PACIFIC POWER
A DIVISION OF PACIFICORP

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September 17, 2021

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
201 High Street SE, Suite 100
Salem, OR 97301-3398

Attn: Filing Center

RE: UE 390—Responses to ALJ Bench Request Nos. 1 - 5

Pursuant to Administrative Law Judge (ALJ) Rowe's Ruling of September 10, 2021, enclosed for filing in this docket are the Confidential Responses to ALJ Bench Request Nos. 1, 2, 3 and 5 and the Response to ALJ Bench Request 4. Also enclosed are Confidential Attachments ALJ Bench Request 2, 4 and 5.

Please direct any questions regarding this filing to Cathie Allen at (503) 813-5934.

Sincerely,

Shelley McCoy

Shelley McCoy
Director, Regulation

Enclosures

ALJ Bench Request 1

Update to the "Contract Minimums" Table from UE 375:
Please provide a current version of the "Contract Minimum" table from UE 375 showing current forecast delivery levels for PacifiCorp's share of coal plants. *See* UE 375, PAC/700, Ralston/15; PacifiCorp Response to ALJ Bench Request 3.2.

Confidential Table 2: Contract Minimums – Coal Supply Agreements

Plant	Coal Mine	Minimum Deliveries	Forecast Deliveries	Minimum %
Colstrip	Rosebud	[redacted]		
Craig	Trapper			
Dave Johnston	Coal Creek			
Dave Johnston	Caballo			
Dave Johnston Total				
Hayden	Twentymile			
Hunter	Unknown			
Huntington	Various			
Jim Bridger	Black Butte			
Jim Bridger	Bridger			
Jim Bridger Total				
Naughton	Kemmerer			
Wyodak	Wyodak			

Note: Deliveries are in tons and represent PacifiCorp share

Confidential Response to ALJ Bench Request 1

The following confidential table is a current version of the "Contract Minimum" table from docket UE 375 showing current forecast delivery levels for PacifiCorp's share of coal plants.

REDACTED

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ALJ Bench Request 1

Confidential Table for Bench Request 1 - Coal Supply Agreement Contract Minimums
(all figures are in tons of coal)

Plant	Coal Mine	Minimum Deliveries	2022 TAM Forecast Deliveries	Minimum %
Colstrip	Rosebud	[redacted]		
Craig	Trapper			
Dave Johnston	North Antelope Rochelle			
Dave Johnston	Coal Creek			
Dave Johnston	Caballo-Contract 1			
Dave Johnston	Caballo-Contract 2			
Dave Johnston Total				
Hayden	Twentymile			
Hunter	Various			
Huntington	Various			
Jim Bridger	Black Butte			
Jim Bridger	Bridger			
Jim Bridger Total				
Naughton	Kemmerer			
Wyodak	Wyodak			

Notes:

(1) Craig and Bridger are fueled with purchases from affiliated mines. As a result, a contract minimum is not provided for Trapper and Bridger mine deliveries.

(2) Consistent with actual Hunter plant operations, Hunter delivery data is provided on a 100 percent plant basis. Please refer to the Company's response to ALJ Bench Request 2 for Hunter's minimum obligation on an owner allocated basis.

(3) The current Kemmerer mine coal supply agreement (CSA) ends December 31, 2021. A future Kemmerer mine CSA, and its minimum delivery obligation, have not yet been negotiated. The minimum delivery obligation for the Kemmerer mine deliveries are to be determined.

(4) The Wyodak contract minimum is [redacted] tons per year, subject to a force majeure provision. The minimum delivery obligation is expected to be reduced in 2022 due to an ongoing force majeure claim.

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ALJ Bench Request 2

Convert Information on Past Hunter Consumption to PacifiCorp's Share:
Please explain how the Hunter Coal Supply Agreement (CSA) minimum deliveries compare to the last five years of historic deliveries, on a PacifiCorp-share basis. This is further detail on the average plant-wide information provided at PAC/500, Schwartz/35-36.

