

PacifiCorp - Stakeholder Feedback Form

2019 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 2019 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 4/24/2019

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Public Meeting Date comments address: 3/21/2019

Check here if not related to specific meeting

List additional organization attendees at cited meeting:

[Click here to enter text.](#)

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

Coal Studies

Check here if any of the following information being submitted is copyrighted or confidential.

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.

Coal Studies

PacifiCorp has explained that savings can be realized through reduced costs for run-rate maintenance, run-rate capital, fuel, and emissions.¹ There is potential for net benefits if replacement costs, and their impact on system operations, is lower than cost savings from the retired facility.

Question 1: Please explain what “run-rate” means and what type of expenses are typically included?

PacifiCorp Response:

1. Run-rate expenditures consist of all on-going/recurring costs needed to operate and maintain a thermal unit and includes operations and maintenance costs and on-going capital expenditures. These costs exclude the initial capital investment required to place an asset in service and excludes unusual or one-time projects, such as major environmental retrofit costs. However, inasmuch as “one-time” major environmental costs can be avoided with an early retirement, these costs are factored into the company’s economic analysis. Typical run-rate costs include:

¹ Please see PacifiCorp’s response to Questions 8 and 14 of the City of Kemmerer feedback form at http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2019_IRP/Comment_Responses/PacifiCorp_Response_2019_IRP_Feedback_Form_Kemmerer_Coal_Analysis_0_1-16.pdf

* Required fields

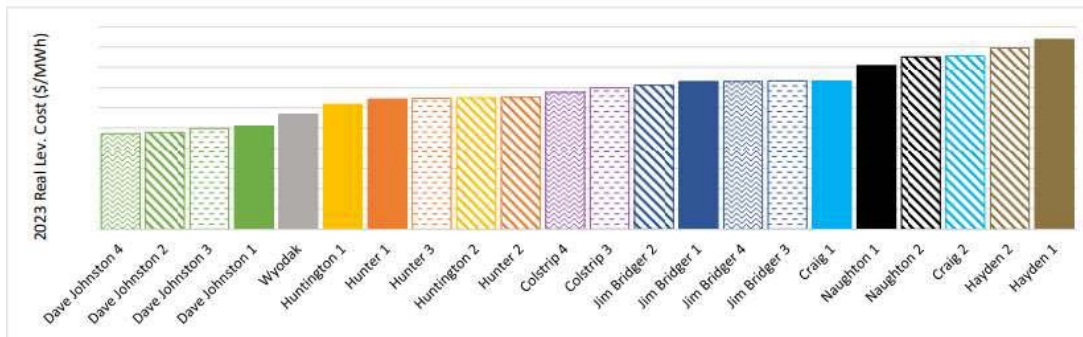
- Operations and maintenance expenditures including wages and salaries, payroll benefits, material & supplies, outside services, utilities, etc.
- Capital expenditures including repair, replacement, or refurbishment of major components in the boiler, turbine, and generator, cooling towers, fuel supply, ash handling, air scrubbers/precipitators, system controls, etc.

Question 2: Please reference the graph of relative forward looking costs on page 17 of the March 21 presentation materials. Do any of the units assume SCR additions? If yes, which units?

PacifiCorp Response:

2. The graph aligns to the C01-Benchmark case and includes selective catalytic reduction (SCR) system costs for the Jim Bridger 1 and Jim Bridger 2 units.

Relative Forward-Looking Costs (2023-2038)



PacifiCorp has stated that, thus far, the IRP process has been focused on the data set, and the data set is one element of the company’s resource plan and associated decision-making. However, PacifiCorp states that it recognizes the importance of establishing a resource plan with consideration of deliverability, implementation, employee and community impacts.²

Question 3: As PacifiCorp completes the coal analysis and develops an action plan, how will it consider deliverability and implementation of any coal unit retirement dates chosen? Does PacifiCorp have a set of descriptive criteria that will be used to include or exclude certain units from next steps?

