill – Denver Terminal 115 kV underground line (L9007) can become overloaded during 2014 summer peak load conditions under certain generation dispatch patterns after the forced outage (contingency) of the Leetsdale 230/115 kV#1 auto-transformer. With Cherokee Unit 4 unavailable due to its unscheduled (forced) outage, this contingency causes the Capitol Hill – Denver Terminal 115 kV underground line # L9007 to overload to 119% of its 131 MVA summer normal rating.

To mitigate this potential overload, the preferred solution is to add a second Leetsdale 230/115 kV auto-transformer to effectively eliminate the contingency causing the overload. The next best alternative would be to upgrade the Capitol Hill – Denver Terminal 115 kV line with a new underground cable. Due to the access limitations to the Capitol Hill – Denver Terminal 115 kV line for construction, this alternative is not being pursued. The Leetsdale 230/115 kV, 280 MVA #2 transformer project was recommended by the Commission as part of its CACJA order.

This project will be located inside the Leetsdale Substation in Denver, Colorado. Please see Attachment E for the orientation map of the project.

#### Estimated cost of the project:

\$8.69 Million (Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

December, 2012

## Estimated date of completion of the project:

May, 2014

## Estimated in-service date of the project:

May, 2014

## Proposed general location:

The proposed project will be located inside Public Service's existing Leetsdale Substation in Denver, Colorado

## Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

# Glenn 230/13.8 kV, 50 MVA #3

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Glenn 230/13.8 kV, 50 MVA#3

## Function of the project:

The transmission portion of this project consists of installing the 230 kV substation transmission facilities required to supply a third 230/13.8 kV, 50 MVA distribution transformer and associated equipment at the existing Glenn Substation. The third transformer is needed to provide reliability to the distribution loads and avoid thermal overloads on the two existing transformers during a single contingency outage of the other transformer. This project will be located inside the existing Glenn Substation in Adams County, Colorado. Please refer to Attachment E for the orientation map of the project.

## Estimated cost of the project:

\$0.18 Million (Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

May, 2014

## Estimated date of completion of the project:

November, 2015

## Estimated in-service date of the project:

November, 2015

## Proposed general location:

The proposed project will be located inside the existing Glenn Substation in Adams County, Colorado.

## Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

## 40 MVar Reactors at Midway and Waterton Substations

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

40 MVar Reactors at Midway and Waterton Substations

## Function of the project:

In this project the Company proposes to install one 13.8 kV, 40 MVar reactor on the tertiary winding of each of the 345/230/13.8 kV, 560 MVA transformers at Midway and Waterton Substations. The reactors are required to compensate for the capacitive line charging Vars (Volt Ampere Reactive) produced by the Midway - Waterton 345 kV line which results in high voltages at the Midway 345 kV and Waterton 345 kV buses. The high voltages are aggravated during light load conditions or when Comanche unit #3 is offline. In addition, the Comanche-Daniels Park 345 kV lines #1 & 2 are also producing capacitive line charging Vars which further increase the high voltages. The need for this project exists at present and the current operational practice is to take one of these 345 kV lines out of service under high voltage conditions. Taking lines out of service is not a preferred alternative as it affects the reliability of the system. Installation of the 40 MVar reactors at the Midway and Waterton transformers will help maintain voltage at the buses below 1.05 per unit. and will provide operational flexibility. The Midway Substation is located in El Paso County, Colorado and Waterton Substation is located in Douglas County, Colorado. Please refer to Attachment E for the orientation map of the project.

## Estimated cost of the project:

\$3.48 Million (Transmission dollars for two reactors)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

April 2013

## Estimated date of completion of the project:

October, 2014

## Estimated in-service date of the project:

October, 2014

## **Proposed general location:**

The reactors will be located inside the existing Midway and Waterton Substations. The Midway Substation is located in El Paso County, Colorado and Waterton Substation is located in Douglas County, Colorado.

#### Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

## Mt. Harris 138/69 kV, 50 MVA #2

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Mt. Harris 138/69 kV, 50 MVA #2

## Function of the project:

This project consists of adding a second Mt. Harris 138/69 kV, 50 MVA transformer at Public Service's Mt. Harris Substation. The project is needed to alleviate contingency overloads of the existing 138/69 kV, 50 MVA transformer at Mt. Harris Substation.

The Yampa Valley Electric Association ("YVEA") system consists of 69 kV transmission and 44 kV transmission that provides radial transmission service to several load-serving substations in the YVEA service territory. The YVEA system is supplied through four transmission transformers - the Mt. Harris 138/69 kV, 50 MVA transformer, the Craig Transfer 230/69 kV, 50 MVA transformer, the Steamboat 230/69 kV, 50 MVA transformer #1 and the Steamboat 230/69 kV transformer #2. YVEA can shift loads among the transformers by opening and closing transmission connections on the system. Formerly, one of the transformers could be taken out of service and the remaining three transformers could serve the YVEA system. The YVEA demand has increased to a high enough level that serving all the YVEA loads under various demand conditions with one of the transformers out-of-service is no longer possible. System studies have shown that adding a second Mt. Harris 138/69 kV transformer will allow the Mt. Harris 138/69 kV transformer #1 or the Craig Transfer 230/69 kV transformer to be taken out-of-service and still serve the YVEA loads. The proposed project will be located inside the existing Mt. Harris Substation in Routt County, Colorado. Please refer to Attachment D for the orientation map of the project.

## Estimated cost of the project:

\$6.21 Million (Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

January, 2013

## Estimated date of completion of the project:

May, 2014

## Estimated in-service date of the project:

May, 2014

## Proposed general location:

The proposed project will be located inside the existing Mt. Harris Substation in Routt County, Colorado

#### Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

## Sheridan 115/13.8 kV, 50 MVA #2

## Public Service Company of Colorado Transmission Construction Project

## Name of the project:

Sheridan 115/13.8 kV, 50 MVA #2

## Function of the project:

The transmission portion of this project consists of installing the substation transmission facilities required to supply a second 115/13.8 kV, 50 MVA distribution transformer and associated equipment at Public Service's Sheridan Substation. The second transformer is required to eliminate thermal overloads on the first existing transformer under certain single contingency outage conditions. This project will be located inside the existing Sheridan Substation in Jefferson County, Colorado. Please see Attachment E for the orientation map of the project.

## Estimated cost of the project:

\$0.24 Million (Transmission dollars)

## Manner in which the project is expected to be financed:

Public Service's approved capital budget

## Projected date for the start of construction of the project:

June, 2013

## Estimated date of completion of the project:

October, 2015

## Estimated in-service date of the project:

October, 2015

## Proposed general location:

The proposed project will be located inside the existing Sheridan Substation in Jefferson County, Colorado.

## Prudent avoidance measures being evaluated for transmission facilities:

No new transmission service is required. No prudent avoidance measures are required.

## Attachment C



Figure 3: Location of the Rifle (Ute) Substation and Hopkins Substation Projects

## Attachment D



Figure 4: Location of the Hayden Substation and Mt. Harris Substation Projects

## Attachment E



Figure 5: Location of the Projects in the Denver Metro Area and the Greeley Area

## STATUS OF PROJECTS CONTAINED IN PRIOR REPORTS

## STATUS OF PROJECTS CONTAINED IN PRIOR REPORTS

Item #	Project Name	Change In Status?	Reason For Change
	<u>2011 In-Service Date ("ISD")</u> Projects		
1	College Lake 230-13.8 kV Substation (28 MVA)	Yes	Completed
2	Midway-Waterton 345 kV Line	Yes	Completed
3	Kelim 115-13.8 kV Substation (28 MVA)	Yes	Completed
4	45 MVAR Capacitor Bank at Boulder Terminal 115 kV Bus	Yes	Completed
5	Fairgrounds Substation (TSG&T Load Service)	Yes	Completed
6	90 MVAR Capacitor Bank at Eldorado Springs 115 kV bus	Yes	Completed
7	RTD Fastracks – East Corridor Project (Underground Line Relocation)	Yes	Completed
8	Pleasant Valley 44/12.47 kV, 28 MVA #1 and 2.5 mile double- circuit 44 kV Line	Yes	Completed

