**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. **PUGET SOUND ENERGY,** Respondent.	**DOCKETS UE-240004, UG-240005, UE-230810** (*Consolidated*)

EXHIBIT TO TESTIMONY OF

JOHN D. WILSON

**ON BEHALF OF STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

PSE's Response to Staff's DR No. 119(C)

August 6, 2024

CONFIDENTIAL PER PROTECTIVE ORDER – REDACTED VERSION

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

WUTC STAFF DATA REQUEST NO. 119

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Data Request No. 119	Shaded information is designated as CONFIDENTIAL per Protective Order in Dockets UE-240004 and UG-240005 as marked in Puget Sound Energy's Response to WUTC Staff Data Request No. 119.

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Date of Response: June 10, 2024
Person who Prepared the Response: Brennan D. Mueller
Witness Knowledgeable About the Response: Brennan D. Mueller

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case**

WUTC STAFF DATA REQUEST NO. 119:
REQUESTED BY: John Wilson

RE: Power Costs

Referring to Mueller, Exh. BDM-1T, p. 41 and workpaper Thermal Resource Inputs, tab Colstrip fuel price (C):

a.   Please confirm that Aurora model dispatch is based on a ▓▓▓▓ per ton price in January and a ▓▓▓▓ per ton price in December.

b.   Please confirm that because the Colstrip contract prices are set in two tiers, and because total modeled Colstrip fuel consumption reaches the second (lowest) tier price in ▓▓▓▓▓▓, an additional ton of fuel consumption would increase annual fuel costs by ▓▓▓▓, irrespective of which month that additional ton of fuel consumption occurs.

c.   If (a) and (b) are confirmed, please explain why Aurora model dispatch is not based on a marginal fuel price of ▓▓▓▓ per ton in all months.

d.   Please explain what pricing tier(s) is used to determine the marginal fuel cost for operational dispatch purposes at the present time.

> **REDACTED
> VERSION**

Response:

a.   Puget Sound Energy's ("PSE") Aurora model dispatch for Colstrip units 3 and 4 is based on the expected average annual fuel price, or ▓▓▓▓ per ton in 2025. This value and the translation of it into $ per MMBtu for input to Aurora is shown in the workpaper Thermal Resource Inputs, tab *Colstrip VOM, fuel cost, HR (C)* in row 39.

b.   The second (lowest) effective tier price in 2025 is ▓▓▓▓ per ton as shown in the workpaper Thermal Resource Inputs, tab *Colstrip fuel price (C)* in row 43 (▓▓▓▓ per ton is the nominal second-tier price prior to contractual inflation adjustments). But the effective tier price does not include an additional reclamation charge of ▓▓▓▓ per ton (shown in row 46 of the same tab). Given that PSE expects to purchase a volume of coal sufficient to reach the second tier price in 2025, an additional ton of fuel consumption would increase annual fuel costs by ▓▓▓▓ (= ▓▓▓▓ + ▓▓), irrespective of which month that additional ton of fuel consumption occurs.

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c. Using a marginal fuel price instead of the average fuel price for Colstrip units 3 and 4 in Aurora dispatch may be a reasonable approach to modeling the facility. However, it also adds complexity and is unlikely to have a meaningful impact on PSE's forecasted power costs.

If coal fuel cost included in the Aurora model is based on the lower second-tier price, then Aurora model cost results will not reflect the full cost of fuel purchases – fuel costs will be under-reported by an amount equal to the difference between the first-tier price and the second-tier price multiplied by the volume of coal subject to the first-tier price. The solution to this concern is relatively simple: include an outside-the-model fuel cost adjustment that effectively converts the higher cost of first-tier purchases relative to second-tier purchases from a variable cost to a fixed cost. But this approach assumes that coal consumption will always be sufficient to reach second-tier pricing, which may not be the case depending on outage assumptions and power prices. Further, the coal supply agreement requires additional payments if coal consumption during a calendar year is below specified volumes ("shortfall" prices in rows 44 and 45 of the workpaper Thermal Resource Inputs, tab *Colstrip fuel price (C)*). It is not clear whether or how these shortfall prices would be incorporated into a marginal fuel price for Aurora model dispatch.

To assess the potential impact of using an alternative fuel price for Colstrip dispatch PSE re-ran its power cost model for calendar year 2025 replacing the ▋▋▋ per ton average Colstrip fuel price with ▋▋▋ per ton. The result is a negligible increase in Colstrip production (▋▋▋ MWh or 0.2 percent) and effectively no change to the total 2025 power cost forecast ($770k, or less than 0.1 percent increase as modeled[1]).

d. PSE utilizes both the first-tier and second-tier coal contract prices as well as consideration of any potential shortfall pricing to determine Colstrip units 3 and 4 dispatch in actual operations. The decision also includes dynamic variables such as year-to-date actual coal consumption, current and projected market prices, expected outages, and transmission availability. In practice, PSE generally assumes Colstrip will run at full available output (subject to any transmission constraints) unless market electricity prices approach a level low enough that Colstrip output can be replaced with market purchases at a cost that is less than the cost of running the plant. If annual coal consumption has already exceeded the first-tier pricing volume then the Colstrip dispatch cost that is compared to market prices is based on the second-tier coal contract price. If annual coal

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[1] The apparent increase is because Colstrip fuel costs from the Aurora model using the average annual coal price input differ slightly from coal costs calculated using modeled fuel consumption and contractual prices (there would be no difference if Aurora-modeled volumes were identical to the assumed volumes used to determine the average price input). This difference means that PSE's 2025 power cost forecast under-states coal fuel costs by about $700k relative to an outside the model calculation. After correcting for this, the impact to power costs from using the second-tier price in dispatch is less than $70k (0.007 percent).

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consumption has not reached second-tier pricing volumes then the market price is initially compared to the projected annual average coal price (analogous to the ████ average 2025 price PSE used in Aurora). If market prices are below the projected annual average coal price PSE further evaluates the impact of reducing Colstrip output before determining the appropriate dispatch level. This evaluation includes considerations of potential shortfall pricing penalties and potential second-tier pricing benefits given year-to-date fuel consumption, future market prices, and expected outages. Given very low production cost it is rare for PSE to reduce Colstrip output for economic reasons. Also note that the difference between the average coal price and the second-tier coal price is small and has a minimal impact on actual dispatch decisions. For example, the $4.72 per ton difference between the projected 2025 average annual price and the second-tier price translates to a difference of only about $1.38 per MWh in dispatch cost.

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