BEFORE THE WASHINGTON

UTILITIES & TRANSPORTATION COMMISSION

In the Matter of the Application of

PUGET SOUND ENERGY

For an Order Authorizing the Sale of All of Puget Sound Energy's Interests in Colstrip Unit 4 and Certain of Puget Sound Energy's Interests in Colstrip Transmission System

DOCKET UE-200115

RESPONSE TESTIMONY OF PAUL L. CHERNICK ON BEHALF OF THE WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL PUBLIC COUNSEL UNIT

EXHIBIT PLC-1HCT

October 2, 2020

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I. INTRODUCTION

I	Q.	Please state your name and business address.
2	A.	My name is Paul L. Chernick. My business address is 5 Water Street, Arlington, MA
3		02476.
4	Q.	By whom are you employed and in what capacity?
5	A.	I am president of Resource Insight, Inc.
6	Q.	On whose behalf are you testifying?
7	A.	I am testifying on behalf of the Public Counsel Unit of the Washington State Attorney
8		General's Office ("Public Counsel").
9	Q.	Please describe your professional qualifications.
10	A.	I received a Bachelor of Science (BS) degree from the Massachusetts Institute of
11		Technology in June 1974 from the Civil Engineering Department, and a Master of
12		Science (MS) degree from the Massachusetts Institute of Technology in February 1978 in
13		technology and policy. I have been elected to membership in the civil engineering
14		honorary society Chi Epsilon, and the engineering honor society Tau Beta Pi, and to
15		associate membership in the research honorary society Sigma Xi.
16		I was a utility analyst for the Massachusetts Attorney General for more than three
17		years and was involved in numerous aspects of utility rate design, costing, load
18		forecasting, and the evaluation of power supply options. Since 1981, I have been a
19		consultant in utility regulation and planning, first as a research associate at Analysis and
20		Inference, after 1986 as president of PLC, Inc., and in my current position at Resource
21		Insight. In these capacities, I have advised a variety of clients on utility matters.

1		My work has considered, among other things, the cost-effectiveness of
2		prospective new electric generation plants and transmission lines, retrospective review of
3		generation-planning decisions, ratemaking for plants under construction, ratemaking for
4		excess and/or uneconomical plants entering service, conservation program design, cost
5		recovery for utility efficiency programs, the valuation of environmental externalities from
6		energy production and use, allocation of costs of service between rate classes and
7		jurisdictions, design of retail and wholesale rates, and performance-based ratemaking and
8		cost recovery in restructured gas and electric industries. My professional qualifications
9		are further summarized in Exhibit PLC-2.
10	Q.	Have you testified previously in utility proceedings?
11	A.	Yes. I have testified more than 350 times on utility issues before various regulatory,
12		legislative, and judicial bodies, including utility regulators in 37 states, six Canadian
13		provinces, and two U.S. Federal agencies.
14	Q.	Have you testified previously before this Commission?
15	A.	Yes. I filed testimony on behalf of Public Counsel in the PacifiCorp-Scottish Power
16		merger proceeding (Docket UE-981627), on performance standards and low-income
17		assistance.
18	Q.	Please describe Puget Sound Energy's initial application in this proceeding.
19	A.	On February 19, 2020, Puget Sound Energy (PSE) filed an application and supporting
20		testimony with the Washington Utilities and Transportation Commission (WUTC or
21		"Commission") for approval of a set of agreements (collectively, "the Proposed
22		Transactions") with NorthWestern Energy to effect the following:

1 The sale of PSE's 25 percent (approximately 185 MW) share of Colstrip Unit 4 to 2 NorthWestern Energy ("Colstrip Unit 4 P&S Agreement"). ¹ 3 A power purchase agreement (PPA) to buy back 90 MW of Colstrip Unit 4 output 4 from NorthWestern Energy during the period June 1, 2020 through May 15, $2025.^{2}$ 5 6 Sale to NorthWestern Energy of a portion of PSE's ownership in the Colstrip 7 Transmission System ("Transmission") equivalent to 95 MW of transfer capacity, 8 with an option for NorthWestern Energy to buy another 90 MW of PSE's 9 ownership share ("Transmission P&S Agreement").³ 10 The Colstrip Unit 4 Purchase & Sale (P&S) Agreement includes a Vote Sharing 11 Agreement which specifies the voting obligations of PSE and NorthWestern Energy with 12 respect to (1) PSE's 25 percent share of Colstrip Unit 3; and (2) PSE's 25 percent share 13 of Colstrip Unit 4 to be acquired by NorthWestern Energy under the P&S Agreement 14 (together, "the Shared Vote"). 4 I describe this agreement in more detail in Section III of this testimony. 15 16 Did PSE subsequently file a modified application in this proceeding? Q. 17 Yes. Talen Montana, LLC ("Talen") currently has a 30 percent ownership share of A. 18 Colstrip Unit 3 and serves as the operator of Colstrip Units 3 and 4. On April 8, 2020, 19 Talen provided notice to PSE that it was exercising its right of first refusal under the

¹ Direct Testimony of Ronald J. Roberts, Exh. RJR-6.

² Roberts, Exh. RJR-8, describing the original PPA from Northwestern Energy. The same PPA terms are described in Supplemental Application of Puget Sound Energy, Appendix C (removing redactions); Exh. RJR-17, Exhibit C, for the revised Northwestern Energy PPA; and Exh. RJR-20, for the 45 MW Talen PPA. The amount that PSE would be required to purchase in each hour is not clear, as discussed below.

³ Roberts, Exh. RJR-7.

⁴ Roberts, Exh. RJR-6, Exhibit F. The Shared Vote excludes NorthWestern Energy's current 30 percent share of Colstrip Unit 4. NorthWestern Energy's voting obligations with respect to its current 30 percent share of Colstrip Unit 4 are set forth in a separate vote sharing agreement between NorthWestern Energy and Talen Montana, LLC.

terms of the Colstrip Units 3 & 4 Ownership and Operation Agreement⁵ ("Colstrip Owners Agreement") for a proportionate share of PSE's 25 percent interest in Colstrip Unit 4.

Α.

Accordingly, on August 20, 2020, PSE filed with the Commission a supplemental application (along with supplemental supporting testimony) for approval of a modified version of the Proposed Transactions which would allow NorthWestern Energy and Talen to each acquire half of PSE's 25 percent share of Colstrip Unit 4. As described in the supplemental application, the modified version of the Proposed Transactions includes two, virtually identical versions each of the original Colstrip Unit 4 P&S Agreement and the PPA.⁶ In addition, the Vote Sharing Agreement under the two P&S Agreements has been modified to account for Talen's acquisition of a 12.5 percent interest in Colstrip Unit 4 from PSE.