Confidential Response to ALJ Bench Request 2

As the plant operator, PacifiCorp is required to arrange for the delivery of sufficient coal to match the requirements of all plant owners. Coal is allocated to the individual owners after it is delivered based on each owner's actual coal consumption. The table provided as Confidential Attachment ALJ Bench Request 2 provides historical coal delivery and consumption data consistent with actual plant operations. Coal deliveries are compared to the contract minimum on a 100 percent total plant basis. Coal consumption is compared to the contract minimum on an ownership allocated basis (based on each owner's actual coal consumption). Note: in the 2022 transition adjustment mechanism (TAM) filing PacifiCorp expects to consume [redacted] tons. This amount exceeds PacifiCorp's allocated share of the contract minimum, [redacted] tons, by [redacted] tons. In other words, PacifiCorp's allocated share of the contract minimum represents [redacted] of PacifiCorp's expected coal consumption in 2022. On a five-year (2017 through forecast 2021) average basis, PacifiCorp will consume approximately [redacted] tons. This amount exceeds PacifiCorp's five-year (2017 through forecast 2021) average basis allocated share of the contract minimum, [redacted] by [redacted]. In other words, PacifiCorp's allocated share of the contract minimum on a five-year average basis will represent approximately [redacted] of PacifiCorp's expected coal consumption over that same five-year period. Note: on a 100 percent basis, the contract minimum for the prior coal supply agreement (CSA) was [redacted], and the combined contract minimum for the two new CSAs is the same, [redacted].

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Confidential Table for Bench Request 2 - Hunter Plant Coal Deliveries and Consumption vs Contract Minimums

	2017	2018	2019	2020	2021 Forecast	2017-2021 Avg	2022 Filing
Coal Deliveries vs Contract Minimums (tons)							
Actual Deliveries (100% Share)	[redacted]						
Contract Minimum							
Actual Deliveries Over/(Under) Contract Min							
Coal Consumed (tons)							
PacifiCorp							
Joint Owners							
Total							
Contract Minimum (tons, allocated based on consumption)							
PacifiCorp							
Joint Owners							
Total							
Variance: Coal Consumed vs Allocated Minimum (tons)							
PacifiCorp: Coal Consumed Over/(Under) Contract Min							
Joint Owners: Coal Consumed Over/(Under) Contract Min							
Total: Coal Consumed Over/(Under) Contract Min							

Percentage Calculations

	2017	2018	2019	2020	2021 Forecast	2017-2021 Avg	2022 Filing
Contract Minimum as a % of Deliveries	[redacted]						
Ownership Shares of Coal Consumed							
PacifiCorp Share							
Joint Owners Share							
Total							
Ownershipe Shares of Contract Min (allocated based on consumption)							
PacifiCorp							
Joint Owners							
Total							
Allocated Minimum as a Percent of Coal Consumed (%)							
PacifiCorp							
Joint Owners							
Total							

ALJ Bench Request 3

Convert Information on Hunter's Alternative Tonnage to PacifiCorp's Share: Please provide the alternative tonnage levels on a PacifiCorp-share basis that were identified when PacifiCorp prepared high and low coal volume sensitivities. Include levels identified for years beyond 2022 if available. *See* PAC/700, MacNeil/2-5.

Confidential Response to ALJ Bench Request 3

The following tables provide the low, expected, and high tonnage levels on a total plant and PacifiCorp-share basis that were prepared by PacifiCorp in 2020 to inform its negotiation of the coal supply agreements for the Hunter plant. Each table includes the forecasted volumes for 2021, 2022, and 2023 and the three-year average figure that was cited in PacifiCorp's testimony (*e.g.*, PAC/500, Schwartz/35-36). Note that PacifiCorp is responsible for purchasing coal for the Hunter plant on behalf of all the owners and the coal is allocated to individual owners based on the amounts consumed. PacifiCorp's typical historical share of the consumed volumes is [redacted], as reflected in the response to Bench Request 2, and therefore the PacifiCorp-share of the total plant volumes is [redacted]. For reference, the total plant minimum take level is [redacted], or [redacted] on a PacifiCorp-share basis.

Total Plant (million tons)

Scenario	2021	2022	2023	3-year average
Low	[redacted]	[redacted]	[redacted]	[redacted]
Expected	[redacted]	[redacted]	[redacted]	[redacted]
High	[redacted]	[redacted]	[redacted]	[redacted]

PacifiCorp Share (million tons)

Scenario	2021	2022	2023	3-year average
Low	[redacted]	[redacted]	[redacted]	[redacted]
Expected	[redacted]	[redacted]	[redacted]	[redacted]
High	[redacted]	[redacted]	[redacted]	[redacted]

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ALJ Bench Request 4

Additional Details on Changes in Net Power Costs (NPC) from the NPC Baseline: PAC/400, Staples/49 states "the proposed change in market caps in the 2022 TAM provides a more plausible driver to reduced coal generation." To better understand PacifiCorp's statement, please provide the following:

(a) For coal costs, please provide an updated figure for the 2022 TAM reduction in coal costs compared to the 2021 TAM (PAC/100, Webb/18 provides $114 million total-company reduction, PAC/403, Staples/I offsets this amount with $1 .5 million Oregon-allocated increase).