## 2012 ISD Projects

9	Monfort 115/44 kV, 60 MVA Transformer Replacement	Yes	In-service date changed from 4/2012 to 5/2012 due to construction delays
10	Eboda Substation (Distribution	Yes	In-service date changed from

Item #	Project Name	Change In Status?	Reason For Change
	230/13.8 kV, 28 MVA)		12/2011 to 5/2012 due to construction delays. Substation name has been changed to Adobe
11	Niwot - Gunbarrel Load Service Request 230 kV Underground Line Project	Yes	In-service date changed from 11/2011 to 5/2012 due to construction delays and outage restrictions
12	45 MVAR Capacitor Bank at Parachute 230 kV Bus	Yes	In-service date changed from 5/2012 to 12/2012 due to time required for engineering and material delivery
13	Gunbarrel Substation (delivery for TSGT/PVREA)	Yes	In-service date changed from 11/2011 to 9/2012 due to construction delays and outage restrictions
14	45 MVAR Capacitor Bank at Cameo 230 kV Bus	Yes	In-service date changed from 5/2012 to 12/2012 due to time required for engineering and material delivery
15	University #3 Substation (Distribution, 115/13.2 kV, 50 MVA)	No	Scheduled for in-service in 12/2012
16	Gunbarrel 230/13.8 kV, 50 MVA #2	Yes	In-service date changed from 11/2011 to 5/2012 due to construction delays and outage restrictions
17	Sandown 115/13.8 kV, 50 MVA #3	Yes	In-service date changed from 11/2011 to 5/2012 because of design changes and unfavorable weather for construction
18	Godfrey Breaker Station and 25 MVAR Capacitor Bank	No	Scheduled for in-service in 5/2012. The 10/2013 in- service date previously reported was incorrect.

Item #	Project Name	Change In Status?	Reason For Change
19	Weld 230/115 kV, 150 MVA #3	Yes	Western indicates that the In- service date has changed from 5/2012 to 4/2013 due to construction delays
20	Greenwood 230/13.8 kV, 50 MVA #3	Yes	In-service date changed from 3/2012 to 5/2012. Delay is due to significant underground obstructions and unfavorable weather for construction
21	Tollgate 230/13.8 kV, 50 MVA #3	Yes	In-service date changed from 4/2012 to 5/2012 due to delay in delivery of mats and unfavorable weather for construction

22	Plainview - Eldorado 115 kV Line Rebuild Project	Yes	In-service date changed from 6/2012 to 7/2013 due to time required for permitting and lead times for procuring materials
23	Bancroft 115/13.8 kV, 50 MVA #3	No	Scheduled for in-service in 1/2013
24	90 MVAR Capacitor Bank at Arapahoe 115 kV Bus	No	Scheduled for in-service in 12/2013
25	Missile Site 345 kV Project	No	Scheduled for in-service in 1/2013
26	Pawnee - Smoky Hill 345 kV Project	No	Scheduled for in-service in 1/2013
27	Havana 115/13.8 kV, 50 MVA #3	No	Scheduled for in-service in 6/2013

Item #	Project Name	Change In Status?	Reason For Change
28	Jewell 230/13.8 kV, 50 MVA #3	No	Scheduled for in-service in 2/2013
29	Chambers 230/115 kV, 280 MVA #2	No	Scheduled for in-service in 6/2013
30	Lacombe 230/13.8 kV, 50 MVA #3	No	Scheduled for in-service in 5/2013
31	90 MVAR Capacitor Bank at Cherokee 115 kV Bus	No	Scheduled for in-service in 4/2013
32	Federal Heights 115/13.8 kV, 50 MVA #3	No	Scheduled for in-service in 3/2013
33	Malta 230/115 kV, 100 MVA #2	No	Scheduled for in-service in 10/2013
34	Poncha Junction 115/230 kV Auto Transformer (280 MVA)	Yes	In-service date changed from 5/2013 to 11/2013 due to construction delays in relocating Western's lines. Western has committed to 20% capacity in this project. The project scope will also include 40 MVar reactors on the tertiary winding of the 230/115/13.8 kV, 280 MVA transformer. The reactors will compensate for the capacitive charging on the line, and reduce high voltages in the San Luis Valley area under system intact conditions