Q. Do the Proposed Transactions now include a Transmission P&S Agreement between PSE and Talen?

No. Talen is not currently a co-owner of the Colstrip Transmission System and therefore does not appear to have a right of first refusal under the terms of the Colstrip Project Transmission Agreement. Nonetheless, Talen has claimed a right of first refusal under the terms of the Colstrip Owners Agreement to a proportionate interest in the proposed transfer of Transmission capacity from PSE to NorthWestern Energy. NorthWestern Energy and PSE have disputed Talen's claim to a right of first refusal to Transmission

⁵ The Ownership and Operating Agreement is contained in Mr. Roberts' Exhibit RJR-3.

⁶ Supplemental Direct Testimony of Ronald J. Roberts, Exh. RJR-18; Roberts, Exh. RJR-19; Roberts, Exh. RJR-20. Although there are now separate Purchase and Sales Agreements and PPAs between PSE and NorthWestern Energy or Talen, I continue to refer to these agreements generically as the Colstrip Unit 4 P&S Agreement and the PPA, respectively.

1 assets; the parties have agreed to resolve this dispute through arbitration. The arbitrator is 2 expected to render an opinion on this dispute in late October of 2020. 3 Q. What is the purpose of your responsive testimony? 4 My testimony addresses whether the Proposed Transactions, as currently constituted, are A. 5 consistent with the public interest. The Proposed Transactions are subject to further 6 modification depending on the outcome of arbitration regarding Talen's claim to 7 Transmission capacity. That potential modification could alter my analysis of the 8 Proposed Transactions. I therefore reserve the right to supplement my testimony and 9 revise my findings, conclusions, and recommendations in response to any such 10 modifications to the Proposed Transactions. II. **SUMMARY** 11 Q. Please summarize your findings and conclusions with respect to the Proposed 12 Transactions. 13 A. PSE fails to show that the Proposed Transactions are consistent with the public interest. 14 Specifically: The sale of PSE's share of Colstrip Unit 4 would severely limit PSE's ability to 15 16 exercise meaningful voting control over future Colstrip Operating and 17 Maintenance ("O&M") budgets, and in particular over the O&M costs charged 18 through the proposed PPA. 19 The sale of PSE's share of Colstrip Unit 4 would foreclose the opportunity for 20 PSE to effectuate early retirement of Colstrip Unit 4. 21 The proposed Vote Sharing Agreement does not offer any greater certainty that 22 PSE would be able to effectuate early retirement of Colstrip Unit 3. Although the

1 Vote Sharing Agreement allows PSE to exercise the Shared Vote on a proposal to 2 decommission Colstrip Unit 3, Talen would continue to have an effective veto on 3 any such proposal under the terms of the vote sharing agreement between 4 NorthWestern Energy and Talen. 5 By PSE's own economic analysis of the proposed PPA, replacing the output of PSE's share of Colstrip Unit 4 with a combination of the proposed PPA and 6 7 market purchases would marginally reduce costs to ratepayers under base case 8 assumptions and actually increase costs with higher market-price assumptions. 9 PSE's analysis is flawed in several respects; if corrected, PSE's analysis would 10 likely show that the status quo is preferred. 11 By PSE's own analysis, the least-expensive option would be to replace 100 12 percent of the output of PSE's share of Colstrip Unit 4 with market purchases of 13 energy and capacity. Correcting for the flaws in PSE's analysis would increase 14 the benefits of 100 percent market purchase relative to both the status quo and a 15 combination of the proposed PPA and market purchases. 16 As discussed below, PSE recognized in 2018 that there were potential benefits of 17 retiring Colstrip Units 3 and 4. However, PSE chose to not put a retirement 18 proposal to a vote by the co-owners because of a dubious claim by NorthWestern 19 Energy that a retirement decision requires unanimous consent among the 20 co-owners. Rather than test the validity of that claim through arbitration, PSE 21 simply chose to acquiesce. As a result of PSE's inaction, ratepayers continue to be 22 burdened with the excessive costs to operate and maintain Colstrip Units 3 and 4.

The Proposed Transactions do not eliminate these burdens.

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1 Q. Please summarize your recommendations with respect to the Proposed

- 2 Transactions.
- 3 A. The Commission should reject the Proposed Transactions as contrary to the public
- 4 interest.
- 5 Instead, PSE should be directed to:
- Pursue retirement of Colstrip Units 3 and 4 at the earliest feasible date, through a vote of the co-owners and, if necessary, arbitration.
- 8 2. As part of the current IRP process, evaluate the potential for importing renewable power using the full extent of PSE's share of Transmission transfer capacity.

III. PROPOSED TRANSACTIONS WOULD DILUTE PUGET SOUND ENERGY'S VOTING CONTROL

10 Q. What is the current ownership structure?

11 A. As indicated in the following table, there are six co-owners of the Colstrip Unit 3 and 4

12 generating facility ("the Colstrip Project"). PSE, Portland General Electric, Avista, and

13 PacifiCorp have ownership shares in both Units 3 and 4, while Talen and NorthWestern

14 Energy have ownership shares solely in Unit 3 or 4, respectively.

Table 1.
Ownership Structure of the Colstrip Project

Owner	Unit 3	Unit 4	Colstrip Project
Talen	30%		15%
NorthWestern Energy		30%	15%
PSE	25%	25%	25%
Portland General Electric	20%	20%	20%
Avista	15%	15%	15%
PacifiCorp	10%	10%	10%

Q. How would this ownership structure change under the Proposed Transactions?

A. Pursuant to the Colstrip Unit 4 P&S Agreement, NorthWestern Energy and Talen would each acquire half of PSE's current 25 percent share of Colstrip Unit 4. With this acquisition, the Colstrip Project ownership structure would be as indicated in the following table.

Table 2.

Proposed Transactions Ownership Structure of the Colstrip Project

Owner	Unit 3	Unit 4	Colstrip Project
Talen	30%	12.5%	21.25%
NorthWestern Energy		42.5%	21.25%
PSE	25%		12.50%
Portland General Electric	20%	20%	20%
Avista	15%	15%	15%
PacifiCorp	10%	10%	10%

6 Q. Please describe the voting structure for the Colstrip Project and its history.

A. As set forth in Section 17 of the Colstrip Owners Agreement, decision-making resides in a Project Committee. Reflecting the ownership structure at the time in 1991, the Project Committee consists of five voting members. One of those five votes is the vote of the Colstrip Project Operator.

