

## 2023 IRP – Docket No. 23-035-10

### UAE Questions for October 24, 2023 Tech. Conf.

1. **IRP Modeling Process.** During the public input process for the 2023 IRP, PacifiCorp did not provide the results of any portfolio modeling runs until it filed the preliminary IRP on March 31, 2023. Please explain why portfolio modeling results were not shared prior to this point.

2. **Plexos Modeling and Portfolio Evaluation.** Chapter 8 of the 2023 IRP discusses the use of the Plexos models (LT, MT, ST) to create resource portfolios. Please discuss the following:

- a. Initial Portfolios (p. 241-242). On page 242, the IRP states that “All initial portfolios consider variations in retirement timing, the impact of regional haze compliance operating limits and options for gas conversion or CCUS retrofit for certain units. The initial portfolios differ based on planning assumptions around coal unit retirement options and retirement timing.”
  - i. How many initial portfolios are created and how do they differ from each other?
  - ii. Please explain how the Company uses the initial portfolios to create the P-series portfolios. The description in the IRP is not always clear. For example, Table 8.11 indicates that the initial portfolios are “optimized” for coal and gas retirements, but later the IRP asserts that the P-series portfolios are optimized for coal and gas retirements.
- b. Variants (p. 243-246). Please explain what is meant by the statement on page 243 that each variant “begins with inputs and assumptions identical to the preferred portfolio (P-MM).” Each variant introduces a new assumption or set of assumptions. Was the model allowed to create a new portfolio with that assumption, or is the variant being used to test the cost of the P-MM portfolio if the variant’s assumption occurs?
- c. Adjustments. Please explain how and when granularity adjustments and reliability adjustments are calculated and applied.
- d. Spanning Conditions (p. 231-232). Please explain spanning conditions and provide examples of spanning conditions used in modeling.
- a. ST Model Run. On page 232 the IRP states “The ST model is then run again with the modified portfolio to calculate an initial PVRR which is risk-adjust by outcomes of MT model stochastics.”
  - i. If not explained in item “a” above, explain this ST run
  - ii. Is this ST model run for all scenarios?
  - iii. Are the results of this ST run published?

3. **Ozone Transport Rule.** The 2023 IRP Preferred Portfolio assumes the enforceability of the Ozone Transport Rule (“OTR”) requirements in Utah. In July, a court enjoined the EPA from enforcing those requirements (at least for now).

- a. Does the Company have a sense as to how the preferred portfolio would change generally if the model were to assume that the OTR does not apply to Utah?
- b. What, if anything, is being done regarding SNCR procurement at Hunter & Huntington?

4. **Ozone Transport Rule.** The 2023 IRP describes on variant that assumes that Wyoming would not be subject to the OTR (P09-No WY OTR). The IRP filing states that “[t]his variant does not change resource selections from that assumed in the preferred portfolio, but instead removes the federal Ozone Transport Rule (OTR) compliance obligation for thermal resources located in the state of Wyoming.” [2023 IRP Vol. I at 280]. In response to a stakeholder feedback question, the Company stated that this sensitivity “required the model to keep the same selections as the preferred portfolio but evaluated the cost of said portfolio under the assumption that Wyoming would not be subject to OTR rules.” [See 2023.048. JDRS Law 4-28-23 (with response)].

- a. What was the purpose of this variant?
- b. Did the Company run a variant or sensitivity that assumed Wyoming would not be subject to the OTR but also allowed the model to select different resources than those selected in the preferred portfolio?
  - i. If so, why was that variant or sensitivity not included in the IRP?
  - ii. If not, why not?

5. **Hunter Plant Retirement.** The preferred portfolio proposes to accelerate the retirement of the Hunter plant from prior IRPs. The Company indicated in response to a stakeholder feedback question that “in general, agreement with co-owners is required to retire a unit,” and that it “will work with the co-owners of the Hunter units to coordinate retirement of any unit.” [See 2023.048. JDRS Law 4-28-23 (with response)]. Please provide an update on the Company’s efforts to work with the co-owners on this issue.