35 Ptarmigan Substation (230/24.9 kV, 28 MVA)

Yes In-service date changed from 10/2013 to 10/2014 due to

ltem #	Project Name	Change In Status?	Reason For Change
			difficulty in acquiring substation site. See Attachments F &G for details about the new site location and cost changes.
36	Capitol Hill 115/13.8 kV, 50 MVA #3	No	Scheduled for in-service in 5/2014
37	Russell 115/13.8 kV, 50 MVA #2	No	Scheduled for in-service in 6/2014
38	Brantner Sub (Distribution, 115/13.8 kV, 50 MVA)	No	Scheduled for in-Service in 6/2014
	2015 ISD Projects		
39	North 115/13.8 kV, 50 MVA #3	Yes	Project cancelled due to delay in Public Service's distribution load growth
40	RiflePS-Parachute 230 kV Line#2	Yes	In-service date changed from 5/2015 to 12/2015 due to time required for permitting
41	Bluestone Valley Substation and De Beque-Bluestone Valley 69 kV Line	Yes	"Bluestone Valley Substation" was contained in a prior Rule 3206 Report and reflected a 2014 in-service date in that report. The project scope has been modified to include a 230/69 kV transformer and 69 kV protection equipment at the Bluestone Valley Substation. The Bluestone Valley 230 kV yard will be laid out to accommodate the future Bluestone Valley – Clear Creek 230 kV double-circuit transmission line. A two mile De Beque-Bluestone Valley

Item #	Project Name	Change In Status?	Reason For Change
			69 kV line will be constructed. The De Beque- Cameo 69 kV transmission line will be removed. The "Bluestone Valley Substation and De Beque-Bluestone Valley 69 KV Line" project has a tentative in-service date of 2015. Please see Attachment H for the location of the project.

None

## 2017 ISD Projects

42	Glenwood Springs - Rifle 69/115 kV Conversion	Yes	"Glenwood Springs – Rifle 69/115 kV Conversion" project was described in a prior 3206 Report and reflected an undetermined ISD. This project has a new tentative ISD of 2017
43	New Castle 115/69-24.9 kV Substation (Distribution, 16 MVA)	Yes	The project now involves the installation of a 115-24.9 kV, 16 MVA distribution transformer. The project has been renamed "New Castle 115-24.9 kV, 16 MVA". The ISD is 10/2017
44	Happy Canyon 115 kV (IREA load service, 115/12.47 kV, 50 MVA)	Yes	In-service date moved from 11/2012 to 12/2017 pursuant to the request of the Intermountain Rural Electric Association (IREA)

Item #	Project Name	Change In Status?	Reason For Change
	2018 ISD Projects		
45	Wilson#1 Sub (Distribution, 115/13.8 kV, 14 MVA)	Yes	In-Service date changed from 5/2017 to 5/2018 due to slower distribution load growth
	2019 ISD Projects		
46	Parachute - Cameo 230 kV Transmission Line	Yes	New in-service date is 2019 due to slower load growth
47	Harvest Mile 230/345 KV Substation	Yes	In-service date changed from 5/2016 to the 2018-19 time frame. The Pawnee – Daniels Park 345 kV Transmission Line Project, which is described in the "New Projects" section of this 3206 Report, will likely interconnect with the proposed Harvest Mile Substation and the Missile Site Substation.