In 1999, Talen acquired NorthWestern Energy's 30 percent share of Colstrip Unit 3 and assumed the role of Operator of the Colstrip Project. To accommodate a sixth co-owner in the Project Committee's five-member voting structure, NorthWestern Energy and Talen entered into a vote sharing agreement that specifies which of these two parties would cast the Operator vote for each Project Committee vote.⁸

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⁷ Roberts, Exh. RJR-3.

⁸ Response Testimony of Paul L. Chernick, Exh. PLC-3, Attachment B.

Approval of each category of proposals before the Project Committee require support of both a specified number of members and a specified voting share total. Each Project Committee member's voting share is determined by that member's ownership share of the Colstrip Project. The current voting structure is shown in Table 3.

Table 3. Project Committee Voting Structure

Owner	Vote Share
Operator (NorthWestern Energy / Talen shared vote)	30%
PSE	25%
Portland General Electric	20%
Avista	15%
PacifiCorp	10%

- Q. Please describe the voting requirements for Project Committee approval of project
 proposals.
- A. According to Section 17(f) of the Ownership and Operations Agreement, a proposal

 (including construction and operating budgets) may be made by the Operator or two other

 committee members, and approval requires both: (1) approval by the Operator and at

 least two other committee members; and (2) a combined voting share of the approving

 Operator and other committee members of at least 55 percent.⁹

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⁹ Roberts, Exh. RJR-3. The requirement for approval by the Operator and at least two other committee members does not apply to proposals for "Elective Capital Additions" or proposals to replace the Operator. In the former case, proposals simply require a combined voting share of at least 85 percent to be approved. (Section 17(j)) In the latter case, proposals require a combined voting share of at least 65 percent to be approved. (Section 17(k)) In this case, NorthWestern Energy would vote the 30 percent shared vote.

What is the process for Project Committee consideration of a proposal by two 1 Q. 2 committee members other than the Operator to retire one or both of the Colstrip 3 units? 4 As set forth in Section 17(i), the Operator must respond to such a proposal within 15 days A. 5 with an alternative proposal, which could simply be a proposal to continue operation. If 6 the Operator's alternative proposal is rejected pursuant to the voting requirements of 7 Section 17(f), then the Project Committee would vote on the original proposal. If the 8 original proposal is also rejected pursuant to the voting requirements of Section 17(f), 9 then either the proponents or the Operator can bring the issue to arbitration. 10 Q. How would the Project Committee voting structure change under the Proposed 11 **Transactions?** As discussed above, the Vote Sharing Agreement¹⁰ establishes a Shared Vote consisting 12 A. 13 of: (1) PSE's 25 percent share of Colstrip Unit 3; and (2) PSE's 25 percent share of 14 Colstrip Unit 4 to be acquired by NorthWestern Energy and Talen. Consequently, the voting structure for the Project Committee under the Proposed Transactions would be as 15 16 indicated in Table 4.¹¹

Table 4.

Project Committee Voting Structure under Proposed Transactions

Owner	Vote Share
Operator (NorthWestern Energy / Talen shared vote)	30%
Shared Vote (PSE / Northwestern Energy / Talen)	25%
Portland General Electric	20%
Avista	15%
PacifiCorp	10%

¹⁰ Roberts, Exh. RJR-6, Exhibit F.

¹¹ Chernick, Exh. PLC-4.

1	Q.	Does the Vote Sharing Agreement dilute PSE's voting power on the Project
2		Committee?
3	A.	Yes. The Vote Sharing Agreement severely limits PSE's authority to exercise the Shared
4		Vote. In particular, the Vote Sharing Agreement precludes PSE from voting the Shared
5		Vote on any matters relating to the closure or decommissioning of Colstrip Unit 4.
6		Moreover, the Vote Sharing Agreement precludes PSE from voting the Shared Vote on
7		Colstrip Project O&M budgets except for those years where the planned maintenance
8		outage for Colstrip Unit 3 is expected to be longer than the planned maintenance outage
9		for Colstrip Unit 4.
10	Q.	How would the Vote Sharing Agreement affect PSE's ability to control its charges
11		for remediation of coal combustion residuals?
12	A.	PSE would continue to control the Shared Vote with respect to the decisions on clean-up.
13		However, it would continue to be charged for 25 percent of the cost of cleaning up
14		pollution from coal burned after the sale, to generate energy that would not be used by
15		PSE. If continued operation results in additional environmental liabilities, PSE may be
16		charged for remediation of post-sale coal combustion for decades. The PSE shareholders
17		may wish to assume those liabilities, but the retail ratepayers should not pay for more of
18		the remediation cost than the ratio of energy delivered to PSE, divided by the total energy
19		generated by Colstrip Units 3 and 4.
20	Q.	Why would PSE willingly concede its right to vote on a proposal to close Colstrip
21		Unit 4?
22	A.	PSE asserts that is not actually giving up anything of value in this regard because it
23		believes that it is already effectively powerless to effectuate the retirement of either Unit

3 or 4 (or both). 12 According to PSE, NorthWestern Energy has claimed that a proposal to retire either Unit 3 or 4 would require unanimous consent by Project Committee members. If valid, that claim would mean that it or any other voting member of the Project Committee would have a veto on any closure proposal.

PSE has not "formed an opinion" as to the merits of that claim. ¹³ Nonetheless, PSE believes that, "any proposed closure of a unit that lacks unanimous consent of the owners would be controversial and be subject to prolonged litigation. Therefore, unanimous consent among the owners would effectively be necessary to effectuate an efficient and orderly shutdown of one or both Colstrip units." ¹⁴

- Q. If PSE found that one or both of the Colstrip units is no longer economic to continue operation, would it be reasonable for PSE to not pursue closure of those units because of the possibility of prolonged litigation?
- 13 A. No. If PSE determined that one or both of the Colstrip units was no longer economically
 14 viable, the prudent course of action would be to attempt to effectuate closure through the
 15 Project Committee process pursuant to the terms of the Colstrip Owners Agreement and,
 16 if necessary, test NorthWestern Energy's claim through arbitration or the courts.
- 17 Q. Has PSE ever considered, but chosen to not pursue, closing the Colstrip units 18 through the Project Committee process?
- 19 A. Yes. In, 2018 PSE "considered the potential of closing Colstrip Units 3 & 4." However, 20 PSE decided not to put a closure proposal to a vote of the Project Committee because of

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¹⁴ Chernick, Exh. PLC-5 at 2, subsection (a)(i).

