PacifiCorp - Stakeholder Feedback Form

2021 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 2021 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: 2020-12-18

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*Organization: Sierra Club

Address:

City: Oakland State: CA Zip: 94062

Public Meeting Date comments address: 12-03-2020 ☐ 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.

Coal Plant Operating Variants and Operating Limits, Minimum Take & Must Run Requirements, Business As Usual Case, Customer Preference, Transmission, Power Prices, RFP Results, Follow up to previous Feedback Request

☐ 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.

Coal Plant Operating Variants and Operating Limits 1. Refer to slides 5-13 from the December 3, 2020 Public Input Meeting presentation. a. Please provide the costs (in total $ or $/kW) assumed for each of the coal units associated with the \u001Cmajor overhauls\u001D in each year shown on the slides. b. Do any of the major overhauls include SCR or other pollution control technology? Do they include any Coal Combustion Residual Rule compliance costs? c. Are there other capital investments being made in each unit in addition to the major overhauls? If so please provide these costs. d. Please explain the rationale for selecting specific years for each Operating Variant and why these differ between units (e.g. Coal-Ret 2028 for Jim Bridger 1 versus Coal-Ret 2027 for Jim Bridger 2) e. Sierra Club requests that PacifiCorp consider a uniform 3 year interval for economic coal plant retirement options. f. Sierra Club requests that PacifiCorp include a 2028 retirement date for the Hayden plant due to the recent Colorado Air Quality Control Commission ruling on Regional Haze. (Please refer to Chase Woodruff, Coal plant closures accelerated with air commission approval of Regional Haze plan (Nov. 20, 2020), https://coloradonewsline.com/briefs/coal-plant-closures-accelerated-with-air-commission-approval-of-regional-haze-plan/.) g. Please explain whether the operating limits to comply with the Regional Haze second and third planning periods are assumed to impose any changes to plant performance characteristics (e.g. heat rate, ramp rates, minimum/maximum output levels) due to installation of pollution control technologies or other operational changes to the plants. h. Do any of the Operating Variants for Jim Bridger 3 & 4 factor in additional changes in the post-2030 timeframe due to Idaho Power\u0019s planned exit from units 3 & 4 in 2028 and 2030, respectively? (Refer to IPC\u0019s Second Amended 2019 IRP, available at

* Required fields

https://docs.idahopower.com/pdfs/AboutUs/PlanningForFuture/irp/2019/SecondAmended2019IRP.pdf.) If so, which additional changes are considered? For example, would PacifiCorp assume ownership of Idaho Power\u0019s share of the plant (and associated costs of that ownership)? Minimum Take & Must Run Requirements 1. Refer to PacifiCorp\u0019s response to Sierra Club request submitted on October 19, 2020, Coal Operations Question 1, which states, \u001CThe Company intends to apply ramp rates, minimum and maximum capacity, heat rates, planned maintenance, forced outages, minimum fuel requirements, minimum up and down times, economic dispatch, CO2 price, and plant wide emission caps.\u001D a.

Please provide the specific values of these input assumptions for each coal unit, indicating which dates these assumptions apply to. b. Please indicate which units are assumed to operate with \u001Cmust run\u001D unit commitments and over which time period these must run designations apply. If any of the above information is deemed confidential, Sierra Club would be willing to sign a protective agreement. Business As Usual Case 1. Refer to slide 14 from the December 3, 2020 Public Input Meeting presentation, Business As Usual Case Requests (\u001CBAU\u001D). Sierra Club supports use of the 2019 IRP preferred portfolio as a BAU Case. 2. Sierra Club additionally requests that the BAU scenario not include any of the following coal unit constraints: a) Must Run, b) Minimum Fuel Burn, c) Take or Pay Obligations. a. In the alternative, Sierra Club requests that these constraints be removed as a sensitivity analysis. Customer Preference 1. Please describe the sequence for modeling customer preference. Does the model select resources absent any customer preference and then make subsequent adjustments if necessary? Or are customer preferences built into the initial modeling constraints? 2. How are incremental costs and/or savings from customer preference resources being tracked relative to system-wide resources? 3. Please provide a comprehensive list of the types of customer actions or requirements that this captures (e.g. corporate purchases, municipal energy goals, etc.). Does this include any of PacifiCorp\u0019s voluntary clean energy tariffs or programs? 4. In the forecast for customer preference depicted on slide 36 from the December 3, 2020 Public Input Meeting presentation, does the base case reflect only existing customer preference decisions? Or does it also include incremental decisions that have not yet been made? Transmission 1.