48 Barker Substation (Distribution, 230/13.8 kV, 50 MVA) 230/13.8 kV, 50 MVA)
Yes
In-service date changed from
6/2015 to 2020 due to slower
distribution load growth

Item #	Project Name	Change In Status?	Reason For Change
	ISD To Be Determined		
49	Lamar - Front Range 345 kV Transmission Line Project	Yes	Public Service has been evaluating alternatives with a variety of stakeholders including TSG&T.
50	Lamar - Vilas 230/345 kV Transmission Line Project	Yes	Public Service has been evaluating alternatives with a variety of stakeholders including TSG&T.
51	Ault - Cherokee 230 kV Transmission Line	Yes	In-service date has been delayed. The Ault-Cherokee 230 kV Line Project has been modified to include the Weld County Transmission Expansion Project. The Weld County Transmission Expansion Project is still in the early stages of development and is subject to a scope change. This project is intended to replace the Ault-Ft. Lupton section of the Ault-Cherokee 230 kV Line Project, and will go through a stakeholder study process with parties able to express participation interest during solicitations in 2012. This project will provide transmission service to Public Service's retail customers in the Greeley area and aligns with the long term goals for increasing the transfer limit of the TOT 7 transfer path. The current in- service date is outside of the time period covered by this

Item #	Project Name	Change In Status?	Reason For Change
			Rule 3206 Report, which is the 2013-2015 timeframe. Additional information concerning the status of this project will be provided as it becomes available
52	Rifle(Ute)-Story Gulch 230 kV Transmission Line Project	Yes	Delayed due to delay in customer load growth. New ISD has not yet been determined
53	San Luis Valley - Calumet - Comanche Transmission Project	Yes	Please see the Company's Senate Bill 07-100 biennial report filed on October 31, 2011 (Docket No. 11M-873E) for details.

#### Ptarmigan Substation Details of the Proposed 2014 In Service Date

Public Service continues its siting activities for a new distribution substation. The project involves a transmission line tap on the existing Dillon-Blue River 230 kV transmission line to a "to-be-determined" substation site, and construction of feeders from the new substation facility to interconnect with the existing distribution system in the Silverthorne area.

As described in the Company's 2011 3206 Report, in 1999 Summit County denied Public Service's application for approval of a substation site and transmission line tap after the Company identified a preferred site through a comprehensive siting process that included substantial public involvement. Public Service decided to not appeal Summit County's denial, and instead built a 4-mile express feeder from the Dillon Substation into the Silverthorne area to help address reliability concerns. Over time, load growth in the area has continued to stress the delivery system driving the need for this new substation to serve existing and future customers.

Since its last 3206 Report, Public Service has been searching for a potential site. Finding an acceptable location for this distribution substation and associated facilities continues to be very challenging due to the mountainous topography, vocal opposition to any substation site near existing subdivisions, environmental sensitivities and the visual qualities of the area. However, Public Service continues to actively investigate potential sites while considering a variety of the substation designs to help minimize potential impacts.

The current forecasted capital cost is \$6.3 million at the transmission level and \$17.1 million at the distribution level (not including feeder work). Over time, land availability, land price escalation, increased construction costs and equipment price increases have contributed to this substantial escalation in costs. Please refer to Attachment G for the orientation map of the project area.

## Attachment G



Figure 6: Approximate Location of the Ptarmigan#1 Substation

## Attachment H



Figure 7: Approximate Location of the Bluestone Valley Substation and Debeque-Bluestone Valley 69 kV Line Project Page intentionally left blank

## CERTIFICATE OF SERVICE Docket No. 12M-165E

I hereby certify that on this 30<sup>th</sup> day of April 2012, the foregoing "**RULE 3206 REPORT- PROPOSED CONSTRUCTION OR EXTENSION OF TRANSMISSION FACILITIES - 2013 THROUGH 2015**" for Public Service Company Of Colorado was e-filed with the Public Utilities Commission in accordance with applicable law upon:

> Doug Dean, Director Colorado Public Utilities Commission 1560 Broadway, Suite 250 Denver, CO 80202

#### And a copy was hand delivered or delivered via U.S. Mail to the following:

Office of Consumer Counsel City & County of Denver Governor's Energy Office William Levis Kevin Magner T.J. Deora bill.levis@dora.state.co.us kevin.magner@denvergov.org tanuj.deora@state.co.us

<u>/s/</u> William W. Wright