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February 18, 2022

***VIA ELECTRONIC FILING***

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

Attn: Filing Center

**RE: UM 2193—Response to ALJ Bench Requests 1 through 4**

Pursuant to Administrative Law Judge (ALJ) Rowe's and ALJ Mapes' Ruling of February 4, 2022, enclosed for filing in this docket are the Responses to ALJ Bench Request Nos. 1 through 4. Also provided via encryption is Confidential Response Bench Request 1. Confidential information is designated as Protected Information under the protective order in this proceeding and may only be disclosed to qualified persons as defined in that order.

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

Sincerely,

A handwritten signature in blue ink that reads "Shelley McCoy".

Shelley McCoy  
Director, Regulation

Enclosures

UM 2193 / PacifiCorp  
February 18, 2022  
ALJ Bench Request 1

**ALJ Bench Request 1**

Please provide the capital cost estimates for each of the three 2026 transmission upgrades listed in Appendix H-2 (615 MW in Willamette Valley, 2080 MW in Portland North Coast, 600 MW on B2H).

**Confidential Response to ALJ Bench Request 1**

Referencing PacifiCorp's Final Draft 2022 All Source Request for Proposals (2022AS RFP (and specifically Appendix H-2 (2021 PacifiCorp IRP Preferred Portfolio Proxy Resource Selections))) document, filed with the Public Utility Commission of Oregon (OPUC) on January 14, 2022, the Company responds as follows:

The table in Appendix H-2 reports three resource selections in-service by December 31, 2025, including Portland North Coast Wind (130 megawatts (MW)), Willamette wind (615 MW) and Borah solar with battery (600 MW). Each of these resource selections is enabled by transmission options, with estimated capital costs as follows:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Confidential information is designated as Protected Information under the protective order in this proceeding and may only be disclosed to qualified persons as defined in that order.

## **ALJ Bench Request 2**

In the last Request for Proposal (RFP), the capital costs of Gateway South were not shown in the interconnecting projects' system impact studies or cluster reports. For each of the three transmission upgrades listed in Appendix H-2, what amount of capital costs from Question 1 will be or have been excluded from projects' cost estimates provided in the Cluster Study Reports?

## **Response to ALJ Bench Request 2**

The Company assumes that the reference to “Question 1” is a reference to ALJ Bench Request 1. The Company further assumes that the reference to “the last Request for Proposal” is intended to be a reference to PacifiCorp’s 2020 All Source Request for Proposals (2020AS RFP), Docket UM 2059. Based on the foregoing assumptions, the Company responds as follows:

Referencing PacifiCorp’s Final Draft 2022AS RFP document (and specifically Appendix H-2 (2021 PacifiCorp IRP Preferred Portfolio Proxy Resource Selections)), filed with the Public Utility Commission of Oregon (OPUC) on January 14, 2022, the Company responds as follows:

None of the costs listed in the Company’s response to ALJ Bench Request 1 are included in the individual RFP bid costs. The listed transmission option costs are considered and reported independently. However, these transmission options enable the associated resources, without which the PLEXOS model would be unlikely to identify sufficient value to justify building the transmission. In short, the resources need the transmission in order to be useful and the transmission needs the resources in order to be cost-effective.

### **ALJ Bench Request 3**

While the Excel file associated with Appendix H-3 of the draft RFP provides an overview of PacifiCorp Transmission's contractual commitments, the following questions seek information that is more up-to-date and specific to the 2026 transmission upgrades listed in Appendix H-2 (615 MW in Willamette Valley, 2080 MW in Portland North Coast, 600 MW on B2H).

- (a) Please provide a list of all projects with executed LGIAs that will interconnect to the 2026 transmission upgrades listed in Appendix H-2.
- (b) Please provide a list of all projects with facilities studies or draft LGIAs that may have rights on the 2026 upgrades.
- (c) Please provide a list of any other projects that have interconnection rights on the transmission upgrades listed in Appendix H-2 that PacifiCorp Transmission would fulfill prior to other potential customers that participate in the 2022 Cluster Study.

