

**EXH. ZCY-1CT
DOCKETS UE-240004/UG-240005
2024 PSE GENERAL RATE CASE
WITNESS: ZACARIAS C. YANEZ**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Docket UE-240004
Docket UG-240005**

PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF

ZACARIAS C. YANEZ

ON BEHALF OF PUGET SOUND ENERGY

REDACTED VERSION

FEBRUARY 15, 2024

PUGET SOUND ENERGY

**PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF
ZACARIAS C. YANEZ**

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PUGET SOUND ENERGY

**PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF
ZACARIAS C. YANEZ**

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1 **PUGET SOUND ENERGY**

2 **PREFILED DIRECT TESTIMONY (CONFIDENTIAL) OF**
3 **ZACARIAS C. YANEZ**

4 **I. INTRODUCTION**

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

7 A. My name is Zacarias C. Yanez. My business address is 355 110th Avenue NE,
8 Bellevue, Washington, 98004. I am a Consulting Energy Trader in the Energy
9 Supply team for Puget Sound Energy (“PSE”).

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

12 A. Yes, I have. Please see the first exhibit to the Prefiled Direct Testimony of
13 Zacarias C. Yanez, Exh. ZCY-2, for my professional qualifications.

14 **Q. What are your duties as Consulting Energy Trader for PSE?**

15 A. As a Consulting Energy Trader, my responsibilities include the following:

- 16 1. leading the evaluation and negotiation of intermediate-term (i.e., three- to
17 five-year) power contracts and acquisitions, and

1 2. assisting in the acquisition of electric resources and long-term (i.e., greater
2 than five years) power contracts originated within PSE’s energy supply
3 group.

4 **Q. Please summarize your prefiled direct testimony.**

5 A. This prefiled direct testimony supports a finding of prudence for a 20-year Power
6 Sales Agreement (“PSA”) with Public Utility District No. 1 of Chelan County
7 (“Chelan PUD”) for a 25 percent share of the output of the Rocky Reach and the
8 Rock Island Hydroelectric Projects (“Chelan PSA”). The Chelan PSA effectively
9 renews and extends the 2006 power sales agreement with Chelan PUD (“2006
10 Chelan PSA”) that expires in October 2031¹.

11 **II. ACQUISITION OF THE CHELAN POWER SALES**
12 **AGREEMENT IS PRUDENT**

13 **Q. What is PSE’s understanding of the Commission’s prudence standard?**

14 A. In PSE’s 2003 Power Cost Only Rate Case proceeding, Docket UE-031725, the
15 Commission reaffirmed the standard it applies in reviewing the prudence of
16 power generation asset acquisitions.

17 The test the Commission applies to measure prudence is what a
18 reasonable board of directors and company management would
19 have decided given what they knew or reasonably should have
20 known to be true at the time they made a decision. This test applies
21 both to the question of need and the appropriateness of the
22 expenditures. The company must establish that it adequately
23 studied the question of whether to purchase these resources and

¹ Docket UE-060266/Exh. JLM-1HCT/Final Order 08 at para. 165.

1 made a reasonable decision, using the data and methods that a
2 reasonable management would have used at the time the decisions
3 were made.²

4 In addition to this reasonableness standard, the Commission has cited several
5 specific factors that inform the question of whether a utility's decision to acquire
6 a new resource was prudent. These factors include the following:

- 7 • First, the utility must determine whether new resources are
8 necessary.³
- 9 • Once a need has been identified, the utility must determine
10 how to fill that need in a cost-effective manner. When a
11 utility is considering the purchase of a resource, it must
12 evaluate that resource against the standards of what other
13 purchases are available, and against the standard of what it
14 would cost to build the resource itself.⁴
- 15 • The utility must analyze the resource alternatives using
16 current information that adjusts for such factors as end
17 effects, capital costs, impact on the utility's credit quality,
18 dispatchability, transmission costs, and whatever other
19 factors need specific analysis at the time of a purchase
20 decision.⁵
- 21 • The utility should inform its board of directors and/or
22 management about the purchase decision and its costs. The
23 utility should also involve the board of directors and/or
24 management in the decision process.⁶
- 25 • The utility must keep adequate contemporaneous records
26 that will allow the Commission to evaluate its actions with
27 respect to the decision process. The Commission should be
28 able to follow the utility's decision process; understand the
29 elements that the utility used; and determine the manner in
30 which the utility valued these elements.⁷

² *WUTC v. Puget Sound Energy*, Docket UE-031725, Order 12 at ¶ 19 (Apr. 7, 2004).