¹² Chernick, Exh. PLC-5 at 2, subsection (a)(i).

¹³ Id

¹⁵ Direct Testimony of Ronald J. Roberts, Exh. RJR-1CTr, at 7:20–21. PSE refused to provide any information on any economic analyses that may have led it to consider retirement. Chernick, Exh. PLC-6.

- NorthWestern Energy's claim and the potential for "prolonged litigation" regarding that

 claim. 16

 Does PSE assert that it gains anything from giving up its right to vote on the closure

 of Colstrip Unit 4?
- 5 A. Yes. In exchange for giving up what it believes to be an ineffectual right to vote for 6 closure of Colstrip Unit 4, PSE claims that it is gaining the actual power to effectuate 7 closure of Colstrip Unit 3. Specifically, the Vote Sharing Agreement would give PSE the 8 right to vote the Shared Vote on any proposal to close Unit 3. According to PSE witness 9 Roberts, "[t]his provision effectively removes any 'veto right' of NorthWestern Energy 10 under the Colstrip Units 3 & 4 Ownership and Operation Agreement with respect to any 11 vote regarding the closure and decommissioning of Colstrip Unit 3, when the time is appropriate."17 12
- voting member of the Project Committee to veto a proposal to close Colstrip Unit 3?

 15 A. No. Pursuant to the terms of the Vote Sharing Agreement between NorthWestern Energy

 16 and Talen, one of these parties would have the authority to cast the Operator vote in

 17 opposition to any proposal to close Colstrip Unit 3. Regardless of the merits of

 18 NorthWestern Energy's claim that a closure proposal requires unanimous consent, there

 19 is no dispute that Section 17(f) of the Colstrip Owners Agreement requires an affirmative

Do you agree that the Vote Sharing Agreement eliminates the opportunity for a

vote by the Operator for passage of any proposal.

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Q.

¹⁶ Chernick, Exh. PLC-5, at 2, subsection (b)(i).

¹⁷ Supplemental Direct Testimony of Ronald J. Roberts, Exh. RJR-9T, at 50:15–18.

¹⁸ Chernick, Exh. PLC-7.

1 0. What is the harm from the provision of the Vote Sharing Agreement which limits 2 PSE's authority to exercise the Shared Vote on O&M budgets? 3 A. As I discuss below, PSE will be charged a portion of the Colstrip Project O&M costs 4 under the terms of the PPA. The Vote Sharing Agreement would unduly constrain PSE's 5 ability to control such costs. 6 In addition, as long as PSE retains its 25 percent share of the project, it is able to 7 collaborate with any two of the other owners (Avista, Portland General Electric, and 8 PacifiCorp) to reject proposals by Talen and NorthWestern Energy regarding continued 9 operation and expenditures on Colstrip Units 3 and 4. In order for proposals to be 10 adopted, they require approval of the Operator and two other owners, as well as a total of 11 55 percent of the ownership. For Talen and NorthWestern Energy to pass a proposal, they 12 would have only their one vote and 30 percent share and would need two other owners to 13 vote with them, both to reach the number of required votes and to reach 55 percent. If 14 Talen and NorthWestern Energy control the Shared Vote on a particular proposal, they 15 would have two votes (the Talen/NorthWestern Energy vote and the Shared Vote) and 55 16 percent of the share, and would need the support of only one more, small owner to pass 17 their proposal. 18 The ability to control passage of proposals is critical to any attempt by the 19 Talen/NorthWestern Energy alliance to continue operating Colstrip 3 and 4. If the UTC 20 approves the Proposed Transactions, no proposal opposed by Talen/NorthWestern 21 Energy can pass, since they vote the Operator share. But, if neither the 22 Talen/NorthWestern Energy proposal for a particular issue (e.g. continue operations,

invest in refurbishments) nor the alternative from the owners with no interest in

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continued operation (for example, PSE, Avista and Portland General Electric) passes, the issue goes to arbitration, where the arbiter might find that prudent utility practice precludes continued investment in an uneconomic resource. Prudent utility practice (or any other version of good utility management) would not require a utility to continue to invest in an uneconomic resource.

IV. THE POWER PURCHASE AGREEMENT IS A BAD DEAL FOR RATEPAYERS

6 Q. Please describe the proposed PPAs with NorthWestern Energy and Talen.

A. As discussed above, the Proposed Transactions include two PPAs for the purchase by PSE of 45MW of Colstrip Unit 4 capacity and energy from NorthWestern Energy and Talen, respectively. Each PPA has a delivery term that commences the day after the Proposed Transactions close and terminates at the earlier of: (1) 258 weeks after closing; or (2) December 31, 2025. 19

There are two components to the contract price charged to PSE under each PPA. First, PSE pays a fixed monthly amount equivalent to a 45MW share of the Colstrip Project base O&M cost.²⁰ Second, PSE pays an hourly price, calculated as the higher of:

(1) the Mid-Columbia day-ahead index price per megawatt-hour ("MWh") less base O&M cost per MWh; or (2) the "Floor Price".²¹

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²¹ Roberts, Exh. RJR-20.

¹⁹ Supplemental Application of Puget Sound Energy, ¶ 1.

²⁰ Base O&M costs include all routine operations and maintenance cost, but exclude the costs of fuel, chemicals, or non-routine operations and maintenance such as overhauls. Chernick, Exh. PLC-9.

Q. Is it clear how much energy PSE would be required to take from the PPA in each hour?

No. There is some ambiguity in the amount of energy that PSE would be required to take in each hour under the PPA. PSE's economic analysis assumes that quantity would vary with output from Colstrip Unit 4. However, the PPA Term Sheet defines the "Contract Quantity" as "90 MW at any time that Colstrip Unit 4 is operating at or greater than minimum load; 0 MW when Colstrip Unit 4 is off-line." That language seems to require that PSE pay for 90 MW even when the unit is operating far below full capacity.

Indeed, the PPA Term Sheet replaces the standard language in WSPP²³ Schedule B, Section B-3.9(b) that allows curtailment by the seller "when all or a portion of the output of the unit is unavailable, by an amount in proportion to the amount of the reduction in the output of the unit" with "when all of the output of the unit is unavailable."²⁴ It is not clear whether the buyer has the option of curtailing the purchase when a portion of the output of the unit is unavailable.