PacifiCorp Response:

3. A number of criteria have influence on the deliverability and implementation risks associated with any portfolio. Specific to potential early coal-unit retirements, the timing of an assumed early retirement and the total amount of capacity assumed to retire has a direct impact on when new demand-side or supply-side resources might be needed and the timing of this need will influence risks with being able to procure those resources while considering state-driven competitive bidding rules and regulations. Moreover, the timing and volume of potential early retirements will need to be assessed at a time when there are growing resource adequacy concerns for the region. This risk must be considered when evaluating potential early closures that could coincide with other plant closures planned for the

² Please see PacifiCorp’s response to Question 4 of the City of Kemmerer feedback form at http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2019_IRP/Comment_Responses/PacifiCorp_Response_2019_IRP_Feedback_Form_Kemmerer_Coal_Analysis_0_1-16.pdf

* Required fields

region in the coming years. These considerations may inform PacifiCorp's assessment of deliverability and implementation risks, which in turn, can influence selection of a preferred portfolio.

Question 4: Please describe how PacifiCorp could work toward early retirement of a coal unit at which PacifiCorp is not the operator: Colstrip, Hayden, Craig, and Cholla?

PacifiCorp Response:

4. PacifiCorp is continually engaged with its joint-owned plant management teams regarding operational plans and life-of-resource discussions. Through these engagements and subject to the terms of each respective plant's joint-ownership agreements, PacifiCorp can advocate for operational decisions that benefit its customers.

PacifiCorp has stated that its public-input meeting process reflects preliminary analysis that will inform scenarios during the portfolio-development phase in the IRP. The portfolio-development phase of the IRP will consider additional planning variables, including regional haze compliance, market price and carbon dioxide (CO₂) policy uncertainties, timing of Energy Gateway transmission projects, and demand-side management scenarios.³

Question 5: When will PacifiCorp announce its 2019 IRP regional haze compliance variables?

PacifiCorp Response:

5. Portfolio development, including regional haze studies, is currently included as a topic for the May 20-21, 2019 public input meeting. PacifiCorp discussed its draft modeling framework for the portfolio-development process, including regional haze cases, at the September 28, 2018 public-input meeting. Please refer to slides 96-104 of the September 27-28 public-input meeting presentation materials and to the accompanying portfolio-development matrix. Both of these files are available on PacifiCorp's IRP website: <http://www.pacificorp.com/es/irp/pip.html>.

Question 6: How is PacifiCorp viewing SCR on Jim Bridger 1 and 2?

PacifiCorp Response:

6. In cases where Jim Bridger 1 & 2 are assumed to operate through depreciable life, retiring at the end of 2037, selective catalytic reduction system (SCR) costs are included. In the case of early retirement alternatives, including potential intertemporal trade-off analyses, SCR costs are not included as such scenarios assume a negotiated regional haze outcome.

Question 7: Will PacifiCorp model SCR on Hunter 1 and 2 and Huntington 1 and 2?

PacifiCorp Response:

7. SCR additions for Hunter 1 & 2, and Huntington 1 & 2 will be modeled in the Regional Haze reference case.

Question 8: What is the latest information on the Utah regional haze negotiations?

PacifiCorp Response:

8. The Utah Division of Air Quality has submitted its revised regional haze state implementation plan for a 30-day public comment period which ends May 15, 2019.

PacifiCorp explained at page 11 in the March 21, 2019 Public Input Meeting materials that the purpose of the cost-driver adjustment is to prevent the portfolios in the coal study from making large wind and solar swaps in the later years of the coal studies.

Question 9.a): Does the cost driver adjustment change the supply-side resource selections in the near term (within 5 years)? Question 9.b) For example, on page 13, with the "granularity adjusted" graph, is there any

³ Please see PacifiCorp's response to Questions 1 and 2 of the City of Kemmerer feedback form at http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2019_IRP/Comment_Responses/PacifiCorp_Response_2019_IRP_Feedback_Form_Kemmerer_Coal_Analysis_0_1-16.pdf

change in the renewables procured in the next 5 years?

PacifiCorp Response:

9. a) Prior to the application of the cost-driver, it was observed that System Optimizer (SO) was selecting solar or wind on an arbitrary basis in later years, varying from study to study. Whereas SO was indifferent to the selection of solar vs. wind on a present value revenue requirement (PVRR) basis, Planning and Risk Model (PaR) correctly determined that wind more consistently avoided deficiencies in the later years when solar saturation is highest. No significant near-term impacts have been noted on a case-by-case basis.
- b) The intent of the indicated graphs on slide 13 of the March 21, 2019 presentation materials is to show the stabilizing impact on portfolios, and particularly renewables. It can be seen in the graphs that there are no impacts to renewables until 2033, and that the granularity adjusted portfolio stabilizes relative to the benchmark.

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.

[Click here to enter text.](#)

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

[Click here to enter text.](#)

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

Thank you for participating.