

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	2023-02-13
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Public Meeting Date comments address: _____	<input type="checkbox"/> 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.
Portfolio Selection Options / Energy Storage / Pumped Storage

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.

rPlus Hydro is engaged in the development of a number of pumped hydro energy storage (pumped storage) projects in and near the PacifiCorp service territory. We offer the following recommendations regarding the treatment of pumped storage hydro in PacifiCorp's analysis of resource alternatives and development of portfolios: 1. Given the very long useful life of pumped storage (up to 100 years, perhaps longer), and thus benefits to ratepayers long into the future, the financial modeling for pumped storage should be based on an asset life of at least 50 years. It should also include a substantial terminal value. 2. Application of the Investment Tax Credit (ITC) under the Inflation Reduction Act (IRA) of 2022: (a) It should be noted that per Congressional colloquy attached to the IRA, all components of a pumped storage project not only equipment but reservoirs, tunnels, etc. qualify for the ITC. (b) The IRA provides for a 10% bonus ITC for domestic content. All pumped storage projects should be evaluated as qualifying for this bonus ITC due to the high contribution of domestically-source materials that would be used in pumped storage civil works, and due to the high likelihood of a high percentage of domestic manufacture of the pump-turbines and motor-generators. This is in contrast to Battery Energy Storage Systems (BESS), for which meeting the domestic content thresholds is unlikely today and should not be assumed for the foreseeable future. (c) The IRA provides for a 10% additional bonus ITC for location of a project in an Energy Community. This should be accounted for in the PacifiCorp analysis on a case-by-case basis. For example, at least two pumped storage projects currently in active development within PacifiCorp's service territory Seminoe (Wyoming) and Oquirrh (Utah) are located in Energy Communities and would qualify for this bonus. (d) In sum, all pumped storage projects should be studied as qualifying for the minimum 30% ITC (10% base, x 3 for meeting prevailing wage and apprenticeship requirements) and for the 10% bonus ITC for domestic content, for a total

* Required fields

of 40% ITC. In addition, some of the most pumped storage projects in development within the PacifiCorp service territory will qualify for the additional 10% bonus ITC for location in an Energy Community, thus bringing their ITC to 50%, and this should be applied accordingly. 3. Location-Specific Benefits: Some pumped storage projects currently in development within the PacifiCorp service territory are located where they can create substantial benefits to transmission utilization and/or reliability. For example, the Seminoe project in Wyoming would allow for significantly more efficient utilization of Gateway transmission lines, allowing PacifiCorp to capture more high-quality/low-cost Wyoming wind resource without additional transmission costs. Another example is the Oquirrh project in Utah, whose location within PacifiCorp's load center would enhance reliability without additional transmission costs. And the Owyhee project in Oregon is located where it could allow for more efficient and effective utilization of the Summer Lake-Hemingway, Boardman-to-Hemingway, and Gateway West transmission lines. Such location-specific contributions should be captured to the greatest extent possible in the modeling used to evaluate pumped storage in various portfolios.

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.

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

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

PacifiCorp Response (3/10/23)

- 1) The 2023 IRP asset life for pumped storage is 100 years in the supply side table, which is longer than the 50 years suggested in the stakeholder request. The 100 life reflects the durability of hydro projects as well as relicensing opportunities.
- 2) A terminal value is typically applied to generation projects that have an unlimited life. Applying the 100-year life to pumped storage already accounts for this. The Plexos model is running for a 20-year study period, from 2023 to 2042. The pumped storage levelized capital recovery applied to the Plexos model reflects the 100-year book and 20-year tax life along with ITC benefits.
- 3) The ITC of 30% is applied to pumped storage per the Inflation Reduction Act assumed to be in place through 2034. There is an additional 10% ITC for project locations where thermal resources and mines have closed. The tax law also provides an additional 10% ITC for domestic equipment made in the USA, but this is not assumed in the IRP modeling. There is also a prevailing wage rate requirement necessary to secure these benefits. Overall, the ITC can range from 30% to 50% depending upon the requirements that are met.
- 4) The company is evaluating pumped storage projects in our service territory and is aware of the proposed Seminoe pumped storage project in Wyoming.
- 5) A change in FERC transmission rules may alleviate the need for transmission driven by pumped storage. However, such resources would still need to connect to the company's transmission system. The Plexos model does capture system benefits of pumped storage when evaluating proxy projects.

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