Since Colstrip Unit 4 would normally operate below full capacity only when its variable costs are higher than Mid-Columbia spot prices, the language in the Term Sheet would require PSE to take uneconomic energy that is not required to replace 90 MW of PSE's ownership share of Colstrip. The new owners could effectively buy the energy at Mid-Columbia prices and sell to PSE at the higher PPA price. Colstrip Unit 4 often

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²² Roberts, Exh. RJR-8.

²³ WSPP Inc., formerly known as the Western Systems Power Pool, developed standard terms to be used for power purchase agreements.

²⁴ Supplemental Application of Puget Sound Energy, Exh. C, special term 3. The standard language in Section B-3.9(b) is available at https://www.wspp.org/pages/documents/07-28-20-current-effective-agreement.pdf.

operates below full capacity, usually at about 27 percent of capacity. ²⁵ In PSE's 1 2 simulation of 2021–2025 operations, Colstrip Unit 4 operates at minimum load in about [End Highly Confidential] of the hours. 26 PSE's [Begin Highly Confidential] 3 economic analysis assumes that it can avoid the cost of the PPA in those hours. 4 5 PSE Response to Public Counsel Data Request No. 51 states that PSE will continue to schedule the 90MW PPA share of Colstrip Unit 4, which would seem to 6 7 suggest some control over its take, but this may be a completely clerical process without control.²⁷ PSE also characterizes the PPA as "must take," which would require PSE to 8 take power whenever the sellers offer it. ²⁸ PSE seems to believe that it would only take 9 10 the prorated output, but that cannot be confirmed from the documents. 11 Q. **How is the PPA Floor Price calculated?** As set forth in Appendix A to the PPA term sheet, the Floor Price is derived as the 12 A. 13 sum of a "Fuel-Related" and a "Non-Fuel" variable cost per MWh. The Fuel-Related variable cost per MWh is the base price per ton charged to the Colstrip co-14 owners under the current coal supply agreement with Westmoreland Rosebud 15 Mining LLC, converted into a price per MWh using Colstrip Unit 4's heat rate at 16 minimum load, about 13,500 Btu/kWh.²⁹ Per the terms of the coal supply 17 agreement, the base price per ton is adjusted quarterly based on a variety of 18

²⁵ The PSE analysis uses a 168 MW maximum output and 45 MW minimum load for PSE's current 25 percent share of Colstrip Unit 4, net of forced outages and losses. Chernick, Exh. PLC-24. Thus, the minimum load is $45 \div 168 = 27$ percent of full load.

²⁶ Supplemental Direct Testimony of Cindy L. Song, WP CLS-PPA Pricing (HC).

²⁷ Chernick, Exh. PLC-25.

²⁸ Chernick, Exh. PLC-24 at 3, subsection (d).

²⁹ Roberts, Exh. RJR-20.

general economic and input cost inflation indices.³⁰ The resulting fuel price would 1 be about one third greater than the variable fuel cost for Colstrip Unit 4, due to the 2 3 use of heat rate at minimum load, rather than the unit's actual heat rate, which was about 10,150 Btu/kWh in 2019. 4 The Non-Fuel variable cost per MWh is the non-fuel variable cost per 5 MWh at plant minimum load, as that value is determined by the Operator for each 6 budget year. 31 [Begin Highly Confidential] 7 8 [End Highly Confidential].32 9 Did PSE conduct an economic analysis of the PPA? 10 Q. 11 Yes. For this analysis, PSE estimated and compared the costs for three cases: A. 12 1. Business as Usual (BAU). PSE continues to take its full 185 MW share of Colstrip Unit 4 capacity and energy for a time period from the assumed 13 14 commencement of deliveries under the PPA through December 31, 2025. 2. 15 **PPA.** Over the assumed term of the PPA, PSE purchases a combination of: (1) 90 MW of Colstrip Unit 4 capacity and energy at PPA prices; and (2) 95 MW of 16 17 market capacity and energy at forecasted market prices. From the end-date of the PPA through December 31, 2025, PSE purchases 185 MW of market capacity and 18 19 energy at forecasted market prices.

³² According to data provided in PSE witness Ms. Song's workpapers, [Begin Highly Confidential]

[End

³⁰ Chernick, Exh. PLC-8C, Attachment A.

³¹ Roberts, Exh. RJR-20.

3. **100 Percent Market Replacement.** PSE purchases 185 MW of market capacity and energy at forecasted market prices for a time period from the assumed commencement of deliveries under the PPA through December 31, 2025.

For the purposes of this analysis, PSE assumed that deliveries under the PPA would commence December 17, 2020, and continue through December 2, 2025.³³ The commencement date appears to represent PSE's most optimistic estimate (as of its August supplemental filing) of the date at which all approvals could be received and service could start. The end date is 258 weeks later, to preserve the contract period from the original filing.³⁴

For the PPA and 100 Percent Market Replacement cases, PSE estimated capacity market prices based on a "short-term market request for proposals conducted by the PSE trade floor."³⁵ In addition, PSE estimated energy market prices in two ways. First, for a scenario which assumed no hedging of energy market prices, PSE estimated energy market prices based on an Aurora model simulation of expected Mid-Columbia hub hourly spot prices over the analysis period. ³⁶ Second, for a scenario which assumed full hedging of energy market purchases, PSE assumed that market energy would be purchased at a fixed hedge price of \$36.60/MWh. ³⁷

Q. Are these two energy market price scenarios equally valid?

A. No. The hedged price scenario provides a more-realistic representation of PSE's standard practice for hedging market purchases. According to PSE witness Cindy L. Song, "PSE

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³³ Supplemental Direct Testimony of Cindy L. Song, Exh. CLS-8T, at 2:12–16.

³⁴ *Id.*, at 4:4–9.

³⁵ Chernick, Exh. PLC-10.

³⁶ Direct Testimony of Cindy L. Song, Exh. CLS-1CT, at 12:6–13:14.

³⁷ Song, Exh. CLS-8T, at 8:1–2.

