PacifiCorp - Stakeholder Feedback Form

2015 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 2015 IRP, including, but not limited to the process, assumptions, and analysis. In providing your feedback, PacifiCorp requests that the stakeholders identify whether they are okay with the Company posting their comments on the IRP website.

☒Yes ☐No May we post these comments to the IRP webpage? Date of Submittal 8/21/2014

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Public Meeting Date comments address: **8/7/2008** ☐ 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.

Resource Capacity Contribution

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

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

PacifiCorp's approach to approximating the annual capacity contribution of renewable resources was discussed on slide 95 of the August 7–8 slide deck. PacifiCorp was directed to undertake such a calculation by the Utah Public Service Commission (PSC) in their August 2013 Order of Docket 12-035-100 (Utah PSC, 2013). In this docket, PacifiCorp's Peak Capacity Allocation Method—which uses an Exceedence Method taking into account the availability of a resource in 90% of the top 100 summer peak load hours—was described as "arbitrary…[and] incongruous with PacifiCorp's IRP studies" and "not an industry standard approach". (Utah PSC, 2013 p23, p29).

Specifically, the PSC directed PacifiCorp to calculate the capacity contribution for wind and solar resources "using either the ELCC method or the CF method considering LOLP" (Utah PSC, 2013, p 30). The "CF method" is the Capacity Factor Allocation Method discussed in in NREL's Comparison of Capacity Value Methods for Photovoltaics in the Western United States, where a variety of methods to approximate the ELCC (effective load carrying contribution) are evaluated (NREL, 2012). These capacity factor approximation methods are:

1) the average capacity factor during the peak-load hours;
2) the capacity factor during the peak-LOLP hours; and
3) the capacity factor during the peak-LOLP hours, where the capacity factor is weighted by the LOLP.

Methods 2) and 3) are the only approximation methods that take into account LOLP, as directed by the PSC. While the NREL paper goes on to use method 3 to calculate the capacity value for solar resources throughout the West, the PSC did not indicate which of these the two methods that consider LOLP should be used by PacifiCorp. However, as indicated on slide 95 of the August 7–8 slidedeck, PacifiCorp has adopted to use method 3).

The 2012 NREL paper references A Comparison and Case Study of Capacity Credit Algorithms for Intermittent Generators as the source of the Capacity Factor Approximation Methods (NREL, 1997). In this earlier study, the authors conclude that method 2) (referred to as the "LOLP method") should be used over method 3) (referred to as the "weighted method") because it is closest to an actual ELCC calculation (NREL, 1997 p6).

* Required fields

Furthermore, owing to the six-state nature of PacifcCorp's service territority and use of hydroelectric power, the peak load hours may not be coincident with the highest LOLP hours. Calculating the capacity value using LOLP hours, and then further weighting the capacity factor by the LOLP would only exacerbate this problem.

For the above reasons, Renewable Northwest is concerned that using method 3) will lead to a misleading capacity value. As all the information is available, Renewable Northwest suggests that method 2) would be more appropriate (simply unweighting the capacity factor by the LOLP would yield the result) and still be in compliance with the directive of the Utah Public Service Commission. Renwable Northwest would also like to see the capacity credit calculated using the simplest approximation to an ELCC, method 1), which considers the average capacity factor during the top 10% load hours. For reasons outlined above, this method may lead to a capacity credit that is more suited to PacifiCorp's service territory.

Thank you for your consideration of these comments, Renewable Northwest looks forward to exploring these issues with you further.

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.

(NREL, 2012) http://www.nrel.gov/docs/fy12osti/54704.pdf
(NREL, 2007) http://wind.ucdavis.edu/rpsintegration/library/NREL-CP-440-22591%20Mar97%20Milligan%20Parsons.pdf
(Utah PSC, 2013) www.psc.utah.gov/utilities/electric/elecindx/2012/documents/24634012035100oopi.pdf

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

Click here to enter text.

Thank you for participating.

* Required fields