³ *See e.g., WUTC v. Puget Sound Power & Light Co.*, Docket UE-921262, *et al.*, Nineteenth Supplemental Order at 11 (Sept. 27, 1994).

⁴ *Id.* at 11.

⁵ *Id.* at 2, 33-37, 46-47.

⁶ *Id.* at 37, 46.

⁷ *Id.* at 2, 37, 46.

1 **Q. Did PSE’s decision to enter the Chelan PSA meet this prudence standard?**

2 A. Yes. PSE has a clear, documented need for capacity. Additionally, PSE has a
3 documented need for clean energy to meet the Clean Energy Transformation Act
4 (“CETA”)⁸ requirements. As further described in my testimony, PSE performed
5 the requisite analyses, kept management informed, and maintained
6 contemporaneous documentation expected by the Commission.

7 **A. Background and Key Terms of the Chelan PSA**

8 **Q. Please describe the Rocky Reach and Rock Island Hydroelectric projects.**

9 A. The Rocky Reach Hydroelectric Project (“Rocky Reach Project”) is an 11-unit,
10 1,300 megawatt (“MW”) hydroelectric facility owned and operated by Chelan
11 PUD and located on the Columbia River. The Rocky Reach Project began
12 commercial operation in 1961, and its operating license expires in the year 2052.

13 The Rock Island Hydroelectric Project (“Rock Island Project”) is an 11-unit,
14 624 MW hydroelectric facility also owned and operated by Chelan PUD and
15 located on the Columbia River. The Rock Island Project began commercial
16 operation in 1932, and its operating license expires in the year 2028.

17 The Rocky Reach and Rock Island Projects are currently used to serve local load
18 of Chelan PUD in Chelan County, and Chelan PUD sells surplus energy to third
19 parties under existing power purchase agreements. PSE has a long history with

⁸ Chapter 19.405 RCW.

1 both projects, dating back to the construction of the Rock Island Project. PSE
2 currently purchases a 25 percent share (approximately 480 MW of capacity) of
3 the output of both the Rocky Reach and Rock Island Projects through the 2006
4 Chelan PSA. The 2006 Chelan PSA expires in accordance with its terms in 2031.

5 **Q. Please describe the key terms of the Chelan PSA.**

6 A. The Chelan PSA's term begins on November 1, 2031, and expires on October 31,
7 2051. The Agreement entitles PSE to receive a twenty-five percent share of the
8 output of the Rocky Reach and Rock Island Projects. When paired with PSE's
9 existing transmission rights, the Chelan PSA provides approximately (i) [REDACTED] MW
10 of dispatchable and flexible capacity, (ii) 1075 MWh of storage, and (iii) 2,166
11 GWh of clean, zero-emission power to contribute toward PSE's CETA
12 requirements. The second exhibit to this prefiled testimony, Exh. ZCY-3HC,
13 includes summary terms and the full contract is included as the third exhibit, Exh.
14 ZCY-4C.

15 Similar to the existing 2006 Chelan PSA, PSE negotiated a contract price based
16 on a proportional share, 25 percent, of the costs to operate the Projects. The
17 Chelan PSA also includes an annual fixed cost premium. Based on assumptions at
18 the time of execution, contract costs over the 20-year life, are expected to have a
19 present value of \$ [REDACTED] or a levelized hourly price of approximately \$ [REDACTED]
20 per MWh.

[REDACTED VERSION]

1 **Q. Please summarize the timing and nature of PSE’s negotiations with Chelan**
 2 **PUD.**

3 A. Chelan PUD and PSE began meeting and discussing a possible renewal or
 4 extension of PSE’s offtake agreements in early 2021. By the end of the first
 5 quarter of 2021 PSE and Chelan PUD were engaging regularly in contract
 6 discussions. PSE also engaged internal subject matter experts to begin the due
 7 diligence process. By the third quarter of 2021 Chelan PUD provided the first
 8 draft of the new contract language, including pricing components. Negotiations
 9 continued through the fourth quarter of 2022, before settling on the final terms.
 10 PSE was able to secure some concessions to the operational and contractual terms
 11 with no material price change to what was first offered in 2021. This was
 12 achieved in an environment with increasing market prices, increased competition
 13 for resources, and increased inflation pressures.