(b) Please explain what amount or percentage of 2022 coal cost reduction is due to the change in market caps.

(c) For market sales, please expand the data in Figures 4 and 5 to include the Forecast Short-Term Sales (MWh) and ($) for 2021 and 2022. *See* Eratta PAC/400, Staples/23-24.

(d) Please identify the amount or percentage of removed sales from 2021 to 2022 that GRID models as coal-fueled.

Response to ALJ Bench Request 4

(a) Please refer to Confidential Attachment ALJ Bench Request 4, specifically tab "Subpart a." Note: the updated total reduction in coal fuel expense is $106 million. That will not reconcile to the $114 million reduction in the direct filing coupled with the $1.5 million offsetting increase presented in Exhibit PAC/403 (2022 Updates Summary Reply Filing), Staples/1. The reason is because Exhibit PAC/403 measures each of the updates from the direct testimony filing to the update/reply filing in isolation from one another. The coal fuel price updates alone increased coal expense by $1.5 million, but the remaining items also impacted coal expense, resulting in the net $106 million decrease from the prior year.

(b) Please refer to Confidential Attachment ALJ Bench Request 4, specifically tab "Subpart b." Note: the impact assessment presented is a comparison of 2022 coal expenses and consumption under each of the market cap methodologies because a material portion of the year-on-year change to coal expense is attributable to differences in coal prices, market prices, renewable generation, etc. between 2021 and 2022. However, the comparison shows that application of average-of-averages market caps reduced coal expense by approximately $10.9 million, accounting for approximately ten percent of the overall reduction described in subpart (a) of this request. Please also note that when measuring the impacts of two different updates that affect the same line item (e.g., coal generation), the order in which the impacts are measured can distort the measured impact of each. In this case, when the market caps' impact was measured, coal cycling was already in the net power costs (NPC) forecast submitted with direct testimony (which formed the base against which the consumption volumes using maximum-of-average market caps was compared in the attachment), meaning that this estimate is likely to slightly understate the impact of the proposed market cap methodology change.

(c) Please refer to Confidential Attachment ALJ Bench Request 4, specifically tab "Subpart c." Note: Actual net power costs are not yet available for either of the two requested years, so only the forecast portion has been updated to reflect data for 2021 and 2022. Please also note that the response includes a 2022 forecast using both the average-of-averages method and the maximum-of-averages method to facilitate comparison.

(d) Please refer to the Company's response to subpart (b) above. The best estimate of the decrease in coal-fueled generation from 2021 to 2022 resulting from application of average-of-averages market caps is based on a comparison of coal generation with and without the proposed change to market caps in this proceeding, which shows a decrease at all coal generation facilities. The remainder of the year-on-year change in coal generation is attributable to numerous factors, including (but not limited to) increased renewable generation, changes in load, changes in market prices, changes in unit availabilities and characteristics, new and expiring contracts, etc. There is no mechanism by which those various overlapping drivers can be disentangled in a manner that would allow the Company to make a more precise estimate.

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THE ATTACHMENT IS CONFIDENTIAL IN ITS ENTIREY

ALJ Bench Request 5

Historical Modeling Information for Huntington:

In the 2017 and 2018 TAMs, PacifiCorp explained which, if any, coal plants required adjustments to account for minimum take requirements. See UE 307, PAC/500, Ralston/33 and UE 323, PAC/200, Ralston/15. In the 2022 TAM, Staff/702, Anderson/5 (OPUC Data Request 66) shows that Colstrip, Hayden, and Huntington required adjustments to account for minimum take requirements. The magnitude of the adjustments are shown in Staff/702, Anderson/12-13 (OPUC Data Request 162 and 163). Please provide this type of information about Huntington's modeling from the 2019, 2020 and 2021 TAMs:

(a) Narrative response as to whether adjustments were required in the initial 2019, 2020, or 2021 TAM filings to account for Huntington's minimum take requirement.

(b) If an adjustment was required, please describe the magnitude of the adjustment in MWh.

(c) Please describe Huntington's dispatch tier prices and costing tier prices from the 2017 TAM to the 2022 TAM.

