

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 9/21/2018

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Address: 201 High Street Suite 100

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Public Meeting Date comments address: 8/30/2018

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.

Market purchases, Planning Capacity Factors and the Planning Reserve Margin Study

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 market purchases, Planning Capacity Factors and the Planning Reserve Margin Study provided at the 2019 IRP Public Meeting held on Aug. 30-31, 2018. Staff offers the following comments requesting further clarity and additional information so as to more meaningfully participate in this process.

1. Relating to slide 67, a more in depth discussion is necessary around the company's decision to change the PaR methodology to restrict market purchases to FOT limits in all months of the planning reserve margin (PRM) models from the methodology in previous IRPs that allowed for market balancing purchases up to transmission limits for the purpose of valuing portfolios. Considering that the PRM is expressed as a percentage of coincident system peak load, at the next IRP workshop, the company should provide a detailed explanation of why the previous methodology of allowing for market balancing purchases up to transmission limits was an inadequate representation of market reliance, and further why the updated methodology of restricting market purchases to generalized FOT limits provides improved PaR reliability measures.

PacifiCorp Response:

To better understand the issue, front office transactions (FOTs) are proxy resources used in the Integrated Resource Plan (IRP) portfolio development process that represent firm forward short-term market purchases for summer and winter on-peak delivery, which coincides with the time of year and time of day of the Company's coincident system peak load. In the Planning and Risk (PaR) model, system balancing purchases are considered non-firm short-term purchases. This same treatment is applied in the System Optimizer (SO) model. FOT's contribute to meeting the

* Required fields

planning reserve margin (PRM) in the SO model. System balancing purchases do not count towards meeting the planning requirements, but are available to the extent there are market opportunities available on a non-firm basis.

The contribution of firm market purchases are removed from the SO portfolio and not input into PaR. To align the modeling to the planned firm purchases limits set by FOTs, system balancing purchases were restricted to amount and locations of the FOTs as part of the PRM studies. This limits the system balancing market purchases to the firm market purchases as set by the FOTs. This is a better representation of what can be counted on as a firm product to meet reliability, and removes any concern of relying on non-firm market purchases to meet reliability. This is an improvement to the IRP modeling process.

2. Please explain why PacifiCorp models gas prices based on Henry Hub spot price, rather than other regionally-relevant gateways such as Alberta. This past summer, the difference between Henry Hub and Alberta was substantial and so Staff is seeking an answer as to whether or not Henry Hub is an accurate representation of gas supply and price dynamics in the Pacific Northwest.

PacifiCorp Response:

PacifiCorp does not explicitly model Henry Hub natural gas prices. Henry Hub is used to generally show pricing trends and variation among scenarios. When forecasting long-term electricity prices, via a production cost model, PacifiCorp uses gas prices from across the Western Electricity Coordinating Council (WECC), as produced by an expert third party multi-client subscription forecasting service. PacifiCorp uses locational prices representative of nine primary hubs throughout WECC, and over 20 secondary hubs. Henry Hub is not used as the starting point for deriving WECC hub prices, but is shown as it is the North American benchmark. Similarly, the fuel cost for natural gas fired generating resources is based on locational prices most relevant to a resource's location, inclusive of transportation costs, as applicable.

From a physical trading position, PacifiCorp agrees that the Henry Hub daily index is not particularly relevant to the Northwest. While the choice of a trading hub to use as a benchmark and settlement point for financial contracts is somewhat arbitrary, once established (with a significant quantity and volume of transactions indexed to it), the benchmark becomes permanent. Even if the physical correlation to other trading hubs change, Henry Hub will remain a market signal of the expected supply/demand balance, given its large demand sink. Thus, Henry Hub futures will remain an important forward-looking market price signal, even for the Northwest.

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.