EXH. GEM-1T
DOCKETS UE-170033/UG-170034
2017 PSE GENERAL RATE CASE
WITNESS: GEORGE E. MARSHALL

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-170033** **Docket UG-170034**

PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF

GEORGE E. MARSHALL

ON BEHALF OF PUGET SOUND ENERGY

AUGUST 9, 2017

PUGET SOUND ENERGY

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PUGET SOUND ENERGY

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I. INTRODUCTION

Q. Please state your name, business address, and position with Puget Sound Energy.

A. My name is George E. Marshall. My business address is 10885 NE Fourth Street, P.O. Box 97034, Bellevue, WA 98009-9734. I am the Manager Transmission Policy and Contracts for Puget Sound Energy ("PSE").

Q. Have you prepared an exhibit describing your education, relevant employment experience, and other professional qualifications?

A. Yes, I have. It is Exh. GEM-2.

Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony presents the following:

(i) the premature nature of any request for determination as to how much transfer capability would be available on the Colstrip Transmission System for new generation following closure of Colstrip Units 1 & 2;

(ii) reasons why the transition plan proposed by NW Energy Coalition, Renewable Northwest, and Natural Resources Defense Council (the "NWEC Parties") is neither necessary nor appropriate;

(iii) the fact that PSE will continue to use its share of Colstrip Transmission System transfer capability to transmit output from

PSE's share of Colstrip Units 3 & 4 after closure of Colstrip Units 1 & 2; and

(iv) PSE is not missing an important opportunity to address transmission issues that could provide more options to cost-effectively meet PSE's renewable portfolio standard obligations, serve PSE's voluntary renewable energy program customer demands, or contribute to state climate goals.

II. IT IS PREMATURE TO MAKE ANY DETERMINATION AS TO HOW MUCH TRANSFER CAPABILITY WOULD BE AVAILABLE ON THE COLSTRIP TRANSMISSION SYSTEM FOR NEW GENERATION FOLLOWING CLOSURE OF COLSTRIP UNITS 1 & 2

Q. Please describe PSE's general understanding of the request of the NWEC Parties for a "transition plan" for its share of the Colstrip Transmission System.

A. The NWEC Parties propose that the Commission require PSE to develop a "transition plan" for its share of the Colstrip Transmission System to ensure that such share "remains fully utilized after the retirement of Colstrip Units 1 and 2, and to avoid an unnecessary cost burden on PSE customers…."[1] According to the NWEC Parties, this "transition plan" should "resolve the path rating questions, identify barriers to new generators using the CTS, identify the study work necessary to address those barriers and begin as much of that study work as soon as practicable."[2] The NWEC Parties would require PSE to "coordinate with

[1] Yourkowski, Exh. CBY-1T at 16:19-21.

[2] *Id*. at 16:21 – 17:1.

Commission staff, WECC, Path operators, ColumbiaGrid, NTTG, and other stakeholders in a public process to scope and vet this transition plan."[3]

A key element in evaluation of barriers to new generators using the Colstrip Transmission System is the evaluation of how much transfer capability would be available on the Colstrip Transmission System for new generation following closure of Colstrip Units 1 & 2.

Q. Does PSE believe that the transfer capability of the existing Colstrip Transmission System would be reduced following closure of Colstrip Units 1 & 2 and in the absence of new resources on the Colstrip Transmission System?

A. With the closure of Colstrip Units 1 & 2 and in the absence of new resources that affect flows on the existing Colstrip Transmission System, PSE believes it is likely that the transfer capability of the existing Colstrip Transmission System would be reduced. The Colstrip Transmission System operator has described the impact on the system of closure of Colstrip Units 1 & 2, using a garden hose as an analogy:

> **Total Transfer Capability, Path Capacity**
>
> The capacity of a line does not decrease when a resource is removed much like a garden hose's capacity does not disappear when the water spigot is shut off. That being said, it is possible that the path rating/transmission capability might have to be reduced due to resource limitations. This does not mean the capacity is not

[3] *Id*. at 17:1-3.

> there, just that the system is not physically capable of reaching those types of flows with the reduced amount of resources available. In other words, without Colstrip generation to "push" through the garden hose, transmission capability out of Montana will also reduce – nearly at a one-for-one basis to the amount of generation reduction.[4]

In other words, the transfer capability of the existing Colstrip Transmission System is limited by, among other things, (i) the physical attributes of the transmission system and (ii) the generation that provides the pressure (or "push") of the electricity. Closure of Colstrip Units 1 & 2 would result in a reduction of the pressure (or "push") of the electricity and would likely result in a reduction in the transfer capability of the existing Colstrip Transmission System.