Confidential Response to ALJ Bench Request 5

(a) In PacifiCorp's 2019 transition adjustment mechanism (TAM) (docket UE 339), 2020 TAM (docket UE 356), and 2021 TAM (docket UE 375) there were adjustments made to Huntington's dispatch tier price in order to align forecasted consumption with the supply curve at that facility. Please refer to Confidential Attachment ALJ Bench Request 5 for further details.

As further explanation, PacifiCorp uses an iterative process because GRID cannot accept multiple pricing tiers. If a coal supply agreement (CSA) has multiple pricing tiers, PacifiCorp must use as the initial input to the Generation and Regulation Initiative Decision Tool (GRID) the best incremental price. But if the results are substantially off the supply curve (i.e., the volume consumed does not match the price for the volume consumed), then PacifiCorp must use this iterative process to develop a dispatch price that will optimize the CSA's supply curve and minimize net power costs (NPC). When the iterative process results in a lower dispatch price in order to ensure that the plant meets its minimum take (as was the case at Huntington), that solution is least-cost for customers because the minimum take obligation is a sunk cost that cannot be avoided.

The Huntington coal supply agreement (CSA) was executed in 2014 and found prudent by the Commission in the 2017 TAM (Order No. 16-482). The

CSA supply curve consists of two tiers. The first tier is the minimum take quantity at a specific price. The second tier are quantities in excess of the first tier at a reduced price when compared to the first tier. The cost to dispatch the first tier is zero dollars per MWh because the minimum take volumes represent a sunk cost that cannot be avoided, so if that price is used for dispatch in the model, it will most likely result in over generation and an outcome that deviates from the supply curve. In the case of the Huntington CSA, if the second tier price is used for dispatch, and the first tier minimum volumes are not met, the resulting outcome also deviates from the supply curve. By not meeting the minimum requirements, customers are harmed by not receiving the benefit of the generation that they have already paid for. As an example of how this manifests in the Company's NPC forecast, the minimum take level for 2022 is [redacted] and the forecasted consumption after adjustment of the incremental price is [redacted].

Therefore, when modeling NPC, the second tier price is used as the starting point to develop the dispatch price. If the second tier price does not result in the minimum volumes being met, then the iterative process will arrive at a dispatch price above zero, but below the second tier price which will result in the first tier minimum quantities of coal being optimized during the 8760 hours in the forecast period. The goal is not solely to meet the minimum take quantities, but also to optimize the coal dispatch in a manner that will produce the lowest possible NPC for customers.

(b) As stated in OPUC Data Request 66, the iterative runs are not processed into reports that can be provided because the net power costs are both preliminary and incomplete (only the annual fuel consumption totals are evaluated). Typically, there are somewhere between five and 20 iterative runs, given that the goal is to achieve a forecasted fuel consumption very close to the minimum purchase obligation at several plants, and that there is a certain amount of switching between units that has to be accounted for when adjusting the prices. Since the reporting that was created for OPUC Data Request 162 and 163 was not requested in the 2019, 2020, and 2021 TAM proceedings, that information is not readily available.

(c) Please refer to Confidential Attachment ALJ Bench Request 5, which also includes the costing tier prices for Huntington as included in the following TAM dockets – 2017 TAM (docket UE 307), 2018 TAM (docket UE 323) 2019 TAM (docket UE 339), 2020 TAM (docket UE 356), 2021 TAM (docket UE 375), and 2022 TAM (docket UE 390).

Please refer to the Company's response to subpart (a) of this request for a description and explanation of dispatch tier pricing. 2017 and 2018 incremental prices required no adjustment to align consumption with costs, but subsequent years required adjustments of varying sizes, with 2022 requiring a relatively small decrease to the dispatch tier price in order to minimize NPC, despite the changes to coal unit cycling and market caps, both of which reduce coal generation.

The costing tier price is the total cost of the coal consumed divided by the total volumes of the coal consumed considering the coal prices in the CSA. The average cost of generation for Huntington in the 2022 TAM is [redacted]. This compares favorably to the average price of natural gas generation in the 2022 TAM of [redacted].

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Huntington Incremental Price ($/MMBtu)	[redacted]
Huntington Dispatch Tier Price ($/MMBtu)	
Huntington Costing Tier Price ($/MMBtu)	

CERTIFICATE OF SERVICE

I certify that I delivered a true and correct copy of PacifiCorp's **Responses to Bench Requests 1-5** on the parties listed below via electronic mail and/or or overnight delivery in compliance with OAR 860-001-0180.

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UE 390

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Dated this 17th day of September, 2021.

Kaley McNay
Coordinator, Regulatory Operations