

Davison Van Cleve PC

Attorneys at Law

TEL (503) 241-7242 • FAX (503) 241-8160 • tcp@dvclaw.com
Suite 400
333 S.W. Taylor
Portland, OR 97204

May 6, 2021

Via Electronic Filing

Mr. Mark L. Johnson
Executive Director & Secretary
Washington Utilities & Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

Re: In the Matter of Puget Sound Energy 2021 Integrated Resource Plan
Docket No. UE-200304/UG-200305

Dear Mr. Johnson:

Pursuant to the Washington Utilities and Transportation Commission's (the "Commission") April 6, 2021 Notice of Opportunity to File Written Comments, the Alliance of Western Energy Consumers ("AWEC") respectfully submits these comments on Puget Sound Energy's ("PSE" or the "Company") 2021 Integrated Resource Plan ("IRP").

AWEC focuses its comments on two action items in the IRP: (1) PSE's proposal to reduce its reliance on market purchases to meet its capacity needs; and (2) PSE's identification of biodiesel-fueled simple cycle combustion turbines to meet flexible capacity needs.

1. PSE has not provided a sufficient basis to reduce its reliance on market purchases for capacity to 500 MW by 2027.

The 2021 IRP proposes to reduce PSE's reliance on short-term market purchases through 2027, lowering the maximum available capacity from 1,500 MW to 500 MW.^{1/} PSE identifies increasingly constrained supply due to the retirement of dispatchable capacity in the west as the basis for this decision. PSE's decision increases its capacity deficit by 947 MW in 2027,^{2/} which it proposes to fill with higher cost resources such as simple cycle combustion turbines and "firm resource adequacy qualifying capacity contracts."^{3/}

^{1/} PSE 2021 IRP at 1-7.
^{2/} PSE 2021 IRP at 3-35.
^{3/} PSE 2021 IRP at 1-13.

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PSE's position that capacity is becoming constrained due to primarily coal plant retirements is indisputable, and some reduction to PSE's reliance on market purchases for capacity is likely prudent. AWEC is concerned, however, that PSE's proposal to reduce that reliance to 500 MW by 2027 lacks any analytical basis. Rather, PSE's own resource adequacy modeling shows "that of the 1,500 MW of available Mid-C transmission, PSE was only able to fill 1,000 MW in January 2027."^{4/} It seems logical, therefore, that PSE would adopt a resource plan that reduces its reliance on market purchases to 1,000 MW in 2027, not 500 MW. Yet, the IRP offers no explanation for PSE's decision. PSE only asserts that regional events like the Enbridge pipeline rupture in the winter of 2018-2019 result in increased market volatility, and that PSE has experienced a significant reduction in trading volume in the day-ahead market, which is "suggestive of more energy being transacted before the month of delivery."^{5/}

With regard to the first rationale, the notion that regional events like supply shortages and forced outages increase market volatility is neither surprising nor new. To justify a reduction of market purchases based on these events, PSE could have modeled whether these events are occurring with more frequency than they have in the past, and performed a cost and risk assessment to determine whether the cost of buying in high-priced hours during these events offsets the savings PSE realizes by substituting market purchases for more expensive alternatives. To AWEC's knowledge, however, the Company did not perform such an analysis.

With regard to the second rationale, PSE offers no evidence that reductions to traded volumes in the day-ahead market are due to more energy being transacted before the month of delivery. AWEC reviews the power costs of each utility in the region and has learned that a substantial cause of the decline in day-ahead traded volumes is the evolution of the Energy Imbalance Market ("EIM"). Market participants hold generation back in the day-ahead period with an eye toward receiving a higher price for it in the EIM. The reduction in day-ahead traded volumes, in other words, is not necessarily because this generation has already been secured.

Finally, PSE's proposal to replace a portion of its short-term market purchases with "firm resource adequacy qualifying capacity contracts" is unclear. PSE does not identify anywhere in the IRP that AWEC has found what characteristics of a contract would allow it to provide resource adequacy.^{6/} The requirements associated with demonstrating resource adequacy are unsettled and are being heavily debated in various forums, including in the Northwest Power Pool's resource adequacy initiative,^{7/} at the Oregon Public Utility Commission,^{8/} and at this Commission.^{9/} Does a "resource adequacy qualifying capacity contract," for instance, need to be associated with a specified resource? What term does such a contract need to have to qualify as meeting resource adequacy? The IRP does not answer these and similar questions, which have a direct bearing on the cost of these contracts.

^{4/} PSE 2021 IRP at 3-33.

^{5/} PSE 2021 IRP at 3-34.