### **Response to ALJ Bench Request 3**

Referencing PacifiCorp's Final Draft 2022AS RFP document (and specifically Appendix H-2 (2021 PacifiCorp IRP Preferred Portfolio Proxy Resource Selections) and Appendix H-3 (Transmission Summary of OASIS Queue Positions)), filed with the Public Utility Commission of Oregon (OPUC) on January 14, 2022, the Company responds as follows:

- (a) There are currently no projects with executed Large Generator Interconnection Agreements (LGIA) that will interconnect to the 2026 transmission upgrades as listed in Appendix H-2.
- (b) The only project that has proceeded to a facilities study that would interconnect to one of the specified locations is C1-20 from the 2021 Cluster Study group.
- (c) There are no other projects that have interconnection rights on the transmission upgrades listed in Appendix H-2 that PacifiCorp Transmission would fulfill prior to other potential customers that participate in the 2022 Cluster Study.

#### **ALJ Bench Request 4**

The draft RFP at page 37 states that PLEXOS will calculate the relative system costs and benefits of every bid and will generate a value stream specific to each bid that will then be used to calculate a price score.

- (a) Please provide a narrative description of whether transmission constraints create economic congestion costs in PLEXOS that impact locational marginal pricing.
- (b) Please explain whether the congestion costs are large enough to impact the portfolios that PLEXOS selects.
- (c) Please explain whether the 2026 transmission upgrades listed in Appendix H-2 will reduce or otherwise impact congestion.
- (d) Please provide a map or list of PacifiCorp's transmission constraint locations that cause congestion costs.

#### **Response to ALJ Bench Request 4**

Referencing PacifiCorp's Final Draft 2022AS RFP document (and specifically Appendix H-2 (2021 PacifiCorp IRP Preferred Portfolio Proxy Resource Selections)), filed with the Public Utility Commission of Oregon on January 14, 2022, the Company responds as follows:

- (a) The impacts of transmission constraints are part of PLEXOS model functionality and are inherently considered in optimizing the selection of portfolios, transmission options, retirements, dispatch, unit commitment, market purchases and sales, meeting load, etc. Transmission constraints can impact locational marginal pricing to the extent that in any given hour the constraint is 'binding' - in other words, in any hour where the model would have taken a different action but for the constraint.
- (b) "Congestion costs" are the result of all impacted factors in any or all model periods, including impacts given in the examples in the Company's response to subpart (a) above. For example, to the extent that constrained transmission suppresses dispatch of a particular resource in a particular hour, PLEXOS reporting will show that resource with lower dispatch, lower fuel costs, etc. Another resource at a different location will show a higher dispatch to the extent that one is available to meet the need, whether it be load, reserves or market related. These "congestion costs" are not model inputs, but are rather the consequences of inputs and constraints. As with any other inputs and constraints, transmission constraints are expected to impact the selection of portfolios.
- (c) The transmission upgrades will reduce congestion. Each of the transmission upgrades includes interconnection limits and transmission limits, and will reduce congestion in

hours where additional resource dispatch is less than the available output of the added resources. For example, Boardman-to-Hemingway (B2H) adds 600 megawatts (MW) of incremental transmission capability. 600 MW of additional renewables with storage are enabled by this transmission. These resources do not have a 100 percent capacity factor (CF) in all hours and in fact have a relatively low CF (enhanced by four-hour battery storage). During any hour when storage is being filled by these resources or the resource plus storage generation is not used or available at full capacity (such as solar at any hour except for peak solar radiance), there will be excess transmission capacity available for use. In practice, there will be excess transmission capacity to relieve congestion in most hours.

- (d) The Company has not performed the requested analysis to determine the hours and paths that are specifically congested. Any transmission path that is not unlimited implies there will be hours where congestion costs could occur. Given that the model would produce a lower cost outcome if there were no transmission constraints, any transmission path in full use in any given hour implies that a congestion cost is likely occurring, whether due to constrained market activity, increased costs to meet load or reserves, forced generation curtailments, etc. Please refer to the Company's responses to subparts (a) through (c) above.

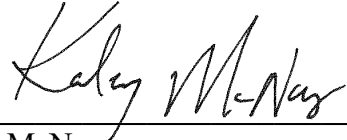
## CERTIFICATE OF SERVICE

I certify that I served a true and correct copy of PacifiCorp's Responses to Bench Requests 1-4 on the parties listed below via electronic mail and/or overnight delivery in compliance with OAR 860-001-0180.

### Service List UM 2193

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Dated this 18<sup>th</sup> day of February, 2021.

A handwritten signature in cursive script that reads "Kaley McNay". The signature is written in black ink and is positioned above a horizontal line.

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Kaley McNay  
Coordinator, Regulatory Operations