

PacifiCorp - Stakeholder Feedback Form

2023 Integrated Resource Plan

PacifiCorp (the Company) requests that stakeholders provide feedback to the Company upon the conclusion of each public input meeting and/or stakeholder conference calls, as scheduled. PacifiCorp values the input of its active and engaged stakeholder group, and stakeholder feedback is critical to the IRP public input process. PacifiCorp requests that stakeholders provide comments using this form, which will allow the Company to more easily review and summarize comments by topic and to readily identify specific recommendations, if any, being provided. Information collected will be used to better inform issues included in the 2023 IRP, including, but not limited to the process, assumptions, and analysis. In order to maintain open communication and provide the broader Stakeholder community with useful information, the Company will generally post all appropriate feedback on the IRP website unless you request otherwise, below.

Date of Submittal 2023-04-28

*Name: Phillip Russell

Title: _____

*E-mail: prussell@jdrslaw.com

Phone: _____

*Organization: Utah Association of Energy Users

Address: _____

City: _____

State: _____

Zip: _____

Public Meeting Date comments address: 04-13-2023

Check here if not related to specific meeting

List additional organization attendees at cited meeting: _____

***IRP Topic(s) and/or Agenda Items:** List the specific topics that are being addressed in your comments.

Preliminary 2023 IRP Filing (various questions)

Check here if you do **not** want your Stakeholder feedback and accompanying materials posted to the IRP website.

***Respondent Comment:** Please provide your feedback for each IRP topic listed above.

(1) On page 271 of the 2023 IRP March 31 filing, the IRP filing states: "Through 2042, the PVRR(d) shows that the portfolio without nuclear projects is \$1.65 billion higher cost than the P1-MM portfolio. On a risk-adjusted basis, which factors in the risk associated with low probability, high-cost events through stochastic simulations, the portfolio without nuclear resources is \$1.90 million higher cost than the P-MM portfolio." Should this say that, "on a risk-adjusted basis . . . the portfolio without nuclear resources is \$1.90 billion higher cost than the P-MM portfolio"? Either way, what risks have you assumed in the risk-adjusted basis?

(2) Have you factored in the risk that the nuclear projects in P1-MM will not be in service at the anticipated times? Have you factored on the risk that the advanced nuclear projects in P1-MM will have higher up-front and/or ongoing costs?

(2) The data discs filed with the Utah Public Service Commission on April 17, 2023 do not include back-up information that provide the detail behind the chart in Figure 9.54. Is this information considered confidential? What is the source of the information included in Figure 9.54 and will PacifiCorp produce it to stakeholders?

(3) During the April 13, 2023 public input meeting Rick Vail of PacifiCorp indicated that Sub-Segment D2.2 had initially been included as Network Upgrades in various interconnection studies, but was subsequently included in PacifiCorp's long-term transmission plan after studies related to the project were completed. When was Sub-Segment D2.2 included in PacifiCorp's long-term transmission plans?

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(4) Figure 1.6 of the March 31, 2023 filing shows how PacifiCorp's plans regarding non-emitting peakers have changed from the 2021 IRP to the 2023 IRP. (2) In the 2021 IRP, the first non-emitting peakers were planned to be placed in service by 2033 and to run for approximately 5 years before additional non-emitting peakers were to be added. This timing allowed for the completion of and significant operational experience with the first project before committing to additional such projects. The March 31, 2023 filing preferred portfolio advances the date of the first non-emitting peakers to 2030 and adds additional non-emitting peakers in short succession thereafter in 2032 and 2033. This timing means that PacifiCorp will likely need to commit to the second and third non-emitting peaker projects before the first is placed in service. How has PacifiCorp factored in the additional risks associated with the schedule contemplated in the 2023 IRP that relies on brand-new non-emitting peaker technology without providing time to determine whether it will be on-time, on-budget, or operate as intended? (3) Does the IRP inform PacifiCorp of the cheapest alternative if it ultimately determines not to proceed with any of the non-emitting peaker projects? (4) Have there been any interconnection cluster studies or facilities studies associated with a non-emitting peaker project? If so, please identify them. Does any study support a 2030 commercial operation date for a non-emitting peaker?

