

PacifiCorp - Stakeholder Feedback Form

2023 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 2023 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 2022-07-14

*Name: Christopher Thomas

Title: _____

*E-mail: christopher.thomas@slcgov.com

Phone: (385) 228 - 6873

*Organization: Salt Lake City Corporation

Address: 451 S. State St. Room 404

City: Salt Lake City State: UT Zip: 84111

Public Meeting Date comments address: 05-12-2022 Check here if not related to specific meeting

List additional organization attendees at cited meeting: _____

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

Monthly Weather Variation: Wind & Solar

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.

There was material presented on slide 55 regarding the monthly variation of PacifiCorp wind and solar generation above or below average. Is this data intended to inform capacity expansion planning? If so, I have two comments. First, I suggest looking at hourly rather than monthly data, since, for example, a solar resource may generate less than average over the course of a month, but generate as expected during the hottest / highest load hours. Second, I have read that most capacity expansion models use time sampling instead of using all 8,760 hours of the year. A study by Lawrence Berkeley National Laboratory examined capacity expansion using 16, 288, and 8,760 time slices per year, and found investments into base-load technologies are substantially reduced in the high resolution scenario (8760 residual load levels) relative to the scenarios with lower temporal resolution. If possible and not currently implemented, I recommend exploring running the Plexos capacity expansion model using a full year representation of renewable generation, load, and storage at hourly resolution.

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.

<https://escholarship.org/uc/item/9rh9v9t4> (dated 2010 and accessed July 14, 2022)

<https://formenergy.com/wp-content/uploads/2020/12/Form-Energy-4Q2020-Best-Practice-Modeling-whitepaper-12.21.20.pdf> (dated 12/21/2020 and accessed July 14, 2022)

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

* Required fields

The company is aware of these limitations and is continuing to evolve the modeling process. For information regarding how the company has addressed these issues in the past, please refer to the 2021 IRP where the subjects of granularity, precision and the effects on resource evaluation are discussed throughout. Specifically, refer to Chapter 8, "Granularity and Reliability Adjustments". The Granularity adjustment captures system cost impacts that the LT model cannot see due to its limited granularity, while the Reliability adjustment captures system capacity shortfalls that the LT model cannot see due to its limited granularity. By adjusting portfolio selection to account for these impacts, PacifiCorp's 2021 IRP was able to account for the impacts of hourly resolution without running the long-term capacity expansion modeling at an hourly resolution, which to this point has not been computationally feasible. The Company continues to evaluate this subject for the 2023 IRP and expects to discuss the granularity aspect of modeling in the Public Input Meeting Series.

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

Thank you for participating.