PSE is in discussions with the Colstrip Transmission System operator (i.e., NorthWestern Energy ("NorthWestern")) and other Colstrip Transmission System owners[5] and is encouraging operational studies of the effect of closure of Colstrip Units 1 & 2 on the transfer capability of the existing Colstrip Transmission System.

[4] Marshall, Exh. GEM-3 at 9.

[5] The Colstrip Transmission System owners are the parties to the Colstrip Transmission Agreement and are Avista Corporation ("Avista"), NorthWestern, PacifiCorp, Portland General Electric Company, and PSE. *See* Roberts, Exh. RJR-7, for a copy of the Colstrip Transmission Agreement.

Q. Can the interconnection of new resources to the Colstrip Transmission System increase the transfer capability of such system by increasing the pressure (or "push") of the electricity?

A. Yes. New resources can increase the transfer capability of the Colstrip Transmission System by increasing the pressure (or "push") of the electricity. Any such increase in the transfer capability of the Colstrip Transmission System would depend on the type of new resource, its size and other characteristics, and its location. As discussed below, the addition of new generation would require modifications to the Colstrip Transmission System.

Q. Is it practicable to determine, at this point, how much transfer capability would be available on a modified Colstrip Transmission System for *new* generation following closure of Colstrip Units 1 & 2?

A. No. It is impracticable to determine, at this point, how much transfer capability would be available on a modified Colstrip Transmission System for *new* generation following closure of Colstrip Units 1 & 2. The existing Colstrip Transmission System was specifically designed and engineered to transmit coal generation from Colstrip Units 1 through 4. Introduction of *new* resources would require modifications to the existing Colstrip Transmission System. Those modifications would depend on the type of *new* resource, its size and other characteristics, its location, and the type of interconnection and transmission service requested for the *new* resource. The transfer capability available on the Colstrip Transmission System would be a function of, among other things, the

type of *new* resource, its size and other characteristics, its location, and the modifications made to the system to accommodate the *new* resource.

Q. How would modifications to the existing Colstrip Transmission System be determined for new generation?

A. The Colstrip Transmission System Operator (i.e., NorthWestern) would conduct transmission and interconnection studies (on behalf of and in consultation with the Colstrip Transmission System owners) in response to requests for interconnection and transmission service on the Colstrip Transmission System for new generation. These studies would be based on the specific location and the size and other characteristics of the new generator and the type of interconnection and transmission service requested. These studies would determine the interconnection and transmission impacts, the modifications needed, and the estimated costs of such modifications to the transmission system. (The cost of modifications needed as a result of such new resource will, again, depend on the type of resource, its size and other characteristics, and its location.)

Q. Who pays for the costs of interconnection and transmission studies?

A. Under the Open Access Transmission Tariff ("OATT") of PSE and each of the other owners of the Colstrip Transmission System, the requesting interconnection customer would pay the costs of the interconnection studies, and the requesting transmission customer would pay the costs of the transmission studies.

Q. Have generic transmission studies based on closure of coal generation plants and hypothetical new generation in Montana been performed?

A. Yes. The following are generic studies based, in part, on closure of coal generation plants and hypothetical new generation in Montana:

(i) NorthWestern's "EPA 111 D Consideration Retirement of CS units 1&2" dated April 2015;

(ii) NorthWestern's "EPA 111-D Clean Power Plan Consideration Study: Retirement of All Coal-Fired Generation in Montana" dated November 2015;

(iii) Northern Tier Transmission Group's Draft "NTTG Study Report for the 2016-2017 Public Policy Consideration Scenario" dated May 8, 2017; and

(iv) ColumbiaGrid's "Economic Planning Study Impacts from Coal Shutdown Final Study Report" dated June 18, 2015.

Please see the Second Exhibit to the Prefiled Rebuttal Testimony of George E. Marshall, Exh. GEM-3, for PSE's Response to NWEC-RNW-NRDC Data Request No. 014, which provided copies of each generic study identified above.

Such studies can provide useful information regarding the potential economics and impacts of generic generation, but *they cannot substitute for interconnection and transmission studies of specific new generation* described above that evaluate transfer capability and reliability in light of such new generation.

Q. Are the NWEC Parties correct in asserting that PSE assumes that no other generators in Montana may want to utilize PSE's Colstrip Transmission System rights?