(5) Figure 1.6 of the March 31, 2023 filing shows how PacifiCorp's plans regarding advanced nuclear reactors have changed from the 2021 IRP to the 2023 IRP. In past planning cycles, 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 and significant operational experience with the first project before committing to additional such projects. The delays in connection with the first Natrium plant, coupled with the advancement in time of the additional advanced nuclear reactor projects means that PacifiCorp will likely need to commit to the second and third projects before the first is placed in service. How has PacifiCorp factored in the additional risks associated with the schedule contemplated in the 2023 IRP that relies on brand-new advanced nuclear technology without providing time to determine whether it will be on-time, on-budget, or operate as intended? (2) Does the IRP inform PacifiCorp of the cheapest alternative if it ultimately determines not to proceed with any of the Natrium projects? (3) The 2023 IRP filing asserts that the Natrium demonstration project is scheduled to come online by summer of 2030. Have there been any interconnection cluster studies or facilities studies associated with that project? If so, please identify them. Do those studies support a summer 2030 commercial operation date?

(6) The March 31, 2023 IRP filing addresses variant P09, and states the following on page 276: "This 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." Please explain what is meant by the statement that "this variant does not change resource selections from that assumed in the preferred portfolio." Does this mean that (A) PacifiCorp required the model to retain the resource selections from the preferred portfolio when running this variant, or does it mean that (B) PacifiCorp allowed the model to change the resource selections but that the model selected the same resources as the preferred portfolio, or (C) something else. (2) Figure 9.17 shows that EPA's decision not to include Wyoming in the OTR would result in significant savings for emissions. Is this just savings on not having to build NOx reduction equipment at Wyoming plants? What is included in emissions in the chart on the left in Figure 9.17? What explains the increase in emissions costs in some years in the chart on the left in Figure 9.17? What explains the decrease in emissions costs in other years? (3) Figure 9.17 shows that EPA's decision not to include Wyoming in the OTR would result in significant savings for market transactions. Is this just savings realized from not having to curtail coal plant operations during the ozone season in this scenario (and, therefore, not having to purchase market power to replace the curtailed coal plant power)?

(7) In the April 13, 2023 public input meeting, a PacifiCorp representative indicated that P06 had been modeled incorrectly in the March 31, 2023 IRP filing because it was

* Required fields

intended to (but did not) exclude all non-emitting peakers. As presented in the March 31 filing, is the only difference between P06 and P1-MM that P06 forbids the model from selecting advanced nuclear reactor projects (like Natrium)? Are all other assumptions and model inputs the same between the two portfolios? (2) Is there a portfolio in the 2023 IRP filing that just allows the model NOT to choose advanced nuclear and replace it with whatever it wants? (Note that this differs from P05 in that P05 required replacement with non-emitting peakers, and this run allows the model to select replacement resources). (3) If not, could PacifiCorp please produce a model run that varies from the preferred portfolio by excluding all advanced nuclear reactor projects.

(8) During the April 13, 2023 public input meeting, a representative of one of the co-owners of the Hunter generating units plant indicated that it had not received any outreach regarding PacifiCorp's plans to accelerate the retirement of the Hunter units. What outreach is PacifiCorp obligated to make pursuant to the co-ownership agreements related to Hunter? Does PacifiCorp require the consent of other owners to retire those units consistent with the timelines in the 2023 IRP?

(9) In Figure 9.9, what accounts for the increase in demand response in 2024 from not building nuclear plants in 2030, 2031 and 2033? Why would replacing nuclear in the 2030s with something else cause an increase in capacity needs (or solutions) in 2024? (2) Neither the Natrium advanced nuclear reactor nor any non-emitting peakers are included in the supply-side resource table. Please identify the assumptions used for costs (both capital costs and ongoing variable and fuel costs) and operating characteristics of each to reach the conclusions in Figures 9.9 and 9.10. (3) On Page 270 the IRP filing states: "CGas plants at the Naughton site were assumed to continue operation to backfill the Natrium project during any outages, and in a no Natrium scenario are relied upon more heavily." The charts in this Chapter show capacity additions (and subtractions), but is there any chart or other data source in the IRP filing that shows the magnitude of the increased or decreased use of existing capacity (such as the Naughton gas plant in this scenario)?

Data Support: If applicable, provide any documents, hyper-links, etc. in support of comments. (i.e. gas forecast is too high - this forecast from EIA is more appropriate). If electronic attachments are provided with your comments, please list those attachment names here.