1		manages its exposure to market power price volatility using an overall programmatic
2		hedging program." ³⁸
3	Q.	How did PSE estimate the fixed hedge price of \$36.60/MWh?
4	A.	I have not been able to determine the origin of that estimate. PSE did not provide
5		information regarding the derivation of the fixed hedge price other than to note that the
6		hedge price was estimated by PSE's trade floor based on an "offer-side market quote at
7		the time of the inquiry." ³⁹
8		Due to PSE's failure to provide any detail on its hedging price estimate, I cannot
9		determine how well the hypothetical hedging would follow the high-value days and hours
10		on which Colstrip would be dispatched.
11	Q.	Please summarize the results of PSE's economic analysis of the PPA.
	_	
12	A.	I provide in Table 5 PSE's estimates of the present value cost of the BAU, PPA, and 100
		I provide in Table 5 PSE's estimates of the present value cost of the BAU, PPA, and 100 Percent Market cases assuming a fixed hedge price. ⁴⁰ As indicated in Table 5, PSE
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12 13		Percent Market cases assuming a fixed hedge price. 40 As indicated in Table 5, PSE
12 13 14		Percent Market cases assuming a fixed hedge price. 40 As indicated in Table 5, PSE estimates that it will be marginally less expensive to replace its share of Colstrip Unit 4
12 13 14 15		Percent Market cases assuming a fixed hedge price. 40 As indicated in Table 5, PSE estimates that it will be marginally less expensive to replace its share of Colstrip Unit 4 capacity and energy with a combination of the PPA and market purchases. On the other
12 13 14 15 16		Percent Market cases assuming a fixed hedge price. ⁴⁰ As indicated in Table 5, PSE estimates that it will be marginally less expensive to replace its share of Colstrip Unit 4 capacity and energy with a combination of the PPA and market purchases. On the other hand, Table 5 also shows that replacing Colstrip Unit 4 with just market purchases would
12 13 14 15 16	A.	Percent Market cases assuming a fixed hedge price. ⁴⁰ As indicated in Table 5, PSE estimates that it will be marginally less expensive to replace its share of Colstrip Unit 4 capacity and energy with a combination of the PPA and market purchases. On the other hand, Table 5 also shows that replacing Colstrip Unit 4 with just market purchases would
12 13 14 15 16	A. /	Percent Market cases assuming a fixed hedge price. ⁴⁰ As indicated in Table 5, PSE estimates that it will be marginally less expensive to replace its share of Colstrip Unit 4 capacity and energy with a combination of the PPA and market purchases. On the other hand, Table 5 also shows that replacing Colstrip Unit 4 with just market purchases would

³⁸ Song, Exh. CLS-1CT, at 14:8–9.

³⁹ Chernick, Exh. PLC-11.

⁴⁰ The results shown in Table 5 are from PSE Response to Public Counsel's Data Request No. 56. Chernick, Exh. PLC-14. PSE provided a corrected version of Song, Exh. CLS-9C in PSE Response to Public Counsel's Data Request No. 56.

Table 5.
Results of PSE Economic Analysis

	Present Value Cost (Million \$)	Difference from BAU Case	Difference from BAU Case (%)
	()	(Million \$)	
BAU Case	\$171		
PPA Case	\$166	-\$6	-3.5%
100% Market Case	\$165	-\$7	-3.9%

1 Q. Did PSE reasonably estimate the present value cost of the three cases it evaluated?

- 2 A. No. PSE's analysis understates the cost of the BAU and PPA cases relative to the 100
- 3 Percent Market case by:

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- Not including the additional O&M costs associated with dry ash disposal in either the O&M costs assumed for the BAU case or in the base O&M cost payment assumed for the PPA case.⁴¹
- Assuming, contrary to the terms of the coal supply agreement, [Begin

 Confidential] [End Confidential] in the base price per ton for the

 purposes of estimating the Colstrip Unit 4 dispatch cost in the BAU case or for

 calculating the Floor Price in the PPA case. 42
- Assuming [Begin Confidential] [End Confidential] in non-fuel variable cost in the calculation of the Floor Price in the PPA case.

Q. Have you estimated the impact from correcting these flaws in PSE's analysis?

14 A. No. I was not able to correct for the exclusion of dry ash O&M costs because "[s]pecific 15 estimates of the O&M cost for the dry ash disposal process are not yet available."⁴³ Nor 16 was I able to estimate the impact on the results of the BAU case from assuming

⁴¹ Chernick, Exh. PLC-12.

⁴² Chernick, Exh. PLC-13C.

⁴³ Chernick, Exh. PLC-15.

escalation in coal fuel prices because that would require an additional Aurora model run
to recalculate Colstrip Unit 4 dispatch costs.

3 Q. Did PSE do any sensitivity analyses?

4 A. Yes. PSE tested the sensitivity of the results of its analysis to higher energy market
5 prices. In this case, PSE estimated that the present value cost of the PPA case with a fixed
6 hedge price would exceed that of the BAU case by about \$3M.⁴⁴

The hedged PPA case with higher market prices is likely to be even more expensive than estimated in PSE's sensitivity analysis because PSE did not assume any increase in the fixed hedge price in this sensitivity. If spot prices are higher, it seems reasonable to assume that the cost to hedge a market purchase (shaped to mimic the Colstrip generation pattern) would also be higher.

Q. Would the PPA be a good deal for ratepayers?

Probably not. As I described above, PSE's own analyses, which understate the cost and overstate the benefits of the PPA, indicate that the PPA is barely less expensive than owning Colstrip Unit 4. A corrected analysis would almost certainly show the PPA to be uneconomic. This result makes sense, given the structure. When Mid-Columbia market prices are low, PSE would pay more than the fuel, variable cost and base fixed O&M of Colstrip Unit 4; when Mid-Columbia market prices are high, PSE would pay the higher Mid-Columbia price. In hours with low market prices, so that Colstrip Unit 4 operates at minimum load, the PPA may charge PSE for 90 MW of Colstrip's running costs, even though the owners would be purchasing less expensive spot market power. The PPA

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⁴⁴ Chernick, Exh. PLC-16C.

would not provide any price stability in periods of high market prices (e.g. during a lengthy drought).