14 **Q. Please compare the key term of the Chelan PSA to the 2006 Chelan PSA.**

15 A. Both the existing 2006 Chelan PSA and the Chelan PSA, entitle PSE to purchase
 16 a 25 percent share of the Rocky Reach and Rock Island projects. The contracts
 17 both commit PSE to pay for a 25 percent share of costs of operating the projects.
 18 In addition to a 25 percent share of operating costs both contracts have an adder,
 19 the 2006 Chelan PSA had a one-time \$ [REDACTED] million adder, while the Chelan PSA
 20 had a fixed annual payment. Differences include changes in the term dates and
 21 minor differences in contract terms that reflect Chelan PUD’s changes in [REDACTED]
 22 [REDACTED] changes in transmission terms to reflect Chelan’s Open Access

1 Transmission Tariff (“OATT”) and operating practices that reflect the physical
2 limits at the projects.

3 **B. Need for the Chelan PSA**

4 **Q. Please describe how PSE identified the need for the Chelan PSA.**

5 A. PSE relied on its integrated resource planning analysis, which evaluates and
6 establishes capacity and renewable resource needs on a biennial basis, to guide
7 the electric resource need.

8 PSE’s 2021 Integrated Resource Plan (“2021 IRP”) and the 2021 Clean Energy
9 Implementation Plan (“2021 CEIP”) address the changes necessary to achieve the
10 goals of CETA and reflect the following:

- 11 • Significant investments in renewable resources (hydro being a qualifying
12 resource);
- 13 • Accelerated acquisition of energy conservation;
- 14 • Increased use of demand response;
- 15 • Integration of distributed energy resources like residential solar and
16 battery energy storage;
- 17 • Reduced reliance on short-term market purchases in response to the
18 changing western energy market;
- 19 • Inclusion of alternative fuels to operate new generating plants, and
- 20 • An assumption that PSE will continue to rely on its existing portfolio of
21 hydroelectric generation.

22 Figures 1 and 2 below depict the resource needs identified in the 2021 IRP. The
23 resource need was updated as part of the 2021 CEIP and the 2021 Request for

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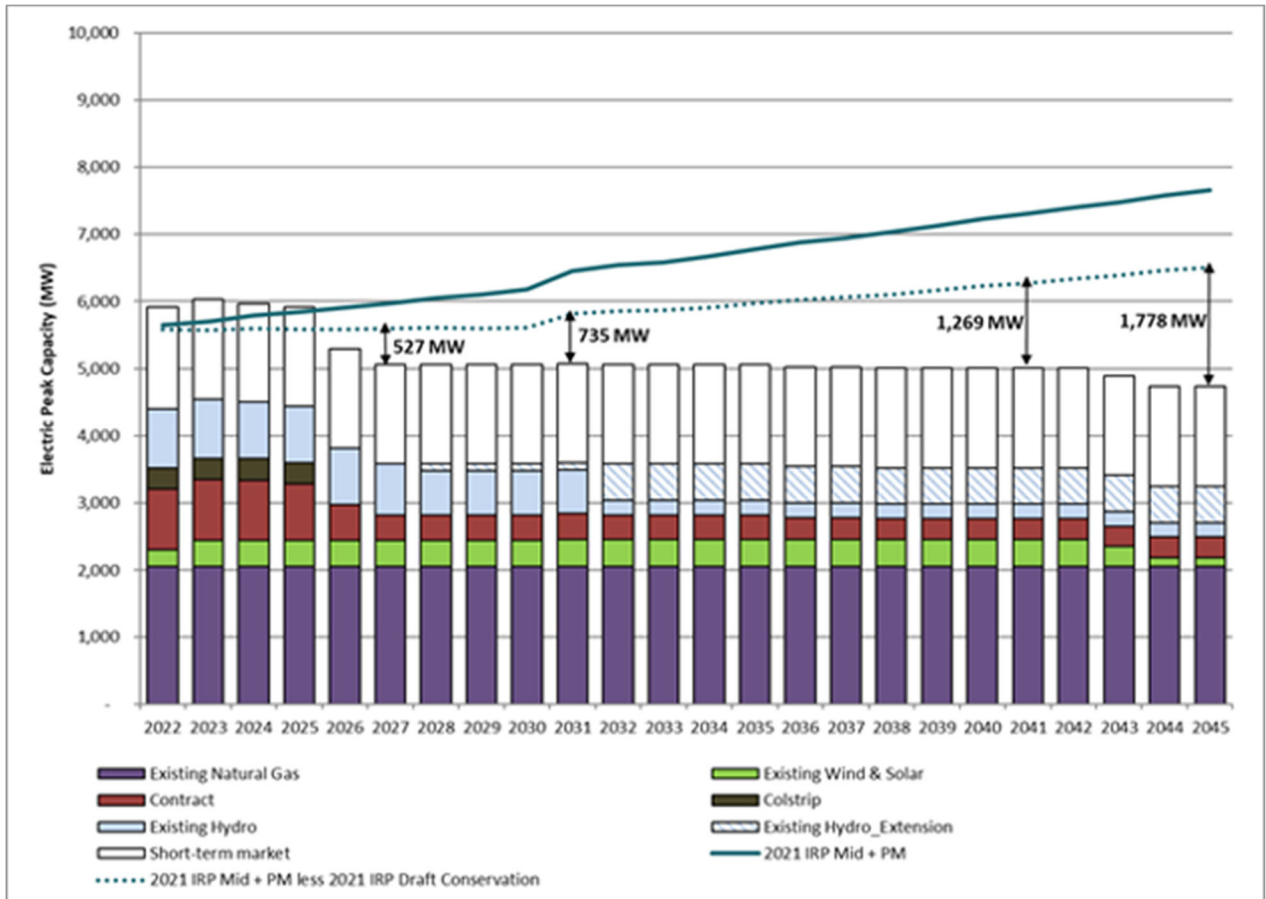
Proposal (“2021 RFP”) processes and continued the assumption that existing hydroelectric resources would be extended. Those processes focused primarily on needs in the first CEIP compliance window (2022-2025) and in the 2021 RFP window (through 2027).