6. **Transmission.** In response to a stakeholder feedback form, PacifiCorp indicated that the Shirley Basin – Anticline 500 kV transmission line, which had formerly been identified as a network upgrade in interconnection studies, was included in PacifiCorp’s long-term transmission plan in Q3 of 2022. [See 2023.048. JDRS Law 4-28-23 (with response)].

- a. Can the Company explain how PacifiCorp makes decisions about whether a project that has been identified as a network upgrade (where construction costs are imposed on the interconnection customer) should be included in the Company’s long-term transmission plan (where construction costs are borne by the Company and then reimbursed by ratepayers)?

7. **Advanced Nuclear Plants.** In response to a stakeholder feedback question regarding risks associated with the addition of nuclear generation plants, the Company stated that “[r]isks related to delay in the nuclear project and cost overruns are a separate consideration of project risk. This has not been analyzed or included in the results. The company intends to mitigate the risk of project delays and cost overruns through contracts yet to be assigned to protect customers and stakeholders.” [See 2023.048. JDRS Law 4-28-23 (with response)]

- a. Please elaborate on the types of “contracts yet to be assigned” referred to in this response. Does this refer to contracts for the construction for the nuclear plant(s), contracts for market purchases, contracts for other generation resources, some combination of these two, or something else?
- b. Does the Company model risks related to delays or cost overruns with respect to any other generation resources?
  - i. If not, why not?
  - ii. Is it too speculative to include such risks in a risk assessment or is there some other reason?

8. **Advanced Nuclear Projects.** Figure 1.6 of the IRP filing shows how the Company’s plans regarding advanced nuclear reactors have changed from the 2021 IRP to the 2023 IRP. In the 2021 IRP, the Natrium demonstration project was planned to be placed in service by 2028 and to run for approximately 10 years before the next such advanced nuclear reactor was added. This timing allowed for the completion of that project and for the Company to gain significant operational experience with it before committing to additional advanced nuclear projects. The 2023 IRP preferred portfolio does not include the same sort of ramp-up period. Compared to the 2021 IRP, the 2023 IRP delays the start of the first plant to 2030 and advances the remaining two plants to start in 2032 and 2033.

- a. When would the Company need to commit to construct the first Natrium plant in order for it to achieve COD by summer of 2030?
  - i. What is the estimated time to construct the Natrium plant and to place it in service?
  - ii. Are there any other timing requirements
- b. Would the Company need to commit to construct the second and/or third advanced nuclear plant prior to COD of the first plant in order to achieve a 2032 or 2033 COD?

9. **Treatment of ITC for storage and standalone solar resources.** In a data request, Sierra club asks “why tax credits are not included for the storage and standalone solar resources” in the IRP Supply Side Resource Tables (IRP Tables 7.1 & 7.2). PacifiCorp responds as follows: “Not including tax credits for storage and standalone solar resources was an oversight as storage would receive investment tax credit (ITC) benefits and standalone solar would receive production tax credit (PTC) benefits” but asserts that “these tax credits were included in the PLEXOS model for these proxy resources, where tax credits were allowed through 2037.”<sup>1</sup>

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<sup>1</sup> See PacifiCorp response to Sierra Club data request 11(a) in Oregon PUC Docket No. LC 82, produced in response to Sierra Club’s first set of data requests in this docket (Attach Sierra Club 1.1-1 1st Supp).

- a. Please clarify how the ITC is applied to IRP resources in Plexos
- b. How would IRP Tables 7.1 & 7.2 (Supply-Side Resource Tables) change if the ITC for storage and stand-alone solar resources was represented in them?
- c. Are there any other instances where IRP Tables 7.1 & 7.2 are different from Plexos input assumptions?

10. **Capacity contribution.** In response to a data request from Renewable Northwest (RNW), the Company states “Capacity contribution analysis is very modeling intensive and there was insufficient time to complete it between the development of the preferred portfolio and the publishing of PacifiCorp’s 2023 IRP. PacifiCorp expects to perform this analysis in the future.”<sup>2</sup>

- a. Will this analysis be completed for the 2023 IRP?
- b. When will this analysis be completed?
- c. How will this information be published to interested parties?

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<sup>2</sup> See PacifiCorp response to RNW data request 2.3(a) in Oregon PUC Docket No. LC 82, produced in response to OCS’ first set of data requests in this docket (Attach OCS 1.2 4th SUPP).