V. THERE IS NO GOOD REASON TO TRANSFER TRANSMISSION ASSETS

- 3 Q. Please describe the Colstrip Transmission System.
- 4 A. As set forth in the Colstrip Project Transmission Agreement, 45 the Colstrip Transmission
- 5 System consists of 500 kilovolt ("kV") transmission lines and associated switchyards that
- 6 run from the Colstrip Project to Townsend, Montana. The terminus at Townsend
- 7 interconnects with 500 kV lines owned and operated by the Bonneville Power
- 8 Administration (BPA) and which extend to BPA's substation in Garrison, Montana. The
- 9 Transmission assets are co-owned by NorthWestern Energy (the current operator), PSE,
- 10 Portland General Electric, Avista, and PacifiCorp.
- The Transmission assets are split into a Colstrip to Broadview segment and a
- Broadview to Townsend segment. The following table shows each co-owner's share of
- total transmission capacity for each segment. 46

Table 6.
Ownership Structure of the Colstrip Transmission System Capacity (MW)

	Colstrip-Broadview Segment	Broadview-Townsend Segment
NorthWestern Energy	822.8	468.5
PSE	746.0	758.6
Portland General Electric	307.2	312.4
Avista	230.4	234.3
PacifiCorp	<u>153.6</u>	<u>156.2</u>
Total	2,260.0	1,930.0

⁴⁵ Direct Testimony of Thomas M. Flynn, Exh. TMF-3.

⁴⁶ *Id*, § 2(k).

Does PSE's ownership of a share of the Transmission assets provide PSE a 1 0. 2 contractual right to transmit power from its share of the Colstrip Project over those 3 assets? 4 No. The right to deliver is provided by a transmission service agreement pursuant to the A. 5 terms of PSE's Open Access Transmission Tariff (OATT). Instead, PSE's ownership of a 6 portion of the Transmission assets gives it the rights to the transmission-service revenues 7 generated by a transmission service agreement for delivery over the Transmission assets. Specifically, the PSE Energy Supply Merchant department, acting as the buyer of 8 9 transmission service on PSE's behalf, has entered into a five-year Point-to-Point firm 10 service agreement ("PTP Agreement") with the PSE Transmission Contracts department, 11 acting as the transmission provider on PSE's behalf, for transmission of 363MW of 12 Colstrip Project power over the Transmission assets. The PTP Agreement terminates on January 1, 2025.⁴⁷ 13 14 In exchange for the right to deliver Colstrip Project power, PSE Energy Supply merchant pays a transmission charge pursuant to PSE's OATT. As transmission provider, 15 16 PSE receives those revenues. However, in this case where PSE is both seller and buyer, 17 the transaction is a wash from the perspective of retail ratepayers. 18 Q. How is the transmission charge for point-to-point firm service on the Colstrip 19 **Transmission System determined in PSE's OATT?** 20 Generally speaking, the transmission charge is set to reflect cost of service for the assets A. 21 based on a return on equity approved by the Federal Energy Regulatory Commission (FERC).48 22

⁴⁷ Chernick, Exh. PLC-17.

⁴⁸ Chernick, Exh. PLC-18.

1 0. Please describe the proposed sale of Transmission assets under the Transmission 2 P&S Agreement between PSE and NorthWestern Energy. 3 Under the Transmission P&S Agreement, NorthWestern Energy will purchase the A. 4 equivalent of about 95MW of transmission capacity on both the Colstrip-Broadview and 5 the Broadview-Townsend segments ("Initial Purchase Assets"). In addition, 6 NorthWestern Energy will have an option to purchase the equivalent of about 90MW of 7 transmission capacity on both segments after the termination of the PPA ("Option 8 Assets"). ⁴⁹ In other words, NorthWestern Energy has the option to purchase transmission 9 capacity equivalent to the 185MW of Colstrip Unit 4 capacity it will acquire from PSE 10 pursuant to the Colstrip Unit 4 P&S Agreement. 11 For both the Initial Purchase Assets and the Option Assets, NorthWestern Energy will pay the net book cost of the assets at the time of the purchase.⁵⁰ 12 13 Q. Is PSE's investment in the Colstrip Transmission System currently recovered 14 through retail rates? Yes. PSE's share of Transmission capital and O&M costs are reflected in PSE's retail 15 A. 16 revenue requirement based on standard accounting treatment for all of PSE's transmission assets. 51 As with all of PSE's transmission assets, the Transmission cost of 17 service includes a return on the equity portion of rate base at the rate of return on equity 18 19 approved by the Commission.

⁴⁹ Roberts, Exh. RJR-7, at 6 ("Recitals").

⁵⁰ Roberts, Exh. RJR-7, at 11, § 2.2.

⁵¹ Direct Testimony of Susan E. Free, Exh. SEF-1CT, at 21:9–13.

1 As I noted above, PSE's retail customers also pay PSE Transmission through the 2 wholesale OATT for use of the Transmission, but the transmission revenues are credited 3 to the retail customers, resulting in no additional cost. 4 Could PSE provide access to 185 MW of transmission service on the Colstrip 0. 5 **Transmission System without transferring ownership?** 6 A. Yes. As discussed above, ownership is not required for access. If PSE's retail customers 7 do not require PSE's entire Transmission capacity, rather than selling 185 MW of its ownership in the Colstrip Transmission System, PSE Transmission could provide 8 9 NorthWestern Energy with 185 MW of firm point-to-point service on the Colstrip Transmission System at OATT rates for such service.⁵² 10 11 At PSE's current annual rate for firm point-to-point service on the Colstrip 12 Transmission System (\$9.1653/kW-year), provisions of 185 MW of such service to 13 NorthWestern Energy would be expected to generate annual revenues of approximately 14 \$1.7 million. 15 Would the revenues received from NorthWestern Energy for such transmission 0. 16 service flow through to PSE ratepayers? 17 Yes. All such revenues would be credited to PSE's retail ratepayers and would offset A. retail revenue requirements for the 185 MW of Transmission capacity retained by PSE.⁵³ 18 19 Does the transfer of the Transmission assets facilitate NorthWestern Energy's Q. 20 delivery of power under the PPA? 21 A. No. Power from the Colstrip 90 MW PPA would be delivered to PSE at the plant, and 22 PSE would continue to own a corresponding 90 MW of the Transmission through the life

⁵² Chernick, Exh. PLC-19; Chernick, Exh. PLC-20.

⁵³ Chernick, Exh. PLC-20.