Q. Please describe how the Chelan PSA helps meet PSE’s capacity need.

A. As illustrated in Figure 1 below, PSE expects to have a significant capacity need in 2031 and beyond. Notably, this significant capacity need assumes that PSE would continue to purchase 25 percent of the output of the Rocky Reach and Rock Island Projects. Failure to acquire 25 percent of the output of the Projects would effectively increase PSE’s capacity need from 735 MW to about 1,179 MW (735 MW + ■■■ MW to reflect the expiration of the current Chelan contract) in 2031. Preliminary results of the 2023 Electric Progress Report indicate that PSE’s capacity need is increasing, highlighting the continued importance of the Chelan PSA. PSE’s 2023 Electric Progress Report is provided as Exh. JJJ-3.

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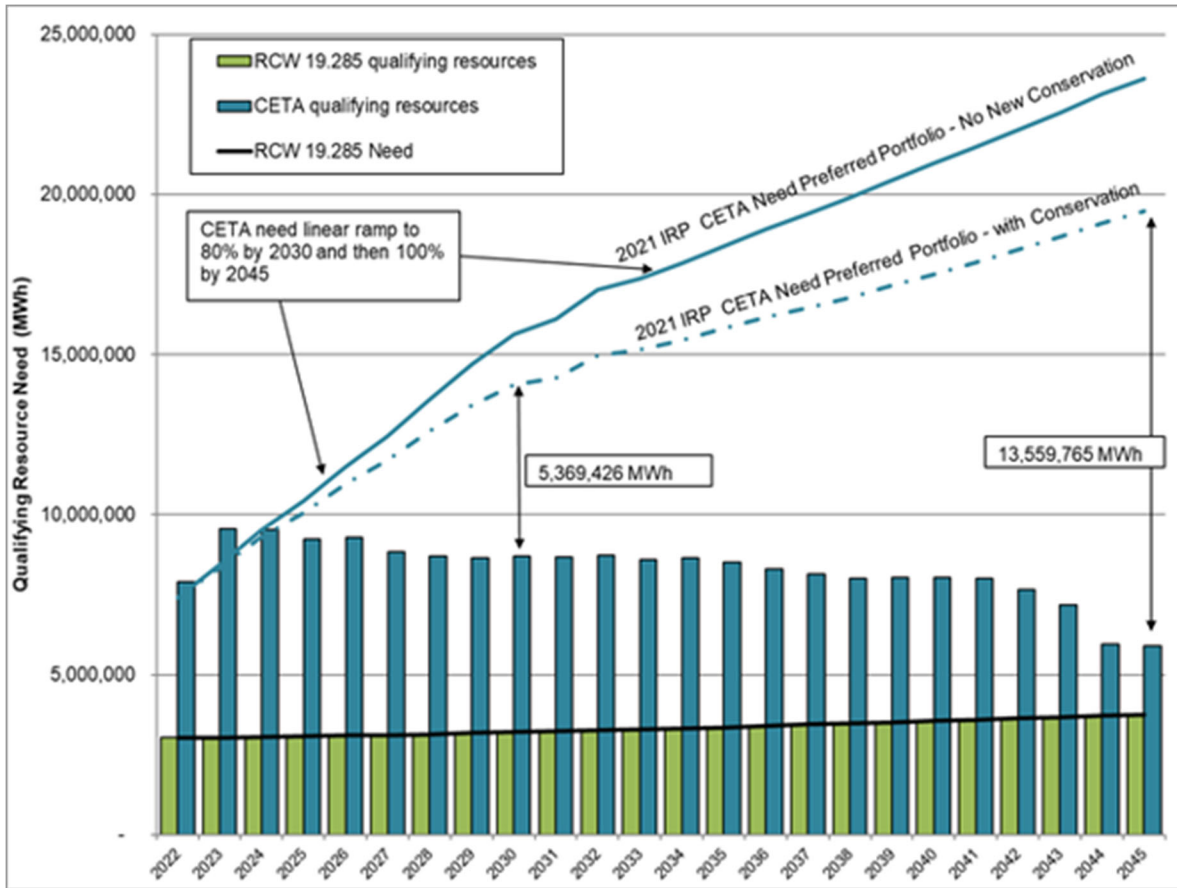
Figure 1: Capacity Resource Need