During the November 16, 2020 Public Input Meeting, PacifiCorp indicated that if a coal unit retires it is assumed that transmission would become available for new resources but that any delay could risk that the transmission capacity is taken up by a competing resource that may not be used to serve PacifiCorp load. Please provide, or otherwise describe the following: a. Current requests for transmission access from external resources, b. Available transmission capacity on existing lines, c.

Expectations for the magnitude and location of additional transmission access requests may be likely to occur (including on new lines), d. What is the assumed time delay for transmission capacity to become fully subscribed by external transmission access requests after a coal plant is retired? 2. Please explain why the Boardman-Hemingway line is being proposed for endogenous selection but the Gateway options require additional testing for this to occur. Sierra Club recommends that the Gateway line also be endogenously selected by the model in the same manner as Boardman-Hemingway. 3. Is the 20% OATT credit anticipating new transmission requests or reflective of the current status? Is this reflective of PacifiCorp\u0019s entire system or are there locations where the share is significantly more or less than 20%? Power Prices 1. Please refer to slide 15 from the November 16, 2020 Public Input Meeting presentation. a. Please provide the underlying 8760 data for the power price forecasts. b. Sierra Club recommends that PacifiCorp illustrate the temporal variation in its power price forecasts through a month-hour graphic similar to that included in Arizona Public Service\u0019s 2020 IRP: (Please refer to APS 2020 IRP at 131, available at https://www.aps.com/-/media/APS/APSCOM-PDFs/About/Our-Company/Doing-business-with-us/Resource-Planning-and-Management/2020IntegratedResourcePlan062620.ashx?la=en&hash=24B8E082028B6DD7338D1E8DA41A1563.) RFP Results 1. Please refer to slide 24 from the November 16, 2020 Public Input Meeting presentation, which indicates that PacifiCorp\u0019s Initial Short List for its All-Source RFP included \u001C3,173 MW of solar or solar + storage projects (includes 1,330 MW of collocated storage capacity); 2,479 MW of wind projects; 200 MW of stand alone storage.\u001D a. Sierra Club requests that PacifiCorp provide anonymized median bid price information from its Initial Shortlist (or full list of bids) in a similar format to Xcel Energy. (Please refer to Robert Walton, Xcel solicitation returns \u0018incredible\u0019 renewable energy, storage bids (Jan. 8, 2020),

https://www.utilitydive.com/news/xcel-solicitation-returns-incredible-renewable-energy-storage-bids/514287/). b. If PacifiCorp is unable to provide this information, please provide a detailed explanation as to why this information cannot be provided. Follow up to previous Feedback Request 1. Refer to PacifiCorp\u0019s response to Sierra Club request submitted on October 19, 2020, Load Forecast and DSM Question 2, which states \u001CPacifiCorp has not performed the requested analysis.\u001D a. Please explain how the impact of these rollbacks on PacifiCorp\u0019s load forecast was determined if this analysis was not performed. b. In light of the recent presidential election that may alter the fate of these rollbacks, Sierra Club requests that PacifiCorp model a sensitivity that does not include them and restores federal codes and standards for Phase 2 of the Energy Independence and Security Act. 2. Refer to PacifiCorp\u0019s response to Sierra Club request submitted on October 19, 2020, , Resource Assumptions Question 1(b). a. Sierra Club requests that PacifiCorp include 1 additional smaller sized battery configuration (e.g. 2 hours or 3 hours) as a resource option. This would be consistent with other IRP modeling exercises in the Western U.S. such as those recently performed in California and Arizona which include 1-hour and 3-hour duration batteries. While longer duration batteries provide greater value to the system, this must be balanced with overall cost which is primarily driven by duration. Sierra Club\u0019s expert consultant, Strategen Consulting, has extensive experience with the battery storage industry and has advised that shorter duration batteries can still capture significant value and are worth considering. While we recognize that short duration batteries have diminishing returns as additional storage resources are added, it is still worthwhile to consider these additions in the early years. Moreover, shorter duration batteries can be effective at addressing initial peak demand needs, while longer duration can be used subsequently as the the peak is diminished. (See, e.g., Ray Hohenstein, Solving "range anxiety": Meeting peak electricity demand with the most cost-effective duration portfolio (Oct. 17, 2018) https://blog.fluenceenergy.com/meeting-peak-electricity-demand-with-energy-storage-duration-portfolio.)

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.

A PDF version of Sierra Club's Feedback has been provided via email to the following address: irp@pacificorp.com. The PDF version includes the table referenced in Power Prices, Question 1(b).

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

Thank you for participating.

* Required fields