1 of the PPA. NorthWestern Energy would have the option to purchase the 90 MW of 2 Transmission capacity at the end of the PPA. 3 Q. Are there any benefits to PSE retaining ownership of the 185 MW of Transmission 4 capacity? 5 A. Yes. First, PSE ownership is likely to be less expensive for its ratepayers than ownership 6 by NorthWestern Energy or Talen. In general, FERC is more generous in setting a return 7 on equity (ROE) for utilities under its control than is the WUTC or most other state 8 regulators. For example, PSE currently has an allowed ROE for its retail operations of 9.4 percent and an allowed ROE for FERC-jurisdictional transmission of 9.8 percent.⁵⁴ 9 10 Under PSE ownership, the revenues from the FERC transmission tariff are credited to 11 retail customers, so they wind up paying just the 9.4 percent ROE. If the transmission is 12 owned by a third party that is allowed a 9.8 percent ROE, that third party (Talen 13 shareholders or NorthWestern Energy's Montana ratepayers) would retain those 14 revenues. Selling the Transmission capacity would reduce the rate base for which PSE retail load pays the 9.4 percent ROE, while burdening them with the higher 9.8 percent 15 16 ROE, or whatever return FERC approves in the future. In its current FERC proceeding, 55 NorthWestern Energy has requested a 10.5 17 percent ROE. Talen, as a riskier merchant generator, may request and receive an ROE 18 19 exceeding those of PSE and NorthWestern Energy.

⁵⁴ Chernick, Exh. PLC-21 at 3, subsection (b).

⁵⁵ NorthWestern Corp., FERC Docket No. ER19-1756-000 (2019).

PSE has not provided an estimate in the change in revenue requirements if PSE wanted to continue to use its current level of Transmission capacity following the transfer.⁵⁶

Second, there is an option value from retaining the Transmission assets and using the transfer capacity to import renewable power from eastern Montana. PSE's retail customers currently have continuing access to 363 MW from the Transmission due to its rollover rights for its existing use of the system. The transfer of 95 MW of Transmission capacity to NorthWestern Energy (and, perhaps Talen) would reduce this entitlement to 268 MW. ⁵⁷ PSE would lose the rights to the other 90 MW of capacity with the end of the PPA. As PSE notes with regard to the initial 95 MW of Transmission capacity, "NorthWestern Energy would be free to use the Initial Purchase Assets that it acquired from PSE to transmit power for itself or for others pursuant to the terms and conditions of the Open Access Transmission Tariff of NorthWestern Energy." The new transmission owner might decide to use the capacity itself or provide transmission service to other parties who may wish to geographically diversify their renewable energy supply.

Under those conditions, giving up the rights to the Transmission capacity appears to be shortsighted, at least until PSE determines how it will manage the decarbonization of its generation resources.

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⁵⁶ Chernick, Exh. PLC-21; Chernick, Exh. PLC-22.

⁵⁷ Chernick, Exh. PLC-23.

⁵⁸ *Id*.

VI. CONCLUSION

1	Q.	Please summarize your conclusions and recommendations regarding the sale of
2		PSE's 25 percent share of Colstrip Unit 4 to NorthWestern Energy and Talen.
3	A.	The sale of PSE's share of Colstrip Unit 4 should be disallowed. Approving the sale
4		would severely limit PSE's ability to exercise meaningful voting control over future
5		Colstrip O&M budgets, and in particular over the O&M costs charged through the
6		proposed PPA. Additionally, the sale of PSE's share of Colstrip Unit 4 would foreclose
7		the opportunity for PSE to effectuate early retirement of Colstrip Unit 4. Lastly, the
8		proposed Vote Sharing Agreement does not offer any greater certainty that PSE would be
9		able to effectuate early retirement of Colstrip Unit 3. Although the Vote Sharing
10		Agreement allows PSE to exercise the Shared Vote on a proposal to decommission
11		Colstrip Unit 3, Talen would continue to have an effective veto on any such proposal
12		under the terms of the Vote Sharing Agreement between NorthWestern Energy and
13		Talen.
14	Q.	Please summarize your conclusions and recommendations regarding the sale of a
15		portion of PSE's ownership in the Transmission to NorthWestern Energy.
16	A.	There is no good reason for PSE to transfer the Transmission assets, but there are benefits
17		of retaining them. PSE should retain ownership of the 185 MW of Transmission capacity
18		because (1) PSE ownership is likely to be less expensive for its ratepayers than ownership
19		by NorthWestern Energy or Talen, and (2) there is an option value from retaining the
20		Transmission assets and using the transfer capacity to import renewable power from
21		eastern Montana. Giving up the rights to the Transmission capacity appears to be

1 shortsighted, at least until PSE determines how it will manage the decarbonization of its 2 generation resources. 3 Q. Please summarize your conclusions and recommendations regarding the PPA to buy 4 back 90 MW of Colstrip Unit 4 output from NorthWestern Energy during the 5 period June 1, 2020 through May 15, 2025. 6 A. The PPA is a bad deal for ratepayers and should not be approved. By PSE's own 7 economic analysis of the proposed PPA, replacing the output of PSE's share of Colstrip 8 Unit 4 with a combination of the proposed PPA and market purchases would marginally 9 reduce costs to ratepayers under base case assumptions and actually increase costs with 10 higher market-price assumptions. PSE's analysis is flawed in several respects; if 11 corrected, PSE's analysis would likely show that the status quo is preferred. By PSE's 12 own analysis, the least-expensive option would be to replace 100 percent of the output of 13 PSE's share of Colstrip Unit 4 with market purchases of energy and capacity. Correcting 14 for the flaws in PSE's analysis would increase the benefits of 100 percent market 15 purchase relative to both the status quo and a combination of the proposed PPA and 16 market purchases. 17 Please summarize your recommendation regarding the Proposed Transactions. Q. 18 A. The Proposed Transactions are not in the public interest, and should therefore be denied. 19 The public interest standard requires that ratepayers not be harmed by a transfer of property. Because ratepayers could be significantly harmed by the proposed transactions, 20 21 the Commission should not approve the transactions. PSE should plan to retain and use 22 the transmission assets for the benefits of its customers, work with other owners toward

1 retirement of both remaining Colstrip units, and acquire renewables to replace the energy 2 supplied by Colstrip. 3 Thus, the Commission should reject the Proposed Transactions and direct PSE to 4 (1) pursue retirement of Colstrip Units 3 and 4 at the earliest feasible date, and (2) use the 5 current IRP process to evaluate options for acquiring renewable power, including the 6 option of using PSE's full share of the Colstrip Transmission Asset capacity to import 7 renewables. 8 Does this conclude your responsive testimony? Q. 9 Yes, at this time. The Proposed Transactions are subject to further modification A. 10 depending on the outcome of arbitration regarding Talen's claim to Transmission 11 capacity. Therefore, I reserve the right to supplement my testimony and revise my 12 findings, conclusions, and recommendations in response to any modifications to the 13 Proposed Transactions resulting from arbitration regarding Talen's claim to Transmission 14 capacity.