A. No. The NWEC Parties incorrectly assert that PSE assumes that no other generators in Montana may want to utilize PSE's Colstrip Transmission System rights. In PSE's Response to NWEC-RNW-NRDC Data Request No. 003, PSE states that "PSE currently has no basis for assuming that any *particular* Montana-based generation resource or other generation resource would use PSE's transmission capacity on the [Colstrip Transmission System] or its transmission rights under the [Montana Intertie Agreement]."[6] This statement does not mean—contrary to the suggestion of NWEC Parties—that PSE "had no basis for assuming that any other generator in Montana may want to utilize the transmission associated with Colstrip Units 1 and 2."[7] PSE is aware of interest in developing resources in Montana. However, in the absence of a transmission service request for any new resource, there is no basis for PSE to assume that *any particular* new resource will utilize the Colstrip Transmission System.

[6] Yourkowski, Exh. CBY-3C at 2 (emphasis added).

[7] Yourkowski, Exh. CBY-1T at 7:14-16.

III. THE TRANSITION PLAN PROPOSED BY THE NWEC PARTIES IS NEITHER NECESSARY NOR APPROPRIATE

Q. Is requiring a "transition plan" as proposed by the NWEC Parties necessary and appropriate?

A. No. The "transition plan" proposed by the NWEC Parties is neither necessary nor appropriate. The "transition plan" proposed by the NWEC Parties fails to recognize the processes and procedures that govern issues identified in the testimony of the NWEC Parties, such as PSE's OATT and related requirements of the Federal Energy Regulatory Commission regarding offering and providing interconnection and transmission service.

The requested "transition plan" would also require the performance of speculative studies based on hypothetical new generation resources that would fail to answer transmission capability questions for new generation that can only be answered when specific, concrete new generation resources are identified.

A. The NWEC Parties' Proposal for a Transition Plan Fails to Recognize Existing FERC Requirements and Would Inappropriately Shift Costs of Studies Away from Interconnection and Transmission Customers that Request Service on the Colstrip Transmission System

Q. Does the proposal of the NWEC Parties to require PSE to develop a transition plan for its share of unused transfer capability of the Colstrip Transmission System recognize applicable requirements of the Federal Energy Regulatory Commission with respect to such transfer capability?

A. No. The NWEC Parties' proposal to require PSE to develop a transition plan for use of PSE's share of unused transfer capability of the Colstrip Transmission System by new generators is summarized in the following quote:

> In order to ensure that PSE's share of the [Colstrip Transmission System] remains fully utilized after the retirement of Colstrip Units 1 and 2, and to avoid an unnecessary cost burden on PSE customers, PSE should be required to develop a transition plan for its share of the [Colstrip Transmission System] as soon as possible. This transition plan should resolve the path rating questions, identify barriers to new generators using the [Colstrip Transmission System], identify the study work necessary to address those barriers and begin as much of that study work as soon as practicable. PSE should coordinate with Commission staff, WECC, Path 8 operators, ColumbiaGrid, [Northern Tier Transmission Group], and other stakeholders in a public process to scope and vet this transition plan.[8]

This proposal of the NWEC Parties to require PSE to develop a transition plan for use of PSE's share of unused transfer capability of the Colstrip Transmission System by new generators fails to recognize that access to PSE's Colstrip

[8] Yourkowski, Exh. CBY-1T at 16:18 – 17:3.

Transmission System transfer capability by third-party customers is governed by FERC requirements and PSE's OATT, which is on file with FERC.

FERC requirements govern the processes for responding to third party requests for interconnection to and transmission service on the Colstrip Transmission System. The FERC requirements specify the studies to be performed in response to such requests and include timelines and cost responsibility for such studies. In general, the party requesting transmission interconnection and/or service is responsible for the payment of the costs of such studies.

By contrast, the proposal of the NWEC Parties would require PSE (or other Colstrip Transmission System owners), presumably without reimbursement of costs by any interconnection or transmission customer, to undertake studies to "resolve the path rating questions, identify barriers to new generators using the CTS, [and] identify the study work necessary to address those barriers".[9] This proposal would represent an inappropriate shift of costs away from third party customers requesting interconnection and transmission on the Colstrip Transmission System and onto PSE or other Colstrip Transmission System owners. Consistent with FERC requirements, barriers to a specific generating project for which interconnection or transmission is requested are evaluated in the interconnection or transmission study process.

[9] Yourkowski, Exh. CBY-1T at 16:22-23.

Q. Have PSE and the other owners of the Colstrip Transmission System taken steps to clarify the availability of the Colstrip Transmission System for generation sourced from resources other than the Colstrip Units 1 through 4?

A Yes. PSE and the other owners of the Colstrip Transmission System have taken steps to clarify the availability of the Colstrip Transmission System for generation sourced from resources other than the Colstrip Units 1 through 4.

