

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 11/27/2018

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Address: 201 High Street Suite 100

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Public Meeting Date comments address: 11/1/2018

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.

Modeling Improvements and Updates

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.

Public Utility Commission of Oregon Staff (Staff) appreciates PacifiCorp's presentation and information relating to the Modeling Improvements and Updates presentation provided at the 2019 IRP Public Meeting held on Nov. 1, 2018. Staff offers the following comments requesting further clarity and additional information so as to more meaningfully participate in this process.

Relating to Slide 13, please provide the following:

- A summary table providing the sources (i.e., customer preference resources) driving the expansion of renewable resource options and locations in the 2019 IRP vs the 2017 IRP would be appreciated.

PacifiCorp Response:

As PacifiCorp progresses into the portfolio-development phase of the 2019 Integrated Resource Plan (IRP), customer-preference resources will be explicitly identified in each portfolio. PacifiCorp has not yet initiated the portfolio-development phase of the 2019 IRP, and therefore, PacifiCorp has not yet reported renewable resources included in the portfolio that can be used to satisfy customer preferences. PacifiCorp will also run a sensitivity that eliminates all customer-preference resources, see case S-08 of the portfolio-development matrix that was presented at the September 28, 2018 public-input meeting available here <http://www.pacificorp.com/es/irp/pip.html>. No customer-preference resources were modeled in the 2017 IRP.

- A list of the 8 transmission links and 20 transmission upgrades that will be included in the 2019 IRP modeling.

* Required fields

PacifiCorp Response:

Please refer to the attachment “Transmission upgrades by Location and Increment”. There are 18 transmission upgrades. Seven of these upgrades include incremental transmission capacity, increasing transmission between bubbles in the IRP topology.

- A list of the incremental transfer capability that will be in the model.

PacifiCorp Response:

Please refer to the attachment “Transmission upgrades by Location and Increment”. Seven of the 18 upgrades include incremental transmission capacity, increasing transmission between bubbles in the IRP topology, as reflected in the “Incremental Capacity” column of the table.

Relating to Slide 14, please provide the following:

- A list of the network upgrades (transmission reinforcements) needed for coal unit retirements.

PacifiCorp Response:

None of the network upgrades described in the attachment “Transmission upgrades by Location and Increment” are required for coal unit retirements. Each upgrade is an option available to the System Optimizer (SO) model. However, there is a unique additional reinforcement cost accompanying the retirement of the Dave Johnston plant. Other potential reinforcement costs are specific to unit retirements and replacement resources identified in SO model simulations. Consequently, these costs can be unique to each resource portfolio and will be applied accordingly during the portfolio-development phase of the 2019 IRP. Updated coal-study results presented at the December 3-4, 2018 public-input meeting assume reinforcement costs associated with the retirement of the Dave Johnston plant at the end of 2027 in all cases analyzed, including the Benchmark Case (Case C-01). Consequently, these costs did not affect the results for any of the unit-by-unit cases, alternate year cases, or stacked cases as presented.

- Please provide an example of how the transmission reinforcement costs will be “netted against” the replacement resources. If this is stated incorrectly, please explain, for example, explain if the cost of the replacement resource will be added to the transmission reinforcement cost when a resource is selected to fill in for retiring coal capacity.

PacifiCorp Response:

Transmission options and resource options are treated independently and do not have their costs netted or added together. The model is driven to select optimal combinations of transmission upgrades and expansion resources to achieve the least-cost solution based on location, timing and system requirements. Simply put, the model does not select new transmission unless it also selects the resources needed to make optimal use of that transmission. Also, the SO model does not select a replacement resource for any given retirement; rather, the model selects an optimal portfolio in light of the retirement, inclusive of transmission upgrades. For example, a 2022 retirement in Wyoming could trigger transmission and resource selections spread over many parts of the system and over many years, none of which are necessarily located in Wyoming or immediately following the retirement. Transmission reinforcement costs are simply added as a cost to the system, which can be unique for any given resource portfolio.

Relating to Slide 15, please provide the following:

- a. Please further explain how, without the credit, DSM is pushed into the out years.

PacifiCorp Response:

The SO model optimizes PacifiCorp’s portfolio of resources. This optimization results in the resources with the lowest net cost being added first, i.e. resources that produce the highest benefits relative to their cost. In addition, PacifiCorp’s system becomes more constrained over time as load grows, resources retire, and contracts expire. As a result of these two factors, the resources added to the portfolio generally have higher net costs over time. The operating reserve credit increases the benefits of Class One demand-side management (DSM), and as a result, the net cost will become lower than other alternatives that would otherwise have been added first. This in turn makes Class One DSM with the operating reserve credit

* Required fields

more likely to be selected sooner, or in greater quantities.

b. Please further explain how this credit brings in DSM resources.

PacifiCorp Response:

Please refer to the response to Slide 15 (a).

c. Please provide a list of each and every resource to which PacifiCorp will apply the adjustment of \$50/kW-yr.

PacifiCorp Response:

Please see attachment “Operating Reserve Credit Inputs”.

d. Please provide a list of each storage-combination resource to which PacifiCorp will apply a lower adjustment to “account for periods when available flexible dispatch is reduced...”

PacifiCorp Response:

Please see attachment “Operating Reserve Credit Inputs”.

e. Please provide the value in \$/kW-yr of the credit applied to storage-combination resources.

PacifiCorp Response:

Please see attachment “Operating Reserve Credit Inputs”.

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.