Recommendations: Provide any additional recommendations if not included above - specificity is greatly appreciated.

PacifiCorp Response (6/26/23):

1.) The risk adjusted stochastic results consider changes to loads, electric and gas prices, thermal outages and hydro generation. Increase in the Risk adjusted PVRR less ST PVRR are driven by reliability not covered by replacement resources. Risks 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 signed to protect customers and stakeholders.

2.) The supporting workpaper formerly Figure 9.54 Projected Energy Mix with Preferred Portfolio Resources (2023 IRP March 31 Filing) is revised to Figure 9.61 – Projected Energy Mix with Preferred Portfolio Resources is provided with confidential workpapers in chapter 9 filed on June 14, 2023, for the 2023 Amended IRP.

3.) The line segment in question is not called sub-segment D2.2. That naming convention is associated with our Energy Gateway transmission projects. It should be referred to as the Anticline-Shirley Basin 500 kV transmission line and as of today, that transmission line is in PacifiCorp's long term transmission plan. This determination was made in approximately Q3 of 2022.

* Required fields

4.) Similar to the response regarding nuclear projects, feasibility risks related to non-emitting peakers are evaluated in the P06 case - No Forward Technology. This study provides a clearer view of alternatives to non-emitting peakers. Cluster study results have been published and are available for public review. These published results include technology type. For PacifiCorp's interconnection study results, please go to <http://www.oatioasis.com/ppw/> and select the "Generation Interconnection" folder in the left-hand sidebar.

5.) The 2023 Amended IRP includes a P05 No-Nuclear study described on page 244 of Volume I, with results in Chapter 9 – Modeling and Portfolio Selection. This variant explores the possibility that both the demonstration and other nuclear projects will not be viable. This study shows the costs and risks associated with a future that relies on higher levels of renewables, peaking units and long duration battery. [2023 IRP Volume I Final 5-31-23.pdf \(pacificorp.com\)](#)

6.) This study 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.

2 - These savings are NOT related to any change in equipment, but rather with associated emission costs related to the OTR (including allowance purchases, fees for violations, sales allowances etc.). Emission costs under a regime where there is no OTR cost to Wyoming fluctuate due to the costs of other emission types that would be assigned based on differing Wyoming Coal dispatch in the model.

3 - The NET market savings is not only related to purchases, but also sales. In this case, not only are there lower purchases, but also significantly higher market sales (driven by higher coal generation and total emissions).

7.) The P06 No Forward Tech study was set up to not allow nuclear to be selected in the LT Initial study but mistakenly did allow non-emitting peakers to be selected in the 2023 IRP March 31 filing. Removing non-emitting peaking resources from selection is the only change to the P06 study setup. See Figure 9.11 – Increase/(Decrease) in Proxy Resources when all Future Technology is Eliminated from the P-MM Portfolio. Page 272 provides the change to the portfolio compared to P-MM. P05 provides a 'no nuclear' study, but which does allow non-emitting peaking technology. No additional studies were planned to be run to remove nuclear. Here is the 2023 IRP [March 31, 2023, document for reference: 2023 IRP Volume I.pdf \(pacificorp.com\)](#)

8.) PacifiCorp will work with the co-owners of the Hunter units to coordinate retirement of any unit. The co-ownership agreements differ between units, but in general, agreement with co-owners is required to retire a unit. There is no requirement for outreach to co-owners prior to modeling the most prudent retirement date to pursue as part of long-term planning on behalf of PacifiCorp customers.

9.) The demand response increase in years prior to the nuclear removal is a Plexos optimization outcome and is based on the economics of accelerating these resources under differing conditions.

2 - The Sodium nuclear demonstration project is not included in the supply-side resource table due to the unique and confidential nature of the project. Proxy nuclear resources are represented in the supply-side resource table. Non-emitting peakers are included in the supply-side resource table as a class of competing resource technology; please refer to page 181-182 for non-emitting peaker (SCCT Frame "J" X1, 100H2) and Nuclear (Small Modular Reactor x 12). [2023 IRP Volume I Final 5-31-23.pdf \(pacificorp.com\)](#)

3 - Specific unit characteristics are included in the confidential data disk filed June 14 for the 2023 Amended IRP. Please refer to the relevant study reports.

Please submit your completed Stakeholder Feedback Form via email to IRP@PacifiCorp.com

Thank you for participating.

* Required fields