1 Q. Please describe how the Chelan PSA helps meet PSE’s CETA energy need.

2 A. Figure 2 below shows the forecasted 2021 PSE IRP need for renewable or non-
 3 emitting resources. Similar to the capacity need in Figure 1, the renewable or non-
 4 emitting resources need in Figure 2 assumes that PSE will continue to acquire a
 5 25 percent share of the output of the Projects. Failure to continue to acquire a 25
 6 percent share of the output of the Projects would effectively increase PSE’s need
 7 for CETA-eligible energy on expiration of the existing agreement in 2031. This
 8 would result in an increase in CETA need of about 2,166 GWhs starting in 2031.

Figure 2: Renewable Resource Need (CETA and RPS Compliance)



1 Q. Why did PSE choose to execute the Chelan PSA almost eight years before the
 2 existing agreement expires?

3 A. Chelan PUD approached PSE in the first quarter of 2021 for the purpose of
 4 renewing the existing power sales agreement that is scheduled to expire in
 5 October 2031. PSE’s decision to negotiate and enter into the Chelan PSA about
 6 eight years ahead of the expiration of the existing agreement is driven by the
 7 importance of the Projects to PSE’s portfolio. Output from the Projects has for
 8 decades been the backbone of PSE’s existing resource base, providing seasonal

1 and daily load shaping energy and capacity benefits in addition to necessary
2 ancillary services. This output helps to ensure PSE's ability to meet clean energy
3 needs, daily and seasonal peaking requirements, integrate existing and
4 incremental wind or other variable production resources into PSE's supply
5 portfolio, and provides increased certainty related to modeling and determination
6 of PSE's future resource needs and supply alternatives.

7 Given these important attributes and PSE's extensive electric supply resource
8 needs, PSE has understood for some time that continued access to the Projects'
9 output would be a critical component of PSE's long-term electric portfolio
10 management strategy. However, PSE's existing long-term contract with Chelan
11 PUD does not contain provisions for any right of first refusal, right of first offer,
12 or extension beyond its current terms. When Chelan PUD informed PSE of its
13 desire to reach an agreement in principle by the end of 2022, PSE saw an
14 opportunity to undertake negotiations with Chelan PUD and secure access to the
15 Projects output through November 2051. Securing the capacity, clean energy, and
16 ancillary benefits through the 2045 transition to 100 percent clean energy
17 Washington targets⁹.

18 If PSE had not engaged in negotiations and successfully executed the Chelan PSA
19 renewal, PSE would have risked losing the opportunity to acquire a valuable, non-
20 emitting, flexible capacity resource to another off-taker through the Chelan

⁹ RCW 19.405.050(1).

1 PUD's competitive auction process. In late 2020, Chelan PUD notified PSE that it
2 would be conducting an auction to sell a share, or "slice", of the Rocky Reach and
3 Rock Island Projects. Chelan PUD was, and continues to be, actively engaged in
4 marketing portions of the generation portfolio. During the negotiation period
5 Chelan announced a long-term power sales agreement with Avista Utilities
6 ("Avista"). Under the terms of that new agreement, Avista's share of the Projects'
7 output grows from five percent to ten percent.¹⁰ It is highly likely that Chelan
8 PUD would have marketed some or all of PSE's share to a third party if PSE had
9 not engaged when it did.

