

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 10/22/2018

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Public Meeting Date comments address: [Click here to enter date.](#)

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.

Proposed solar prices in IRP remain higher than current market prices

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.

The solar prices in the 2019 Supply-Side Table are too high and do not reflect the low cost solar resources available today. As stated in our October 8, 2018, stakeholder feedback form, solar developers have reported that the solar O&M cost assumptions in the Supply-Side Table are higher than current market costs for solar. Solar PPAs recently signed by PacifiCorp also indicate that the Supply-Side Table price assumptions for solar are too high.

At the July 26 & 27 stakeholder meeting, PacifiCorp said that its consultant planned to consider multiple inputs when developing the supply-side prices for solar, including the 2017s RFP, the solar PPAs entered in June 2018 (slide 23 from the July 26 & 27 stakeholder meeting), and developer estimates for the 2019 IRP proxy resources.

On the October 9 call to discuss the levelized cost of energy figures on the 2019 supply-side table, PacifiCorp indicated that the primary source underlying the solar prices was the 2017s solar RFP. Specifically, PacifiCorp said that the prices in the supply-side table represent the average prices from the 2017s RFP (rather than the lowest bids received through the process). This, in part, resulted in higher O&M costs because, as PacifiCorp stated, they had to increase the O&M costs in order to reach the target price identified (the average bid price in the 2017s solar RFP.) Further, it does not make sense to use the average of the prices received in the 2017s RFP as a proxy for the cost of solar resources. Utilities do not generally commit to purchase the median-priced bid; rather, they select the least-cost resource. Finally, the 2017s RFP was issued almost a year ago and may no longer represent the current cost of solar resources available on the

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market. For this reason, it is prudent to also consider the price of more recently signed PPAs and developer estimates of current market costs.

PacifiCorp's summary of the solar PPAs contracted in June 2018 supports the conclusion that the Supply-Side Table solar prices are too high. On slide 23 from the July 26 & 27 stakeholder meeting, PacifiCorp wrote "[o]n average, levelized prices for the energy and capacity from the portfolio of solar projects is less than \$26/MWh (lower than bids evaluated in the 2017s Request for Proposal)." The lowest cost of solar in the 2019 Supply-Side Table for a resource comparable to the 2018 solar PPA resources is \$30.88/MWh, which includes the intra-hour flexible resources credit that was not applied to the 2018 PPA prices. PacifiCorp's heavy reliance on the average bid from the 2017s RFP to develop the costs for solar resulted in solar price assumptions for the 2019 IRP that are higher than the average price of the solar PPA's that PacifiCorp itself obtained in 2018.

PacifiCorp has also indicated that only solar prices for utility-owned resources were considered. Presumably, this is the case for all resources on the Supply-Side Table, except for geothermal, which include a PPA price. This may explain why the solar prices in the Supply-Side Table are higher than the solar PPAs PacifiCorp entered into in June 2018, i.e., the prices are only representative of what PacifiCorp can build, not prices available on the market as a whole.

To ensure that PacifiCorp is modeling solar accurately and fairly in the 2019 IRP, PacifiCorp should adjust its solar pricing to better reflect the lower prices in the 2017s RFP, the prices from the PPAs PacifiCorp signed in 2018, and prices from other PPAs recently signed in the region. Higher priced resource assumptions could preclude the selection of solar as part of the least-cost, least-risk portfolio and forfeit the opportunity for ratepayers to benefit from the ITC. Further, it is somewhat unclear why PacifiCorp only included a PPA price for geothermal resources. There is no guarantee that utility-owned facilities will always be the lowest-cost, lowest-risk resources. To that end, PacifiCorp should also include PPA prices for all applicable resources in the Supply-Side Table. This will ensure that the supply-side cost inputs are sufficient for the IRP analysis to consider resources on a consistent and comparable basis.

PacifiCorp Response:

Solar resource cost-and-performance assumptions being developed for the 2019 Integrated Resource Plan (IRP) are in fact aligned with bids received in the 2017S request for proposal (RFP) and with the solar power purchase agreements (PPAs) executed in June 2018. PacifiCorp does not agree that it stated solar operations and maintenance (O&M) costs were increased to align levelized costs with PPAs received through the 2017S RFP. During the October 9, 2018 stakeholder conference call, PacifiCorp did state that it lowered capital costs to calibrate levelized prices with those observed in the 2017S RFP.

While average pricing for the solar PPAs executed in June 2018 are lower than pricing from the 2017S RFP, renewable-energy credits (RECs) from these PPAs are retired on behalf of Facebook in accordance with Oregon Schedule 272, which was stated on slide 23 from the July 26-27, 2018 public-input meeting. In contrast, PacifiCorp would have retained the RECs for bids submitted into the 2017S RFP. All else equal, pricing for a PPA that does not include RECs is reasonably expected to be lower than pricing for a PPA that includes RECs.

Further, and as discussed during the October 9, 2018 stakeholder conference call, levelized costs shown in the draft supply-side resource table are in 2018 real-levelized dollars and are, therefore, not directly comparable to 2017S RFP PPA pricing or to the prices from the solar PPAs executed in June 2018, which represent nominal-levelized pricing for projects expected to come online in the 2020 time frame. For this reason, and as expressed at the opening of the October 9, 2018 stakeholder conference call, PacifiCorp developed representative levelized cost information, accounting for assumed and draft de-escalation rates for solar capital costs. When these de-escalation rates are applied (see slide 7 of the October 9, 2018 stakeholder conference call slide materials), the nominal-levelized costs for the proxy solar resources from the supply-side resource table are \$32/megawatt hour (MWh) for Utah solar resources expected to come online in 2020. PacifiCorp assumes that it would retain rights to all RECs from this proxy resources, and thus this cost is very much aligned with some of the best bids received through the 2017S RFP. Continued application of assumed and draft de-escalation rates shows that levelized costs for Utah solar resources drop to \$31/MWh for projects expected to come online in 2023 (slide 5 of the

October 9, 2018 stakeholder conference call slide presentation). These costs do not reflect application of an intra-hour flexible resource credit.

While it is true that utilities do not transact at median-priced bid. It is possible that there may be projects available at prices below \$31-\$32/MWh, but it is unlikely that all bidders will offer projects equivalent to the best-priced offers. In PacifiCorp's 2017 IRP Update, the preferred portfolio contained over 1,000 megawatts of new solar resources, and it is possible that the 2019 IRP could contain even more solar resources. The spread between the lowest price and highest price bids among Utah projects reviewed during the final shortlist evaluation process of the 2017S RFP was over \$6.50/MWh.

PacifiCorp's levelized costs are reasonably consistent with PPA pricing, and consequently, modeling a PPA at a levelized price of \$32/MWh is the same as modeling a resource that yields a levelized price of \$32/MWh. Selection of a proxy resource in the IRP does not establish the type of commercial structure (i.e., owned vs. contracted), which would be evaluated during a competitive solicitation process based on then-current market offerings.

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.

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