^{6/} See generally, PSE 2021 IRP Chapter 7.

^{7/} <https://www.nwpp.org/about/workgroups/12>.

^{8/} Docket No. UM 2143.

^{9/} Docket No. UE-210096.

AWEC recommends that PSE modify its proposed reduced reliance on market purchases to 1,000 MW in 2027 or provide a more thorough analytical basis for reducing this reliance below this amount. PSE's reliance on the market for capacity has consistently proven reliable and has been a source of low-cost power for customers, and any reduction in purchases should be well founded. Additionally, AWEC recommends that PSE further explain what the characteristics of a "resource adequacy qualifying contract" would be and what the bases for these characteristics are so that the Commission and stakeholders can adequately review whether these characteristics are necessary and the contracts are in the best interest of customers.

2. PSE has not modeled all possible peak generation options, and has not shown that biodiesel-fueled peaking generation is a viable option to meet capacity needs

The IRP preferred portfolio selects 255 MW of peaking capacity fueled by biodiesel to meet PSE's capacity needs in the 2026-2031 timeframe.^{10/} AWEC understands PSE's desire to secure CETA-compliant peaking capacity, and commends PSE for identifying biodiesel as a potential option. AWEC is concerned, however, that PSE has done insufficient analysis to identify the least-cost means of meeting peak capacity needs, and has not demonstrated that biodiesel is feasible both technically and economically.

With regard to CETA-compliant resource alternatives, PSE states that it "is exploring fuel alternatives to natural gas fuel, such as [renewable natural gas ("RNG")], hydrogen and biodiesel ..." but the Company only modeled biodiesel in the 2021 IRP.^{11/} AWEC feels it is important to understand the economics and feasibility of fueling peaking resources at least partially with RNG, potentially combined with offsets to ensure carbon neutrality, before PSE commits to a different unproven fuel such as biodiesel. PSE must meet CETA's clean energy requirements at the lowest reasonable cost, which requires the Company to understand the economics of potentially viable CETA-compliant alternatives.^{12/}

As to the analysis it does perform, PSE identifies that if it runs peakers with biodiesel, they would need to run approximately 10,000 MWhs per year, which would require 828,000 gallons of biodiesel.^{13/} To demonstrate the feasibility of biodiesel as a fuel option, PSE then simply compares that consumption to total state-wide biodiesel production of 114 million gallons per year and concludes that there is sufficient fuel to run any peaker(s) it would acquire.^{14/} The Company does not analyze where biodiesel production occurs relative to the location of the peakers it might acquire; how it will transport this biodiesel to its peakers and at what cost; whether storage for biodiesel will exist at the peakers it acquires, how much and at what cost. As AWEC understands it, PSE used the same assumptions previously applied to fuel oil to back up a gas-fired peaking unit for biodiesel. The Company does not explain why the assumptions for fuel oil would be equivalent for biodiesel. Moreover, while PSE may be correct that the peaking resources it will acquire will run for relatively few hours, those hours are likely to be concentrated in certain months of the year. Additionally, in some periods, such as during a

^{10/} PSE 2021 IRP at 1-13.

^{11/} PSE 2021 IRP at D-85.

^{12/} RCW 19.405.060(1)(c)(ii).

^{13/} PSE 2021 IRP at 3-21.

^{14/} Id.

regional reliability event, these resources may be required to run much longer. Ensuring an adequate supply of biodiesel in these periods is imperative to the feasibility of these resources in meeting the Company's needs.

In addition to meeting its clean energy requirements, PSE also has an obligation under CETA to maintain the reliability of its system at the lowest reasonable cost.^{15/} It may be that biodiesel-fueled peakers that are feasible and cost-effective will bid into PSE's request for proposals. Until this option is proven out, however, AWEC encourages the Company not to dismiss natural gas as a low-cost option for ensuring reliability, particularly in the near term where a newly acquired resource can still have a useful life of upwards of 20 years under CETA. This will allow PSE to further study the potential for biodiesel to meet its peaking requirements in the outer years of the IRP study period. Moreover, because PSE expects these peaking units to run relatively infrequently, the increased emissions associated with a gas-fired resource are negligible compared to one fueled by biodiesel, based on PSE's analysis.^{16/}

AWEC appreciates the ability to provide comments on PSE's 2021 IRP. Please feel free to contact me if you have any questions or concerns.

Sincerely,

/s/ Tyler C. Pepple

Tyler C. Pepple

^{15/} RCW 19.405.060(1)(c)(i)-(ii).

^{16/} PSE 2021 IRP at 8-102 & 8-103.