10 **Q. Why is PSE seeking a prudence determination for the Chelan Slice**
11 **Agreement now when it does not start until 2031?**

12 A. As explained earlier in my testimony, the test the Commission applies to measure
13 prudence is what a reasonable board of directors and company management
14 would have decided given what they knew or reasonably should have known to be
15 true at the time they made a decision. Therefore, the prudence standard applies to
16 PSE's decision to enter the Chelan Slice Agreement at the time it made that
17 decision, not the delivery start date. While the Chelan Slice Agreement does not
18 start until 2031, the decision to enter into the agreement was considered and made
19 in 2022. PSE initially requested a prudence determination as part of its 2022
20 Power Cost Adjustment ("PCA")¹¹ filing. In the 2022 PCA, the Commission

¹⁰ Please see <https://www.chelanpud.org/about-us/news/2021/12/30/chelan-pud-and-avista-announce-long-term-clean-energy-contract>.

¹¹ Docket UE-230313.

1 provided guidance to file for a prudence determination in the next general rate
2 case filing to allow more discussion before making a determination. Accordingly,
3 PSE has filed to determine prudence of the Chelan Slice Agreement in this
4 proceeding.

5 **C. Comparison of the Chelan Slice Agreement to Alternatives**

6 **Q. What alternatives did PSE consider in its analysis of the Chelan Slice**
7 **Agreement?**

8 A. PSE’s analysis of alternatives reflects both the quantitative financial and
9 qualitative operational implications and benefits to its customers. PSE used two
10 quantitative methodologies to evaluate the value of the Chelan PSA relative to
11 replacing the contract in 2031.

12 a. The first methodology, the “Optimization Analysis”, is a comparison of
13 the costs associated with replacing the Chelan PSA with an alternate set of
14 resources. To create the portfolio that replaces Chelan PSA, PSE used a
15 portfolio optimization analysis consistent with PSE’s resource acquisition
16 modeling processes. The analysis was conducted over the course of the
17 negotiations and reflects assumptions from both the 2021 All Source RFP
18 and the 2023 EPR.

19 b. The second alternative methodology is a “bottoms up” approach that sums
20 the estimated market value streams associated with the Chelan PSA. This

1 methodology compares the forecasted costs of the Chelan PSA to three
2 scenarios based on known market conditions.

3 In addition, PSE has extensive history, knowledge of, and experience with Chelan
4 PUD's operations of both Rocky Reach and Rock Island Projects, and PSE
5 conducted interviews with civil, mechanical and electrical, dam safety, and
6 regulatory personnel at Chelan PUD as part of PSE's overall due diligence
7 processes. PSE has not identified any substantive issues that have not been
8 previously identified in PSE's prior analyses.

9 Financial modeling leading up to the current 2006 Chelan PSA reflected the
10 renewal of the Rocky Reach license, which FERC issued in 2008, as well as the
11 impending Rock Island FERC license (2025). Chelan PUD has informed PSE that
12 the Chelan PSA's cost projections include continued Rocky Reach license
13 implementation costs and Rock Island license processing and implementation
14 costs, which are subject to final terms and conditions as determined by the FERC
15 and other regulatory agencies. Under the terms of the 2006 Chelan PSA, PSE
16 would be responsible for a 25 percent share of any relicensing costs incurred
17 during the term of that contract, through 2031. PSE expects Chelan PUD to retain
18 responsibility for 65 percent share of operating costs, including any possible
19 relicensing costs. This aligns PSE's and Chelan PUD's interest in managing
20 relicensing and operating costs through the life of the projects. Please see Exh.
21 ZCY-3HC for a discussion on the licensing process and cost estimates.

1 **Q. Describe PSE’s Optimization Analysis approach to analyzing the value of the**
2 **Chelan PSA.**

3 A. PSE relied upon its experience as a resource owner and evaluator, its familiarity
4 with the region's energy market, and analytical tools developed and applied
5 throughout multiple IRP and RFP cycles to perform the Optimization Analysis.

6 PSE relied on the following two valuation methods:

7 1. Portfolio Optimization – PSE’s resource acquisition team used the same
8 AURORA XMP model used in the 2021 RFP to understand the costs to
9 replace the contract with “generic” resources. Since the 2021 RFP
10 resources latest start date is 2026, they are not direct comparisons to the
11 Chelan PSA, which starts in 2031. Instead, the analysis was conducted by
12 “fixing” the 2021 RFP selected shortlist, removing the Projects’ energy
13 and capacity contributions, and allowing the model to select generic
14 resources to fill the capacity and clean energy needs. This created a “No
15 Chelan” portfolio. PSE compared this “No Chelan” portfolio to the base
16 portfolio, which includes the capacity and energy associated with the 25
17 percent share of the Projects’ output under the Chelan PSA. This analysis
18 used assumptions consistent with the 2021 RFP. The resources selected by
19 AURORA to replace the PSA were:

- 20 a. 237 MW of peakers,
21 b. 50 MW of lithium ion four-hour battery energy storage,
22 c. 300 MW of Eastern Washington solar, and
23 d. 400 MW of Wyoming wind.