The original Colstrip Transmission Agreement was executed in 1981 and predated many of the modern FERC orders, such as Order Nos. 888, 890, and 2003, that shape today's electric transmission industry. Therefore, the original Colstrip Transmission Agreement lacked details about the processes by which the Colstrip Transmission System owners would (i) address transmission and interconnection requests to the Colstrip Transmission System, (ii) make improvements to the Colstrip Transmission System necessary to satisfy interconnection requests and transmission service requests that exceed existing capacity, and (iii) make elective improvements to the Colstrip Transmission System (not related to transmission service or interconnection requests).

Over the past decade, the Colstrip Transmission System owners developed changes to the Agreement, which are reflected in the current Colstrip Transmission Agreement, to address these processes. The development of procedures that are consistent with FERC requirements for requesting and obtaining interconnection to and transmission service over a transmission facility

(such as the Colstrip Transmission System) that is owned and relied upon by five FERC-jurisdictional investor-owned utilities is complex—but important in clarifying the availability of the Colstrip Transmission System for other generation. These procedures are reflected in Appendix A (Colstrip Transmission System – Transmission Service and Interconnection Processes and Procedures) to the Colstrip Transmission Agreement and were accepted for filing by FERC in 2013.[10]

B. At This Time, It Would be Speculative to Re-Rate WECC Path 8 to Reflect New Generation Resources in Montana

Q. Please describe Path 8 (Montana to Northwest) and its transfer path rating.

A. The Western Electric Coordinating Council ("WECC") transfer path rating for Path 8 (Montana to Northwest) was developed through WECC, under the sponsorship of NorthWestern, Bonneville Power Administration ("BPA"), and Avista. The facilities included in Path 8 are tie lines between NorthWestern and BPA, plus tie lines between NorthWestern and Avista. These facilities include the Colstrip Transmission System.

Under the WECC Project Coordination, Path Rating and Progress Report Processes,[11] re-rating of Path 8 may be appropriate for the period after closure of Colstrip Units 1 & 2. Key participants in such WECC processes include WECC

[10] *See* Roberts, Exh. RJR-9 at 58-109.

[11] WECC, *Project Coordination, Path Rating and Progress Report Processes*, available at https://www.wecc.biz/Reliability/Project_Coordination_Path_Rating_and_Progress_Report_Processes_20170316.pdf.

and Path 8 sponsors (which include Avista, BPA, and NorthWestern). PSE would work with others within applicable WECC processes in connection with any such re-rating, if such a re-rating is appropriate.

Any Path 8 re-rating prior to the identification of specific new generation would not reflect that new generation. Any new generation after a Path 8 re-rating could well require a subsequent re-rating. It is speculative, at this time, to determine how the rating of WECC Path 8 would be affected by new generation in Montana following closure of Colstrip Units 1 & 2. This is because that rating will be affected by the type of new resource, its size and other characteristics, and its location.

IV. AFTER COLSTRIP UNITS 1 & 2 CLOSE, PSE WILL CONTINUE TO USE ITS SHARE OF COLSTRIP TRANSMISSION SYSTEM TRANSFER CAPABILITY TO TRANSMIT OUTPUT FROM PSE'S SHARE OF COLSTRIP UNITS 3 & 4

Q. After Colstrip Units 1 & 2 close, will PSE continue to use its share of Colstrip Transmission System transfer capability to transmit output from PSE's share of Colstrip Units 3 & 4?

A. Yes. After Colstrip Units 1 & 2 close, PSE will continue to use its share of Colstrip Transmission System transfer capability to transmit output from PSE's share of Colstrip Units 3 & 4. Under the Colstrip Transmission Agreement, each Colstrip Transmission System owner is entitled to its share of Colstrip Transmission System transfer capability and is obligated to pay its share of Colstrip Transmission System costs, even after the closure of

Colstrip Units 1 & 2. This helps ensure the continued operation of the Colstrip Transmission System, a facility owned as tenancy in common, to transmit generation from Colstrip Units 3 & 4.

Q. Would the closure of Colstrip Units 1 & 2 render Colstrip Transmission System facilities surplus?

A. No. Closure of Colstrip Units 1 & 2 is not expected to render any Colstrip Transmission System facilities surplus and should not be expected to reduce the costs of operating the Colstrip Transmission System. Furthermore, it would make no sense to "downsize" Colstrip Transmission System facilities as a result of such closure because (i) any excess transfer capability as a result of such a closure might be usable for other purposes and (ii) replacing existing Colstrip Transmission System conductors or other facilities with smaller facilities would be uneconomic at best. Further, PSE's share of Colstrip Transmission System transfer capability is not divisible under the Colstrip Transmission Agreement between transfer capability used for Colstrip Units 1 & 2 and transfer capability used for Colstrip Units 3 & 4.

