

PacifiCorp - Stakeholder Feedback Form

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 call, 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 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 post appropriate feedback on the IRP website based on your selection below.

Date of Submittal 2024-09-28

*Name: Rose Monahan

Title:

*E-mail: rose.monahan@sierraclub.org

Phone: (415) 977 - 5704

*Organization: Sierra Club

Address: 2101 Webster Street, Suite 1300

City: Oakland

State: CA

Zip: 94612

Public Meeting Date comments address: 09-25-2024

Check here if 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.

Thermal Resource Options

Check here if you want your Stakeholder feedback and accompanying materials posted to the IRP website.

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

At the September 2024 PIM, PacifiCorp explained that CCUS will be considered for coal units, including the Hunter and Huntington units, and that the CCUS option includes SCR installation. Moreover, if the model selects CCUS at a single coal plant unit, CCUS must be selected for all of the other coal units at that plant. Sierra Club urges PacifiCorp to modify these assumptions as explained below. First, PacifiCorp should consider SCR as a standalone requirement, and, as recommended by Sierra Club in its previous stakeholder feedback form, include a modeling constraint that requires SCR at least one Hunter unit and both Huntington units by no later than 2028. By including SCR within the CCUS option, PacifiCorp is ignoring the possibility that SCR could be mandated at its coal units, particularly the Hunter and Huntington plants, before CCS is required or could be mandated even if the CCS requirement is not implemented. SCR is likely to be required at the Hunter and Huntington coal plants under the Clean Air Act's Regional Haze Program. Indeed, in proposing to disapprove Utah's regional haze state implementation plan for the second implementation period, EPA faulted Utah for failing to require SCR at Hunter Unit 3 and further stated that SCR likely should have been required at the other Hunter and Huntington coal units. The current regional haze planning period runs through 2028. As a result, it's likely that should SCR be required at the Hunter and Huntington units, installation will be required before 2030, when PLEXOS assumes CCUS becomes available. Moreover, the likely SCR requirement at the Utah coal plants is separate from the CCS obligation under EPA's recent 111(d) regulation for coal plants that continue operating past 2035. While Sierra Club believes that the 111(d) regulation will be implemented, as PacifiCorp is well aware, environmental regulations can be stayed, remanded to the agency, and/or vacated. If any of these options occur for the 111(d) regulation but not EPA's regional haze regulations for Utah, then the CCS obligation may not apply while the SCR obligation does. By conflating these two separate requirements in the PLEXOS modeling, PacifiCorp will be failing to clearly evaluate the

* Required fields

least-cost approach to complying with both regulations. Second, PacifiCorp should change the CCUS option in PLEXOS to CCS. The CCUS option is presumably meant to comply with EPA's 111(d) regulation, but that regulation does not authorize coal units to utilize carbon capture, utilization, and sequestration technology. Instead, coal units must install carbon capture and sequestration technology, otherwise the coal units are not reducing their CO2 emissions but shifting them to a secondary purpose. There is no reason to model a regulatory compliance obligation in a way that does not actually comply with that regulation. Finally, PacifiCorp should remove the requirement that if the PLEXOS model selects CCS at any one unit of a coal plant, that the model must select CCS at all the plant's units. At the public input meeting, PacifiCorp asserted that this constraint was reasonable because it is more cost effective to install CCS across an entire plant rather than a single unit. While Sierra Club understands economies of scale, it is not clear why PLEXOS cannot incorporate pricing assumptions that assume lower costs for a second (or third) CCS installation at the same plant, rather than forcing the model to select CCS for all units. Adjusting pricing assumptions for additional CCS installations would allow PLEXOS to determine whether economies of scale warrant adding CCS to additional units, rather than PacifiCorp making this assumption for the model ahead of time. Not only does the constraint significantly skew the model's internal logic, but Sierra Club is also concerned that this constraint could result in PLEXOS running entire coal plants longer than necessary to meet reliability requirements when those reliability requirements could have been met with less than the entire coal plant's output. For example, if the PLEXOS model finds that, in order to maintain reliability, the PacifiCorp system requires continued operation of one Hunter unit, PacifiCorp's proposed modeling constraint could force PLEXOS to select continued operation at all three of the Hunter units, even though reliability would have been met with just one unit. This is very likely to artificially keep coal plants operating with highly expensive CCS and SCR controls when lower cost and more efficient options are available. Indeed, it would skew the model to support high cost investments (for which PacifiCorp earns a rate of return) over more cost effective options. This could be a major liability in securing acknowledgment of the 2025 IRP before state public utility commissions, not to mention achieving cost recovery in future rate cases.

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.

1. PacifiCorp should consider SCR as a standalone requirement, and, as recommended by Sierra Club in its previous stakeholder feedback form, include a modeling constraint that requires SCR at least one Hunter unit and both Huntington units by no later than 2028.

PacifiCorp Response:

Thank you very much for your feedback. The coal plant scenarios provided to the IRP team include continued operations as currently configured, Gas Conversion and CCUS with SCR. The Company has SCR costs for each unit and estimated emissions reductions that would result from SCR installation, such that the cost of the emissions reductions that would result from an SCR can be calculated for any study result. The Company does not have information that would suggest that SCR on its own would impact the operating characteristics of a unit, such as the heat rate, maximum operating level, and so forth, so the inclusion of SCR is unlikely to change the way plants operate under current rules. Should rules change in the future, PacifiCorp will work to identify the least cost, least risk pathway to compliance, which may include SCR, placing limits on generation, replacing units or retrofitting units to burn other fuel types in some or any combination of actions.

Regarding the concern related to requiring CCUS installation at all locations if the model would like to select CCUS at one, in practice, PacifiCorp would not undergo the significant capital costs to install CCUS for a single unit when all units at a site could leverage the technology for a nominal added cost. Regarding CCUS vs. CCS, PacifiCorp has called these projects CCUS, but essentially is only modeling the Carbon Capture (or CC) side. Additionally, PacifiCorp is applying the

* Required fields

largest eligible tax credit for a CCUS/CCS project. In order to maximize benefits (or reduce costs for customers), PacifiCorp would certainly need to evaluate actual proposals knowing which level of tax credit would apply based on the final CO2 use. While it may be of interest to see whether or not the model would select a single unit for CCUS conversion or a final CO2 use that garnered lower tax credits, real world implementation of these options is implausible. Given ongoing requests that PacifiCorp model actions which are as close to reality as possible (given the imperfect nature of future proxy costs and performance) asking PacifiCorp to evaluate a choice it simply would not make is unnecessary.

Additionally, any selection of any change to an existing plant within the IRP will be subject to further consideration and evaluations. In particular, selection of proxy CCUS costs and performance, or other high cost equipment such as an SCR would be reviewed and validated using actual proposals from developers as part of the proposal, permitting and approval process. In the absence of specific proposals with cost and performance that are projected to be a benefit to customers, the project would not move forward.

PacifiCorp will consider calculating the cost of emissions reductions from an SCR within the constraints of 2025 IRP timelines and requirements.

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

Thank you for participating.