1 2. Revenue Requirement Model – PSE also conducted an analysis of value
2 using a Microsoft Excel-based revenue requirement model similar to the
3 model used in the 2006 evaluation. This analysis allowed PSE to compare
4 the forecasted costs of the PSA to the updated generic resource costs used
5 in the 2023 IRP study. This Excel-based model allows PSE to compare
6 cost impacts of two different replacement scenarios:

- 7 a. Wind and Peaker Scenario – In the wind and peaker scenario, PSE
8 compared the revenue requirement of replacing the output from the
9 Projects with 634 MW of wind resources and 358 MW of peaking
10 resources. Together, this represents a portfolio of resources
11 necessary to replace the 25 percent share of the energy and
12 capacity output of the Projects.
- 13 b. Optimized Portfolio Scenario – In the optimized portfolio scenario,
14 PSE compared the revenue requirement of replacing the 25 percent
15 share of the energy and capacity output of the Projects with the
16 resource mix selected by AURORA as described in item one,
17 above. This analysis supplements the AURORA-based
18 optimization analysis by updating generic costs and focusing on
19 revenue requirements, as opposed to total portfolio costs reported
20 by AURORA.

21 **Q. Please describe the AURORA model PSE used to perform the analysis.**

22 A. AURORA is a production cost model, run hourly, that provides the dispatch of a
23 given resource with the variable cost and market value of energy. PSE relied on
24 the AURORA XMP model with the same assumptions that were used for the
25 Phase 2 optimization of PSE RFP analysis. As stated above, PSE used
26 AURORA’s long-term capacity expansion function to create an optimal portfolio
27 to replace the Chelan PSA in 2031.

1 **Q. Please describe the key assumptions PSE used in the analysis.**

2 A. Key inputs used by PSE in the analysis are consistent with the assumptions used
3 during Phase 2 of the 2021 All Source RFP, including: (i) PSE's existing resource
4 portfolio, (ii) a forecast of forward power prices, (iii) the projected output
5 provided by the Chelan PSA, (v) generic resource assumptions, and (v) a forecast
6 of carbon costs.

7 **Q. Please describe the projected output assumed by PSE for analysis of the**
8 **Chelan PSA.**

9 A. PSE forecasted a monthly volume consistent with the methodologies being used
10 in the 2021 RFP and 2023 EPR. The forecast for the Chelan PSA resulted in a
11 more conservative, lower, output than the average of the historical 80-year
12 monthly hydro volumes for the Rock Island and Rocky Reach Projects. Please
13 see Exh. ZCY-3HC.

14 **Q. Please summarize the results of the Optimization Analysis evaluation of the**
15 **Chelan PSA.**

16 A. Table 1 below summarizes the forecasted costs of the Chelan PSA and the
17 replacement portfolio. Based on these results, the range of expected benefits to the
18 PSE portfolio are between \$173 million to \$969 million or about \$14 to \$82 per
19 MWh.

Table 1: Summary of Quantitative Cost Comparisons

Resource Alternatives	NPV Costs (2022 \$000)	Levelized \$/MWh
Chelan PSA	\$ [REDACTED]	\$ [REDACTED]/MWh
2021 RFP Phase 2 AURORA Model	\$ [REDACTED]	\$ [REDACTED]/MWh
Revenue Requirement Model – AURORA replacement scenario	\$ [REDACTED]	\$ [REDACTED]/MWh
Revenue Requirement Model – wind and peaker scenario	\$ [REDACTED]	\$ [REDACTED]/MWh

1 **Q. Describe PSE’s “Bottoms Up” approach to analyzing the value of the Chelan**
 2 **PSA.**

3 A. PSE estimated the value of the Chelan PSA by adding three individual value
 4 streams from the “bottoms up”. This methodology is similar to the valuation of
 5 the Colville 5 percent Renewal and the Chelan Slice that was recently approved
 6 for cost recovery in PSE’s recent multiyear rate plan, Docket UE-220066/UG-
 7 220067.¹² PSE identified three value streams specifically called out in the Chelan
 8 PSA: 1) energy value, 2) capacity value, and 3) environmental attribute value.
 9 PSE relied on three scenarios described below to estimate the value streams.

[REDACTED VERSION]

¹² See *Wash. Utils. & Transp. Comm’n v. Puget Sound Energy*, Dockets UE-220066/UG-220067 (consolidated), Final Order 24 at ¶ 28 (Dec. 22, 2022). See also, Dockets UE-220066/UG-220067, Yanez, Exh. ZCY-1CT (Jan. 31, 2022).

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1 **Scenario One** – Scenario One uses a forecast of 2032 forward market prices from
2 August 2022, and [REDACTED] as described in the
3 Collateral Annex to the Chelan PSA.¹³

4 **Scenario Two** – Scenario Two uses the “Mid” energy price forecast of the 2023
5 Electric Progress Report, a capacity value based on a \$20/MWh adder (which is
6 equal to about \$93 per MW-year), and an environmental adder based on the
7 Washington Department of Ecology’s Climate Commitment Act “floor” forecasts.

8 **Scenario Three** – Scenario Three calculates the average energy and capacity
9 values from the 2021 All Source RFP short-list presented to PSE’s Energy
10 Management Committee in November of 2022.¹⁴ Please note that this scenario
11 may not reflect a direct comparison due to difference in timing of resources.
12 Additionally, it is important to note that PSE selected these resources for the short
13 list to meet the needs of the 2021 All Source RFP, meaning that these resources, if
14 acquired by PSE, would not be available to replace the 25 percent share of the
15 output of the Projects. Given these limitations, the analysis allows a comparison
16 of the value of the 25 percent share of the output of the Projects relative to known
17 market options at the time of the decision. A final note regarding Scenario Three,
18 all of the energy resources included in RFP shortlist are renewable resources, and

[REDACTED VERSION]

¹³ See Exh. ZCY-4C.

¹⁴ See Exh. ZCY-3HC.

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1 the costs for such resources include the environmental attributes associated with
2 those resources.

3 As reflected in Table 2 below, the sum of the value streams of the Chelan PSA is
4 higher than the projected levelized costs of about \$69 per MWh in each scenario.

Table 2: 2032 “Bottoms Up” Valuation Under Three Scenarios

Scenario	Energy (\$/MWh)	Capacity (\$/MWh)	Environmental Attributes (\$MWh)	Total (\$/MWh)
Scenario One	\$ 56	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Scenario Two	\$ 43	\$ 20	\$ 14	\$ 77
Scenario Three	\$ 54	\$ 23	\$ 0	\$ 77

5 **D. Involvement of PSE Management**

6 **Q. Did PSE keep the Energy Management Committee and Board of Directors**
7 **informed of the Chelan PSA?**

8 A. Yes. PSE’s Energy Management Committee was informed about negotiation
9 status and approved final contract terms prior to presenting the decision to PSE’s
10 Board of Directors. The Board of Directors reviewed the material terms of the
11 Chelan PSA and related materials and approved the execution of the Chelan PSA
12 on January 19, 2023. Please see Exh. ZCY-3HC for the presentations to the
13 Energy Management Committee and the Board of Directors.

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1 **E. Benefits of the Chelan PSA.**

2 **Q. Please summarize the benefits for the Chelan PSA.**

3 A. After analyzing the benefits of the Chelan PSA in light of alternatives, PSE
4 agreed to terms with Chelan PUD. The Chelan PSA will secure the output of the
5 Projects for PSE's customers through October of 2051. The clean energy resource
6 will continue to form one of the central pillars of PSE's electric portfolio and
7 provide CETA compliant energy, flexibility, and capacity. As Washington state
8 transitions away from fossil fuel resources, PSE's analysis of existing large scale
9 hydroelectric continues to show value to its portfolio. The flexibility provided by
10 the Chelan PSA will help the integration of future renewable resources. Beyond
11 these qualitative benefits, Table 1 and Table 2 above show significant cost
12 savings relative to currently known alternatives.

13 **III. CONCLUSION**

14 **Q. Do you have any concluding remarks?**

15 A. Yes. PSE's 2021 IRP, CEIP, and the 2023 Electric Progress Report all assume
16 that PSE's existing share of the Rocky Reach and Rock Island Projects will
17 continue to be part of PSE's energy portfolio. The Chelan PSA renewal secures
18 this assumption, protecting an integral piece of PSE's electric generating
19 portfolio. The Projects provide a known source of CETA-qualifying energy,
20 flexibility, and capacity at a substantial cost savings for PSE's customers. PSE
21 seeks a determination of prudence for the Chelan PSA.

1 **Q. Does that conclude your prefiled direct testimony?**

2 A. Yes, it does.