Q. Are the NWEC Parties correct that all of PSE's share of the Colstrip Transmission System will not remain "used and useful" by Colstrip Units 3 & 4 after closure of Colstrip Units 1 & 2?

A. No. The NWEC Parties incorrectly suggest that all of PSE's share of the Colstrip Transmission System will not remain "used and useful" by Colstrip Units 3 & 4. For example, the NWEC Parties erroneously suggest that all of PSE's Colstrip

Transmission System transfer capability must be used to transmit generation from Colstrip Units 3 & 4 for PSE's share of the Colstrip Transmission System facilities to be considered used and useful.[12]

The argument of the NWEC Parties misses the point and ignores the fact that, after the closure of Colstrip Units 1 & 2, Colstrip Transmission System facilities will continue to operate under the Colstrip Transmission Agreement and provide transmission transfer capability for PSE and the other four owners of the Colstrip Transmission System, as described above. Indeed, PSE will continue to use Colstrip Transmission System transfer capability for the transmission of generation from Colstrip Units 3 & 4—even if PSE does not use all of PSE's transfer capability for such use. Large transmission projects, such as the Colstrip Transmission System, are "lumpy" and cannot be expected to have a transfer capability that matches the need at any given time, particularly if the need varies over time. In any event, it would be premature for the Commission, in this proceeding, to predetermine prudence of PSE's actions with respect to PSE's costs under the Colstrip Transmission Agreement, the Montana Intertie Agreement,[13] or BPA's Townsend to Garrison (TGT) rate after closure of Colstrip Units 1 & 2.

[12] *See* Yourkowski, Exh. CBY-1T at 5:18 – 7:4.

[13] See Roberts, Exh. RJR-9, for a copy of the Montana Intertie Agreement.

For the above reasons, it would be inappropriate for "the Commission [to] attach a 'sunset' provision to the acceptance of [PSE's costs under the Colstrip Transmission Agreement and Montana Intertie Agreement] into rates."[14]

V. PSE IS NOT MISSING AN IMPORTANT OPPORTUNITY TO ADDRESS TRANSMISSION ISSUES THAT COULD PROVIDE MORE OPTIONS TO COST-EFFECTIVELY MEET PSE'S RENEWABLE PORTFOLIO STANDARD OBLIGATIONS, SERVE PSE'S VOLUNTARY RENEWABLE ENERGY PROGRAM CUSTOMER DEMANDS, OR CONTRIBUTE TO STATE CLIMATE GOALS

Q. Is PSE "missing an important opportunity to address transmission issues that would give the company more options for cost-effectively meeting its Renewable Portfolio Standard ('RPS') obligations, serving its voluntary renewable energy program customer demands, and contributing to state climate goals"?[15]

A. No. PSE is currently studying, among other things, the peak capacity value of Montana wind resources in its 2017 Integrated Resource Plan (the "2017 IRP") to forecast whether such resources would be least cost resources for purposes of the 2017 IRP. The 2017 IRP process will analyze generic resources in Montana, and elsewhere, but will not identify a particular resource, wind or otherwise, in Montana as a least-cost resource. Subsequent to the 2017 IRP, PSE may engage in a request for proposal process in which PSE could identify particular resources in Montana and whether they are cost-effective to pursue. As discussed above, the

[14] Yourkowski, Exh. CBY-1T at 19:15-16.

[15] Yourkowski, Exh. CBY-1T at 5:14-17.

effect of any new resource, including any new resource identified by PSE pursuant to these processes, on system reliability and transfer capability of the Colstrip Transmission System would depend on the type of such new resource, its size and other characteristics, and its location.

Q. When will PSE file the 2017 IRP with the Commission?

A. Pursuant to the schedule adopted in Docket UE-160918, PSE will (i) issue a draft of the 2017 IRP on or before September 12, 2017, and (ii) file the final 2017 IRP on or before November 15, 2017. Typically, PSE's Request for Proposal process would follow the IRP process and would be the process by which Montana resources would compete with other resources.

Q. Does PSE anticipate going through the formal RFP process following the 2017 IRP?

A. PSE has not yet made a determination whether PSE would conduct an RFP process following the 2017 IRP. PSE's decision about issuing an RFP will be included in the Action Plan section of the 2017 IRP filing. That decision could reflect feedback from the Commission or others in the 2017 IRP process, future updates to PSE's long-term load forecast, and subsequent considerations.

VI. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes.