BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PACIFICORP, d/b/a PACIFIC POWER Respondent.	DOCKET UE-210829

SIERRA CLUB COMMENTS

Confidential per WAC 480-07-160 and the Non-Disclosure Agreement between Sierra Club and PacifiCorp in UE-210829 – REDACTED VERSION

May 6, 2022

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[REDACTED VERSION]

Sierra Club appreciates the opportunity to comment on PacifiCorp's first Clean Energy Implementation Plan ("CEIP"). These comments were prepared with the assistance of Strategen Consulting, and are based on a review of PacifiCorp's input assumptions and analytical approach in its CEIP, Integrated Resource Plan ("IRP"), and additional analysis and discovery that was generated during the review of this CEIP, the IRP, and discovery generated in other PacifiCorp jurisdictions.

Consistent with the Clean Energy Transformation Act ("CETA") law, particularly RCW 19.405.060(1)(b)(i), and the Washington Utilities and Transportation Commission ("UTC") rules WAC 480-100-640(6)(d), PacifiCorp's CEIP is based off the Company's IRP and Clean Energy Action Plan. Sierra Club has undertaken a thorough review of the Company's IRP in other PacifiCorp jurisdictions and recognized several significant problems that directly impact the Company's compliance with CETA, particularly its specific and interim targets proposed in this CEIP. Given that this is the first time the electric utilities have filed CEIPs before the

Commission, it is understandable it may take multiple re-filings to ensure that the Company's specific and interim targets are appropriately set, and that the Company is sufficiently demonstrating that all customers are sharing in the benefits and burden of the transition to clean energy. As with the IRP, it is the Company's responsibility to demonstrate that its CEIP is in the public interest. In general, PacifiCorp put forth a good framework that they can build off in future CEIP iterations. However, we have concerns with the analysis that the Company relied upon for developing its plan, and as such, the plan should not be approved at this time.

Our comments address both the IRP and the CEIP, and at times will be heavily focused on our analysis of the IRP. Given that the UTC's 2021 IRP process seemed geared towards pushing a more robust review of the inputs of the IRP and CEIP in the CEIP process, we find it necessary to give a thorough and detailed explanation of the Company's IRP analysis. The Company's IRP inputs, assumptions, and subsequent results are the basis for the Company's specific and interim targets forecasted for the next four years. Thus, our comments focus heavily on the Company's designated Preferred Portfolio.

Sierra Club recommends that the Commission require PacifiCorp to refile its CEIP using an alternative scenario from its IRP, specifically an alternative portfolio removing erroneous minimum take assumptions from Jim Bridger, as the basis of its target setting as the Company's Preferred Portfolio is more expensive and riskier than the alternative. We address issues within the CEIP, such as the need to file a renewable energy target in energy (MWh) and not capacity (MW). We also address PacifiCorp's customer benefit indicators and its work to ensure that all customers are benefiting from the transition to clean energy as required by CETA.[1] Although we find some deficiencies with the Company's development of customer benefit indicators

[1] RCW 19.405.040(8).

("CBIs"), we are generally appreciative of the Company's first efforts in this CEIP. We discuss areas for improvement later in our comments.

Sierra Club Recommendations on PacifiCorp's Clean Energy Implementation Plan

1. The modeled sensitivity performed without must-take requirements for Jim Bridger ("No Minimum Scenario") should be considered the Preferred Portfolio, as it reduces the IRP PVRR by $156 million when compared to the Company's Preferred Portfolio case P02-MM.

2. The Commission should require the Company to refile its CEIP with new interim and specific targets that are based off the No Minimum Scenario. This includes the replacement energy for Jim Bridger under the No Minimum Scenario that we estimate to be on the order of [redacted] MW.

3. If the No Minimum Scenario is not adopted as the Preferred Portfolio, the P02h sensitivity, which retires Jim Bridger Units 3 and 4 before 2030, should be the least-cost, least-risk scenario on which PacifiCorp builds its CEIP.

4. The Company should refile its specific renewable energy target expressed as an energy target denoted in MWh.

5. The Company should amend its CBIs and tracking metrics to:

    a. Include directionality in its CBI metrics.

    b. Include "Reduced Pollution Burden and Pollution Exposure" as a CBI with Corresponding Metrics

    c. Track dollar, kW, and kWh savings from each low-income program across named communities.

    d. Track affordability trends, including average monthly bills for low-income households.

6. The Commission should order the Company to focus on developing CBIs, metrics, and programs aimed specifically at vulnerable populations in its next CEIP.

7. The Commission should return to its previous practice of providing comments on the Integrated Resource Plan acknowledgement letter prior to the Company fully developing its Clean Energy Implementation Plan.

I. Summary of Sierra Club's IRP Analysis and Conclusions

A. PacifiCorp's 2021 IRP Coal Plant Analysis Counterintuitively Found that Expensive Coal Plants Will Remain Open Until 2037

As this Commission is aware, the economics of coal generation, relative to other options, has plunged in recent years. In previous IRP cycles, PacifiCorp was required to analyze and disclose the economics of coal plant retirements on a unit-by-unit basis. The Company did not have a similar mandate in this IRP cycle and chose not to perform a similar analysis. Rather, the Company only identified the most economic coal retirement dates through "endogenous" portfolio-wide modeling. Although allowing for endogenous retirement is a step in the right direction, Sierra Club believes that a unit-by-unit approach (in addition to the company's core modeling) would provide additional information on the relative value of certain retirement decisions and serve as a "check" on the soundness of the portfolio-wide results. The results of the Company's endogenous selection process are largely similar to those in the 2019 IRP with the retirement dates left the same or accelerated by a couple of years.[2] The results also show that it is most economic to retire many of the Company's coal units prior to 2030, which is what PacifiCorp proposes in its Preferred Portfolio. Importantly, however, there are a handful of coal units that do not follow this pattern and instead remain in PacifiCorp's Preferred Portfolio through the late 2030s and early 2040s. These late retirements include the coal units at the Hunter, Huntington, Jim Bridger, and Wyodak plants.

The results are both concerning and counter-intuitive because some of the units with post-2030 retirement dates are among the costliest coal units on PacifiCorp's system on a going-forward basis. For example, the table below shows the estimated Levelized Cost of Electricity

[2] The one exception is that the Company is converting Jim Bridger Units 1 and 2 to natural gas in 2023. As we will discuss later, the Company is not proposing to assign any of those costs to Washington ratepayers.

("LCOE") to continue operating each of PacifiCorp's coal units as estimated in the 2018 Coal Valuation Study, conducted by Energy Strategies.[3] The units are ranked from highest to lowest cost and presented alongside the 2021 IRP proposed retirement dates, with the post-2030 dates highlighted in red.

[3] Energy Strategies, *PacifiCorp Coal Unit Valuation Study: A Unit-by-Unit Cost Analysis of PacifiCorp's Coal-Fired Generation* Fleet, Sierra Club (June 20, 2018), *available at* https://www.sierraclub.org/sites/www.sierraclub.org/files/PacifiCorp-Coal-Valuation-Study.pdf.

Table 1. Comparison of PacifiCorp's Coal Unit Costs and Proposed Retirement Dates

Unit	Estimated LCOE ($/MWh)[4]	Cost Rank (Highest to Lowest)	Proposed Retirement Date (2021 IRP, w/ post-2030 highlighted)[5]	Proposed Retirement (2019 IRP)[6]
Jim Bridger 2	$ 50.43	1	2037	2028
Hayden 2	$ 49.75	2	2027	2030
Jim Bridger 1	$ 48.31	3	2037	2023
Jim Bridger 3	$ 47.60	4	2037	2037
Jim Bridger 4	$ 47.55	5	2037	2037
Hayden 1	$ 47.07	6	2028	2030
Colstrip 4	$ 42.71	7	2025	2027
Huntington 2	$ 41.54	8	2036	2036
Huntington 1	$ 41.10	9	2036	2036
Colstrip 3	$ 39.71	10	2025	2027
Hunter 1	$ 39.24	11	2042	2042
Naughton 1	$ 38.76	12	2025	2025
Naughton 2	$ 38.17	13	2025	2025
Hunter 3	$ 35.17	14	2042	2042
Hunter 2	$ 35.07	15	2042	2042
Craig 1	$ 34.77	16	2025	2025
Craig 2	$ 33.37	17	2028	2026
Wyodak	$ 31.64	18	2039	2039
Dave Johnston 4	$ 28.81	19	2027	2027
Dave Johnston 3	$ 28.80	20	2027	2027
Dave Johnston 1	$ 27.20	21	2027	2027
Dave Johnston 2	$ 26.72	22	2027	2027

In particular, the Jim Bridger and Huntington plants stand out as having prolonged retirement dates that do not correspond to their high going-forward costs. This discrepancy holds true for the Jim Bridger 3 and 4 units, even though PacifiCorp plans to convert Jim Bridger 1 and 2 to burn gas.[7] A more logical result from PacifiCorp's IRP analysis would have been for these

[4] *Id.* at 23, Table 8.5.
[5] PacifiCorp, *2021 Integrated Resource Plan*, Vol. I at 137, Table 6.2 (Sept. 1, 2021), *available at* https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2021-irp/Volume%20I%20-%209.15.2021%20Final.pdf [hereinafter "PacifiCorp 2021 IRP Vol. I"].
[6] *Id.* at 299.
[7] *Id.* at 15.

costlier units to retire sooner, presuming their costs were accurately represented in PacifiCorp's planning model. Sierra Club recognizes that an optimal portfolio may not show a perfect correlation between levelized-cost-of-energy and retirement dates due to the complexities of modeling a large power system like PacifiCorp's. However, even when PacifiCorp did undertake a more comprehensive modeling approach to studying coal retirements, as it did in its 2019 IRP, the Company reached a very clear conclusion that early retirement of the Jim Bridger units would be beneficial to customers. In fact, the company found "there are potential customer benefits from accelerating the retirement of certain coal units, where the greatest customer benefits are associated with the potential accelerated retirement of units at the Naughton and Jim Bridger plants located in Wyoming."[8]

B. PacifiCorp's Preferred Portfolio for the Clean Energy Implementation Plan

PacifiCorp's IRP started with four initial portfolios including P02 (endogenous coal retirements), P03 (coal retired by 2030), BAU1 (allows coal plants to go to the end of lives) and BAU2 (2019 IRP coal retirements). The Company also ran portfolios specific to Washington, including the CETA requirement to model the social cost of greenhouse gases. In the 2021 IRP, PacifiCorp's found the scenario P02-MM to be its top performer and adopted it as its Preferred Portfolio. The P02-MM scenario allowed the endogenous retirement of coal units and included the medium price of natural gas and the medium price of CO2 emissions. After its results, however, the Company found that the scenario did not meet the 2030 CETA requirement.[9] To make the P02-MM preferred portfolio CETA compliant, PacifiCorp added a 160 MW wind and

[8] PacifiCorp, *2019 Integrated Resource Plan*, Vol. II, App. R at 613 (Oct. 18, 2019), *available at* https://www.pacificorp.com/energy/integrated-resource-plan html [hereinafter "PacifiCorp 2019 IRP"].
[9] PacifiCorp 2021 IRP Vol. I at 290.

solar resource, collocated with storage, in the Yakima, Washington area. This change added approximately $164 million in (PVRR) costs relative to the initial P02-MM portfolio.[10]

PacifiCorp also modeled eight variants to its preferred portfolio,[11] including P02h, which retires the Jim Bridger Units 3 and 4 prior to 2030. Specifically, PacifiCorp allowed PLEXOS to retire the units economically but only on a very limited number of years: Jim Bridger Unit 3 could retire either in [redacted] and Jim Bridger Unit 4 could retire in [redacted]. In its IRP, PacifiCorp found the P02h variant to be $95 million more than the preferred portfolio, P02-MM, or $60 million when adjusted for risk.[12] However, the P02h variant is less expensive than the Company's final preferred portfolio, P02-MM-CETA by $69 million. PacifiCorp argues that the P02h variant is not CETA compliant but has not determined what actions it would need to make the variant compliant nor does it know the costs. We will address this issue in greater detail later in our comments.

C. PacifiCorp Inappropriately Assumes a Significant Share of Its Future Coal Fuel Expenditures Are "Sunk Costs" in the Form of Future Take-Or-Pay Contracts. This Assumption Significantly Constrains Any Coal Retirement Analysis Since These Costs Would Never Materialize if the Plants Retired Early.

PacifiCorp's IRP found its P02-MM case, which retires Huntington Units 1 and 2 in 2036 and Jim Bridger Units 3 and 4 in 2037, to be its top performer. There are several critical flaws to the Company's input assumptions. Most critically, PacifiCorp inappropriately assumed significant "take-or-pay" coal volumes associated with supplying coal to the Jim Bridger and Huntington units well into the future. PacifiCorp assumed in the PLEXOS model that a certain minimum volume of coal fuel must be purchased in each year for each plant by either using the fuel or by paying a penalty price for not using the fuel. This means that PacifiCorp treats the

[10] PacifiCorp 2021 IRP Vol. I at 261, Table 9.1; 291, Table 9.15.
[11] *Id.* at 263, Table 9.6.
[12] *Id.* at 289, Table 9.14.

minimum take quantity as a "sunk cost," even though the cost would never be incurred if the plant retired. Take-or-pay assumptions have a significant influence on the decision of when to retire a plant because the existence of a take-or-pay penalty would substantially reduce—if not eliminate—the economic benefits of reducing fuel consumption (e.g., from retirement) at that plant. The inclusion of future minimum take volumes, which are priced in the model at $0/MMBtu, is highly inappropriate when no such contractual requirements exist or when the contract could be readily renegotiated. Both of the modeled coal supplies for Jim Bridger—Black Butte and the Bridger Coal Company ("BCC") —fall into these categories.[13] For Black Butte, a contract does not exist beyond April 2022.[14] For BCC, the supply is from an affiliate mine whose production can be scaled down in the future at little or no cost.

Sierra Club understand that for the Jim Bridger plant, PacifiCorp did not assume that it would incur any take-or-pay penalties after the plant retired. In other words, if Jim Bridger was retired in 2030, it would not incur take-or-pay penalties after that date. While this is an appropriate assumption, PacifiCorp did not provide any justification for nevertheless assuming that it would have minimum take requirements for each year that Jim Bridger operates prior to retirement. By assuming that Jim Bridger would be subject to minimum-take requirements in the years before retirement, PacifiCorp skewed the model toward (1) projecting artificially high-

[13] While these comments focus on Jim Bridger, Sierra Club also notes that assumed minimum take requirements at Huntington were inappropriate. Huntington is subject to a coal supply agreement with minimum take requirements with a term running through 2029. However, the Huntington contract also contains a provision allowing for the contract to be reopened and renegotiated in the event that new environmental regulations make continued operations at Huntington uneconomic. Moreover, the Oregon Public Utilities Commission has already directed PacifiCorp to evaluate the value of breaking the Huntington contract, regardless of new environmental laws impacting the plant. Accordingly, for purposes of the Company's IRP, it was not appropriate to assume that Huntington will be subject to an unavoidable minimum take requirement through 2029.

[14] *In the Matter of the Application of PacifiCorp (U 901 E) for Approval of its 2022 Energy Cost Adjustment Clause and Greenhouse Gas-Related Forecast and Reconciliation of Costs and Revenue*, Proceeding No. A.21-08-004, PacifiCorp (U 901 E) Brief Summary of Dates that Existing Coal Supply Agreements Are Scheduled for Renewal (Nov. 10, 2021), *available at* https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M425/K516/425516818.PDF.

capacity factors at Jim Bridger and (2) potentially delaying the identified optimal retirement date. These outcomes were confirmed by a model run that PacifiCorp performed late in the IRP process which removed minimum take assumptions at Jim Bridger ("No Minimum Scenario"), discussed directly below.

D. Summary of the "No Minimum Scenario"

During PacifiCorp's IRP proceeding before the Oregon Public Utilities Commission ("OPUC"), the Oregon Commission required PacifiCorp to file analysis of a sensitivity without must-take requirements for Jim Bridger ("No Minimum Scenario"). The result of this sensitivity was that it reduced the PVRR by $156 million when compared to the Company's preferred case, P02-MM. Generation at the Jim Bridger plant plummeted, as compared to forecasted generation in the P02-MM-CETA preferred portfolio.

Confidential Figure 1. Jim Bridger Units 3 and 4 Generation Under the Preferred Portfolio and the No Minimum Scenario

PacifiCorp claimed that the $156 million benefit would be offset by the need to retrofit the plant to process coal from the Powder River Basin ("PRB"), at a cost of

(PVRR).[15] PacifiCorp's claim that this PRB coal processing facility is needed rests on the idea that PacifiCorp would need to resort to PRB coal fuel in the event that take or pay provisions were not executed with its current suppliers (i.e., Black Butte, and BCC).[16] The Company claims that it would be "unrealistic" for its current suppliers to deliver significantly lower volumes of coal, and instead that suppliers will require higher volumes, through take or pay provisions, to cover certain minimum operating expenses.[17] The Commission should be highly skeptical of these claims for the reasons explained below.

First, it is not evident that any long-term coal supply agreements with minimum take obligations are actually necessary to meet the fueling requirements of Jim Bridger under the No Minimum Scenario. Based on the results provided in the Company's confidential response to Sierra Club Data Request 12,[18] Sierra Club estimates that only [redacted] MMBtu (or [redacted]) of coal are needed *in total* to supply Jim Bridger units 3 and 4 from 2022 through 2037. According to 2020 and 2021 BCC operations, the [redacted] could be mined from BCC *alone* over [redacted].[19] Thus, it is conceivable that PacifiCorp could continue BCC mine production for [redacted] at current production levels and produce enough coal to

[15] Confidential Attachment "OR LC-77 ALJ Bench Request 1 CONF" to PacifiCorp Response to Data Request Sierra Club 12-2 [hereinafter "ALJ Bench Request 1 CONF"] (provided as Sierra Club Attachment 1).
[16] *In the Matter of PacifiCorp, d/b/a Pacific Power, 2021 Integrated Resource Plan,* Docket. No. LC 77, PacifiCorp Response to ALJ Bench Requests 1 (Ore. P.U.C. Mar. 3, 2022), *available at* https://edocs.puc.state.or.us/efdocs/HAC/lc77hac15285.pdf (provided as the redacted version of Sierra Club Attachment 1).
[17] Sierra Club Attach. 1, ALJ Bench Request 1 CONF.
[18] Confidential Attachment "OR LC-77 Attach ALJ Bench Request 1-1 CONF" to PacifiCorp Response to Sierra Club Data Request 12-2 [hereinafter "OR LC-77 Attach ALJ Bench Request 1-1 CONF"] (provided as Sierra Club Attachment 2).
[19] See *PacifiCorp Will Close Jim Bridger Longwall Mine in November*, Coal Age (Sept. 23, 2021), *available at* https://www.coalage.com/breaking- news/pacificorp-will-close-jim-bridger-longwall-mine-in-november/ (noting that the BCC surface mine produced 1.5 million tons in 2020, 0.6 million tons in the first half of 2021 and the underground mine produced 1.4 million within the first nine months of 2021).

operate Jim Bridger through 2037 under the No Minimum Scenario. This would avoid the need to enter any long-term contracts with minimum take obligations.

At this point in time, Sierra Club does not have knowledge of PacifiCorp's ability to stockpile [redacted] tons of coal between both the BCC and Jim Bridger facilities. It is possible that this is already feasible given existing coal storage capabilities at these locations. In response to a Sierra Club data request in Oregon, PacifiCorp stated that BCC's maximum sealed stockpiled coal storage is 1.9 million tons, and the Jim Bridger plant can store an average of 1.33 million tons on an annual basis.[20] PacifiCorp could conceivably stop BCC mining in the [redacted] timeframe and still have enough coal to meet the fueling requirements of the No Minimum Scenario. Neither of these scenarios would rely upon any future coal from Black Butte.

This finding also calls into question the need for PacifiCorp to execute a new contract with the Black Butte mine—particularly one with a minimum take provision. Moreover, the ability for BCC alone to meet Jim Bridger's needs through 2037 also suggests that the PRB coal processing investment is not necessary and should not be viewed as an offsetting factor in the $156 million PVRR benefit of the No Minimum Scenario.

E. Jim Bridger Retirement Under the No Minimum Scenario

The No Minimum Scenario shows that Jim Bridger should retire no later than 2030 and potentially much earlier. First, the results provided in the confidential attachment to Sierra Club Data Request 12, make readily apparent that the Jim Bridger plant provides [redacted] energy value in any year after 2030.[21] In fact, the hourly dispatch results provided through discovery,

[20] PacifiCorp Response to Sierra Club Data Request 9.1 in Ore.P.U.C. Docket LC 77 (provided as Sierra Club Attachment 3).
[21] Sierra Club Attach 2, OR LC-77 Attach ALJ Bench Request 1-1 CONF.

show that Jim Bridger 3 is [redacted]. Meanwhile, Jim Bridger 4 [redacted].[22]

Second, the results of the No Minimum Scenario show that the long-term ("LT") model, which PacifiCorp uses for making resource retirement decisions, assumed a [redacted] level of dispatch from Jim Bridger than did the more temporally granular short-term ("ST") PLEXOS model which includes hourly dispatch. In fact, the LT model for the No Minimum Scenario assumes that Jim Bridger dispatch would actually [redacted] while the ST model shows [redacted].[23]

Confidential Figure 2. Jim Bridger Units 3 and 4 Generation in the Short-Term and Long-Term Models.[24]

[redacted]

[22] Confidential Attachment "Attach ALJ Bench Request 1-4 CONF.zip\JB34 Hourly Reserve Provision ST 48540 CONF" to PacifiCorp Response to Sierra Club Data Request 12-2 (provided as Sierra Club Attachment 4).
[23] Sierra Club Attach. 2, OR LC-77 Attach ALJ Bench Request 1-1 CONF.
[24] *Id*.

Although the two models are not expected to have identical results (the ST run includes higher temporal resolution than the LT one) the observed discrepancy raises several questions about the validity of the results. Specifically, it suggests that the LT model is likely [redacted] in PacifiCorp's portfolio, which appears to have a nearly [redacted] in the ST portfolio. Because the LT model is where resource retirement decisions are made, it is possible that this LT model run, which overestimates Jim Bridger's value delays Jim Bridger's retirement beyond what would be otherwise the optimal date. In future IRP proceedings, the Company should fully explain any discrepancies between the LT and ST models, including potential implications for coal retirement dates. Finally, the fact that Jim Bridger [redacted] raises significant questions about the plant's reliability value and the need to keep this resource online for reliability purposes. PacifiCorp's results suggest that Jim Bridger provides some incremental reliability value in 2037. However, this is challenged by the fact that Jim Bridger Unit 3 is projected to [redacted]. This finding also challenges the notion that a 500 MW nuclear resource would be needed as a replacement, which is what PacifiCorp has recommended in both its preferred case and the P02h variant, discussed below.

Accordingly, the most reasonable interpretation of the sensitivity is that Jim Bridger 3 and 4 should retire no later than [redacted], and potentially as early as [redacted].

F. Adopting the No Minimum Scenario Would Impact the Company's CEIP Specific Renewable Energy and the Interim Targets

The No Minimum Scenario shows substantially reduced output at Units 3 and 4 in all years beginning [redacted]. As Confidential Table 1 above shows, the discrepancy between Jim Bridger generation in the preferred portfolio and the No Minimum Scenario becomes most

pronounced beginning in [redacted], meaning that if the No Minimum Scenario were to become the preferred portfolio, the Company's IRP Clean Energy Action Plan and the subsequent CEIP would be significantly impacted. PacifiCorp's response to the Oregon Commission's bench request did not provide details on specific resource additions in the No Minimum Scenario.

However, Sierra Club estimates that reducing Jim Bridger's output under this scenario could equate to replacement energy on the order of over [redacted] MW of new wind in the 2025-2030 timeframe. Thus, a significant amount of additional new renewable resources would likely be needed under the No Minimum Scenario but would not otherwise be procured if PacifiCorp's preferred portfolio is pursued instead. This result would undoubtedly have some impact on the utility's renewable energy target, which is set from 2022 through 2025. It would also accelerate the utility's ability to meet its 2030 target, setting a more aggressive interim target pace. Sierra Club recommends that the Commission require PacifiCorp to refile its Clean Energy Implementation Plan and recalculate its specific and interim targets based on the No Minimum Scenario.

II. If the Commission Does Dot Adopt the No Minimum Scenario, the Commission Should Recognize the Company's P02h Variant, Which Retires Jim Bridger 3 and 4 Before 2030, as the Least Cost Scenario.

As we have said in our comments, Sierra Club recommends that the Commission identify the No Minimum Scenario as the preferred scenario on which the utility should build its CEIP. If the Commission does not adopt our primary recommendation, we recommend that the Commission find that the P02h variant case to be preferred scenario in the CEIP. Like the No Minimum Scenario, which demonstrated that Jim Bridger Units 3 and 4 should be ramped down to [redacted], output after 2030, the P02h variant case also demonstrates that early closure of Jim Bridger units 3 and 4 is less expensive than the Company's preferred portfolio, even with

its inappropriate inclusion of minimum take requirements. This is true because PacifiCorp inappropriately forced in an expensive nuclear resource in 2030 in the P02h scenario which was likely unnecessary.

A. PacifiCorp's Decision to Add a 500 MW Nuclear Plant in 2030 in the P02h Variant Was Not Based on Any Comprehensive Analysis or Modeling of Reliability

PacifiCorp's preferred IRP portfolio (P02-MM) was first modeled using the LT model to economically select resources. This initial portfolio was then subject to subsequent reliability adjustments based on the more detailed ST model results that revealed instances of unserved energy on an hourly basis. Using this method, PacifiCorp's selected a 500 MW nuclear plant to be added in 2038 following Jim Bridger retirement under their P02-MM scenario.

However, PacifiCorp does not appear to have conducted similarly comprehensive modeling, with hourly resolution, for each of the variant cases, including P02h. When Sierra Club requested the same hourly data files used for the reliability adjustments in the P02-MM model run before the OPUC, but for the P02h scenario, PacifiCorp informed Sierra Club that, "there are no additional hourly data files for the P02h variant case . . . the same hourly data files already provided . . . for the P02-MM case were relied upon for assessing reliability of the P02h case."[25] In other words, PacifiCorp performed no additional analysis for the P02h variant that would have justified manual decisions made outside of the model, such as the addition of a 500 MW nuclear plant in 2030, after Jim Bridger retirement and similar to the P02-MM case which added a nuclear plant in 2038.

In essence, PacifiCorp simply assumed that, because it chose to add a 500 MW nuclear plant to the P02-MM portfolio in 2038 when Jim Bridger Units 3 and 4 retire, the same nuclear

[25] Email from Carla Scarcella, PacifiCorp to Rose Monahan, Sierra Club (Jan. 26, 2022) (provided as Sierra Club Attachment 5).

plant should be added if the units retire by 2030 under the P02h variant. This assumption is highly inappropriate because the loads and resources in the 2030 timeframe are not equivalent to those in 2038. Meanwhile, PacifiCorp did not perform any re-optimization of portfolios after making reliability adjustments, including the second nuclear addition in P02h.

These additional revelations only serve to support the conclusion that the early retirement of Jim Bridger 3 and 4 is likely to be the most economic option among those evaluated by PacifiCorp because one of the primary reasons that the P02h variant appears more expensive than P02-MM is due to the addition of a very expensive nuclear unit in 2030. However, as PacifiCorp has admitted, it did not perform a detailed hourly analysis on the P02h variant case to justify the need for a second nuclear addition in the 2030 timeframe.

B. Both the No Minimum Scenario and P02h Scenario Will Likely Require Fewer Adjustments than the Company's Preferred Portfolio to be CETA compliant

As discussed earlier in our comments, to make the Preferred Portfolio CETA compliant, PacifiCorp made certain adjustments to P02-MM. These changes added approximately $164 million in (PVRR) costs relative to the initial P02-MM portfolio.[26] The most notable adjustment included the addition of a 160 MW wind and solar facility, co-located with storage, in Washington prior to 2030. It is not clear what changes would be necessary for the No Minimum Scenario or the P02h variant to become CETA compliant. Through discovery, PacifiCorp wrote that the P02h variant is not CETA compliant, however, the Company has not determined the specific actions it would need to take to bring the variant into CETA compliance.[27] The Company has not determined which energy efficiency additions would be necessary (the energy

[26] PacifiCorp 2021 IRP Vol. I at 261, Table 9.1; 291, Table 9.15.
[27] PacifiCorp Response to Sierra Club Data Request 08 (public data responses referenced in these comments are provided as Sierra Club Attachment 6).

efficiency potential is developed through the social cost of carbon variant) nor has the Company determined if the P02h variant needs additional supply-side resources allocated to Washington for compliance with RCW 19.405.040.[28] Given that the No Minimum Scenario and the P02h variant are already less expensive than the Company's P02-MM portfolio, and each retires Jim Bridger Units 3 and 4 prior to the 2030 compliance period, it is very likely that the portfolio would need fewer energy efficiency measures and supply-side resources to bring the variants into CETA compliance.

III. Barriers to Clean Energy Development

Figure 1.1 in PacifiCorp's final CEIP reports PacifiCorp's interim targets derived from its 2021 IRP preferred portfolio. The reported targets start from 31 percent in 2022 and increases to 55 percent in 2025.[29] Sierra Club believes that those targets would be significantly higher, while remaining cost effective, had PacifiCorp's modeling not relied on assumptions we find to be inappropriate, including:

- Coal Economics: As discussed in detail in the previous section, coal economics including fuel supply and unit retirement decisions have been modeled inappropriately resulting in both increased and prolonged operations of coal units. Increased coal generation (beyond what would be economically optimal for ratepayers) limits the deployment of renewable resources that would otherwise be providing the energy at a lower cost.

- Storage cost assumptions are inconsistent with other public data, leading to underinvestment in storage resources (whether standalone or hybrid), thereby keeping fossil fueled resources online and reducing the percentage of renewable energy.

- The capacity contribution of renewable and storage resources is inconsistent with the results of PacifiCorp's Capacity Contribution Study, in that PacifiCorp assumed significantly lower capacity contribution than its Study predicted. This lower capacity contribution of solar and storage resources increases the nameplate capacity that is required to fulfill capacity needs. By increasing the cost of the coal replacement portfolio,

[28] *Id.*
[29] PacifiCorp, Corrected Draft Clean Energy Implementation Plan at 10 (filed Apr. 27, 2022) [hereinafter "Corrected PAC Draft CEIP"].

the final portfolio is skewed towards prolonged use of fossil fuels and lower renewable targets.

Coal economics have been discussed in great detail in previous sections. Additional information about the two other erroneous assumptions sets—the cost and capacity contribution assumptions of renewable and energy storage technologies—are provided below.

A. Storage Cost Assumptions Are Inconsistent with Other Public Data Leading to Underinvestment in the Technology.

While some of PacifiCorp's cost and performance assumptions for different technologies are consistent with other recent public data, some assumptions are unsupported. Specifically, storage costs were assumed to be significantly higher than what other sources report, likely resulting in underinvestment in that technology in favor of more polluting ones, and consequently a higher cost portfolio for ratepayers.

PacifiCorp retained Burns & McDonnell Engineering Company ("BMcD") to evaluate various renewable energy resources in support of the development of the 2021 IRP and associated resource acquisition portfolios and/or products. According to the Company, the resulting 2020 Renewable Resources Assessment and Summary Tables[30] provide a high-level comparison of technical capabilities, capital costs, and O&M costs that are representative of renewable energy and storage technologies. PacifiCorp made additional adjustments to some of the cost and performance parameters to reflect the Company's own experience and professional judgment.

PacifiCorp's assessment is fairly comparable with the most recent (2021) Annual Technology Baseline ("ATB") report by the National Renewable Energy Lab ("NREL")[31] with

[30] PacifiCorp, *2021 Integrated Resource Plan*, Vol. II, App. M (Sept. 1, 2021, *available at* https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2021-irp/Volume%20II%20-%209.15.2021%20Final.pdf [hereinafter "PacifiCorp 2021 IRP Vol. II"].
[31] *Annual Technology Baseline,* NREL, *available at* https://atb.nrel.gov/.

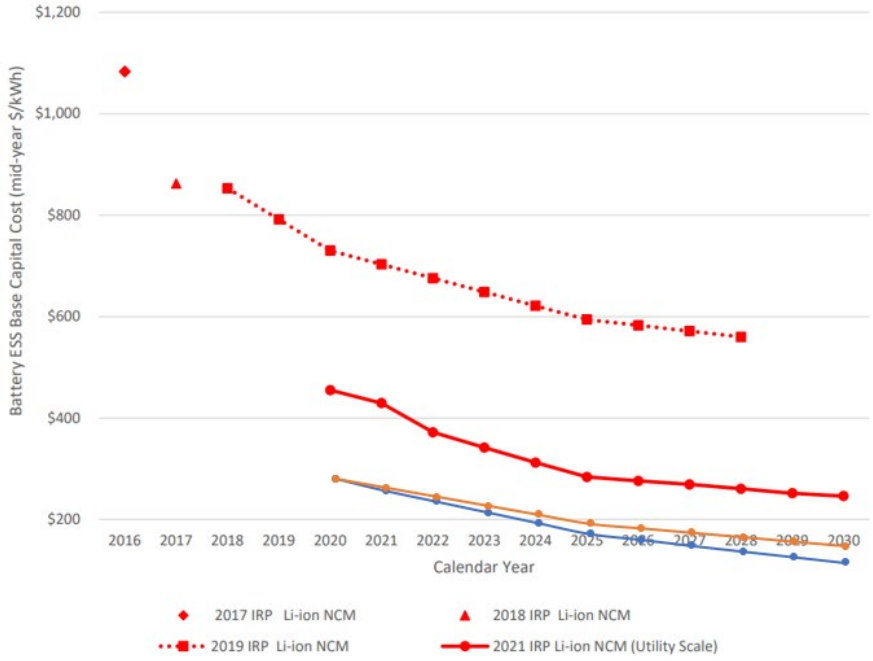
the exception of battery storage cost estimates, which differ significantly. For example, PacifiCorp assumed that a 4-hour Li-Ion battery, that is available in 2021 and has a commercial operation year of 2023, has a capital cost of $1,820/kW, while NREL's ATB predicts $1,281-1,351/kW for 2021 installations and $1,070-1,275/kW for 2023 installations.[32] Similarly, PacifiCorp assumed a capital cost of $4,622/kW for an 8-hour battery, while NREL's ATB projects the cost to be $2,318-2,444/kW in 2021 and $1,937-2,307/kW in 2023. PacifiCorp's higher cost assumptions combined with other flawed assumptions and modeling choices, such as the Company's low gas price forecast relative to actual gas prices, caused underinvestment in clean energy and storage technologies in the Company's optimized portfolios.

PacifiCorp acknowledged that when comparing bid costs from the recent all source RFP to the supply side table ("SST"), they "found that the wind and solar capital investment costs were reasonably aligned but the standalone Li storage in the SST was higher cost than the RFP. In light of this, battery costs were assumed to de-escalate faster between 2021 and 2024 to be more in line with the RFP."[33]

Despite this de-escalation, storage cost assumptions remained high. The 2021 IRP's Figure 7.5, in Volume I, (reproduced below) shows the forecast of storage costs that informed the Company's modeling. In addition to the IRP's cost curves, we have overlaid the NREL assumptions with an orange line (moderate) and a blue line (advanced).

[32] NREL ATB estimates are expressed in $2019 but were adjusted to $2020 for a consistent comparison (using a 2.5% inflation assumption).
[33] *In the Matter of PacifiCorp, d/b/a Pacific Power, 2021 Integrated Resource Plan,* Docket No. LC 77, PacifiCorp Reply Comments at 64 (Ore. P.U.C. Dec. 23, 2021), *available at* https://edocs.puc.state.or.us/efdocs/HAC/lc77hac144535.pdf.

Figure 3. Figure 7.5 from PacifiCorp 2021 IRP Volume I



B. Inconsistencies Between PacifiCorp's Capacity Contribution Study and the Preferred Portfolio with Respect to the Capacity Value of Solar Plus Storage Potentially Leads to an Overbuild of Coal Replacement Resources.

PacifiCorp provided a detailed capacity contribution study in Appendix K of its IRP. The study provided the percentage of a resource's nameplate capacity that is considered reliable for meeting system demand.[34] This analysis relied upon the capacity factor approximation method, which NREL determined to be the most dependable capacity contribution approximation technique. This method was applied to a portfolio similar to the Preferred Portfolio in 2030, and thus contemplates a significant amount of renewable resource penetration. The results of this study for solar plus storage are especially noteworthy since they found the capacity contribution to be on the order of 79-82 percent in the summer and 91-95 percent in the winter.[35] These

[34] PacifiCorp 2021 IRP Vol. II, App. K.
[35] *Id.* at 221.

values are comparable to many traditional thermal resources after accounting for forced outage rates.

This shows that solar plus storage is a perfectly viable replacement option for retiring coal resources or in lieu of proposed new thermal additions such as the Jim Bridger gas conversions, the Natrium nuclear plant, or non-emitting peaker plants. However, PacifiCorp significantly discounted solar plus storage as a viable capacity resource option in lieu of those thermal alternatives, particularly in the later years of the planning period. For instance, in the P02a-JB 1-2 No GC variant case (i.e., no gas conversion at Jim Bridger), a significant amount of costly non-emitting peakers are added starting in 2031 instead of simply adding more solar plus storage, which is cost effective.[36] A similar result is seen in the P02e-No Nuc variant case (i.e., removing the Natrium plant), which favored non-emitting peakers in the later years, rather than solar plus storage additions.[37] In the P02h-JB3-4 Retire variant case (i.e., retire Jim Bridger 3 and 4 by 2030), an additional nuclear unit is added in 2030 instead of increasing solar plus storage deployment.[38]

Given the relatively high cost of the nuclear and non-emitting peakers, it is unclear why these would be deployed in lieu of solar plus storage which has a relatively comparable capacity contribution according to PacifiCorp's study. Sierra Club acknowledges that most resources tend to have a declining capacity contribution at higher levels of penetration, which would also be true of solar plus storage. However, PacifiCorp has provided no evidence on what those declines would be for specific resources, or evidence that such declines would be large enough to erode the value of solar plus storage as a viable alternative to thermal resources.

[36] PacifiCorp 2021 IRP Vol. I at 269-70.
[37] *Id.* at 279-81.
[38] *Id.* at 287-89.

Finally, PacifiCorp may have used entirely different capacity contribution values than those included in its own study in Attachment K. For example, Table 9.17 shows that the installed capacity of the Preferred Portfolio includes 4,781 MW of battery storage collocated with solar by 2040.[39] Meanwhile Table 9.18 shows a solar plus storage summer capacity contribution of only 1,811 MW (1,228 MW east, 583 MW west),[40] or a capacity contribution of approximately 38 percent as a percentage of nameplate. This is substantially lower than the 79-82 percent range from PacifiCorp's own study. Even for the year 2030, the total solar plus storage summer capacity contribution is 1,125 MW (350 MW east, 775 MW west), or approximately 66 percent of the 1696 MW of installed capacity. This capacity value of 66 percent is still far lower than the 79-82 percent range that PacifiCorp's study would suggest.

To summarize, PacifiCorp's analysis assumed capacity contributions from solar plus storage that are much lower than their own study presented in Attachment K. Even accepting the lower capacity contributions, there is a significant decline in the capacity value of this resource (i.e., from 66 percent to 38 percent) that the Company did not fully explain, nor did it provide any supporting analysis in the IRP. The assumed decline in capacity value has a significant influence on the overall resource selection process and warrants further documentation. If PacifiCorp is in fact undervaluing the capacity contribution of solar plus storage, as the analysis presented above shows, then the Company may be overbuilding capacity resources. Sierra Club recommends that the Commission require PacifiCorp to provide justification for its capacity contributions assumptions, including any assumed decline in capacity value over time. Should the Company not provide sufficient justification, the Company should amend its assumptions when it refiles the CEIP based on the new No Minimum Scenario.

[39] *Id.* at 307, Table 9.17.
[40] *Id.* at 310, Table 9.18 (cont'd).

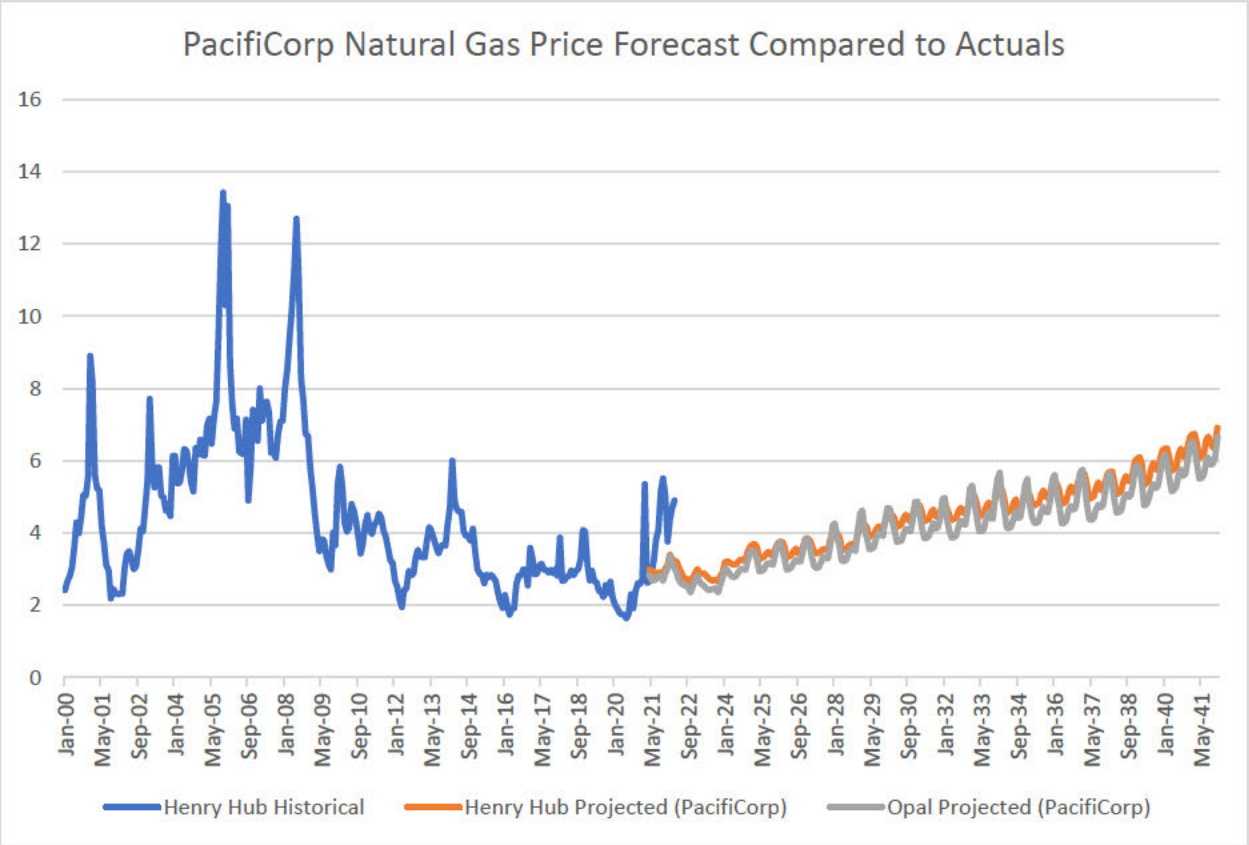
IV. CETA's Requirements Reduce Washington Customers Exposure to the Risks of the Jim Bridger Gas Conversion

As described in its IRP, PacifiCorp plans to convert Jim Bridger Units 1 and 2 from coal-to-gas by 2024. Fortunately for Washington customers, PacifiCorp does not intend to include any of the coal-to-gas plant conversion in Washington rates.[41] This is a notable sign that CETA is working as intended and is reducing customers risk to volatile natural gas prices that are borne almost exclusively by customers.

Although the capital costs for converting the plant are relatively small, the Company's planned conversion carries significant fuel cost risk that is borne almost exclusively by ratepayers. The recent rise in natural gas prices has already significantly outpaced PacifiCorp's forecast. In its IRP, the Company forecasted Henry Hub prices at just under $3/MMBtu in 2021, slowly rising to $4 in 2029, $5 in 2034, and ultimately topping off at just under $7/MMBtu by 2041. However, the domestic and international markets have continued to evolve and natural gas prices have significantly outpaced PacifiCorp's forecasts. Henry Hub prices exceeded $3/MMBtu in June 2021, $4 by August 2021, reached $5/MMBtu in September 2021, and daily prices nearly reached $8/MMBtu in April 2022. Figure 2 below shows that the Company's monthly natural gas prices significantly trail actuals from June 2021 until today.

[41] Sierra Club Attach. 6, PacifiCorp Response to Sierra Club Data Request 10.

Figure 4. Historic Henry Hub Prices and PacifiCorp's IRP Natural Gas Price Forecast



Sierra Club does not purport to know the future price of natural gas. It is possible that gas prices will settle back to the $2-$3/MMBtu range that we were accustomed to seeing a few years ago. However, there is reason to believe that we are seeing a long-term trend of higher natural gas prices. There is presently a global natural gas supply crunch, and the US is rapidly becoming a leading liquified natural gas export leader. Fossil fuel company shareholders are demanding higher returns after a decade of relatively low growth of returns.

Although the future price of natural gas is uncertain, we are certain that customers carry the risk of increasing costs. Power costs are passed onto customers annually through a Power Cost Adjustment Mechanism ("PCAM"). Unlike most jurisdictions across the country, in Washington, PacifiCorp has some "skin in the game" through the use of dead and sharing bands. However, the PCAM sharing mechanism is primarily intended to force the utility to accurately

predict and execute on that prediction on an annual basis. The PCAM is indifferent to the relative price of an input, like gas. PacifiCorp can adjust its forecast annually, and thus can track the upward trajectory of costs, which means the Company's risk exposure is limited when considering a long-term investment decision like the gas conversion. Neither the PCAM nor any other regulatory mechanism would have the utility share in the costs and benefits of its gas price forecast over the long-term. PacifiCorp is unlikely to assume that type of risk for its shareholders.

V. Incremental Cost Calculation

In the Company's original CEIP filing, the Company found an incremental cost of approximately $2.3 million annually. However, while preparing a response to a Sierra Club data request that identified an abnormally high increase in market purchases in 2025, PacifiCorp recognized an error in its incremental cost calculation. The Company submitted revised calculations on April 27 with an annual incremental cost reduction of $0.23 million on a present value basis.[42] Sierra Club did not identify any other issues with the Company's incremental cost calculation. However, as our comments have discussed in length, we do not believe that the Company is using the correct scenario as the basis of its CEIP. Should the Company refile its CEIP using the No Minimum Scenario, we would expect the incremental cost to change as well.

VI. Customer Benefit Indicators and Equity Mandate

Sierra Club generally finds that PacifiCorp has taken seriously CETA's goal that the benefits and burdens from the transition to clean power be equitably distributed among all Washingtonians. Several elements of PacifiCorp's plan importantly support PacifiCorp to

[42] Redline Errata to PacifiCorp's Final Clean Energy Implementation Plan at 6-7 (Apr. 27, 2022).

evaluate the equitable distribution of customer benefits. However, there is room for improvement. The CBIs, CBI metrics, and associated specific actions can do more to meaningfully and tangibly advance an equitable clean energy transition. Below, we identify ways in which PacifiCorp should amend its CBI approach to ensure that it maximizes its impact towards meeting CETA goals.

A. PacifiCorp Should, Where Appropriate, Include Directionality in Its Metrics

PacifiCorp developed metrics "to evaluate progress along" its nine indicators and "to measure how their actions are influencing those metrics over time."[43] However, the CEIP does not specify what direction the metrics should move in (i.e., increase or decrease) to indicate such "progress." Evidently, PacifiCorp did specify the directionality of the proposed metrics at one time but decided to remove that directionality after reviewing peer utilities' draft CEIPs. PacifiCorp states that it removed directionality "to allow tracking and measurement to be more objective and easier to interpret."[44]

It is unclear why removing directionality allows tracking and measurement to be more objective and easier to interpret. In fact, PacifiCorp can more easily determine whether it made progress on its CBI metrics over time by establishing upfront, through the current public process, whether progress means an increase or decrease in the metric. As for objectivity, specifying the intended impact of specific actions on CBI metrics should not have any effect on the objectivity of metric measurement or tracking; that process can and should be separate from the CEIP goals.

[43] Corrected PAC Draft CEIP at 27.
[44] *Id.* at 42.

Stakeholders also support directionality of metrics, as evidenced by the directionality of the Joint Advocates' proposed metrics filed in July 2021 with each of the utilities and the Commission. [45]

Establishing the direction that PacifiCorp needs to move its metrics in the future does not mean setting targets for those metrics. The process is still at the data-gathering stage and should not bind the utility to a particular outcome. However, specifying the intended direction is an intuitive and low-stakes step towards achieving future goals. The Company should reinstate directionality for the CBI metrics.

B. The Next CEIP Should Focus on Targeting Named Communities Beyond Highly Impacted Communities (HICs)

In accordance with CETA, PacifiCorp identified the named communities in its service territory, which consist of both highly impacted communities ("HICs") and vulnerable populations. The state has put forth a methodology for identifying HICs, which are communities with the worst combined levels of pollution burdens and population characteristics (socioeconomic factors and health sensitivities). Around 27 percent of PacifiCorp's customers live in HICs—all of them in the Yakima area.[46] To identify vulnerable populations, stakeholders informed the selection of 22 groups, including low-income people, people with a disability or medical equipment at home, the elderly, and single parents.[47]

PacifiCorp used these named communities throughout the CEIP, either as unique populations for developing baseline data on each metric, or as targets for specific actions. Generally, the focus tends to be on HICs, particularly in specific actions, where, for example, the

[45] *PacifiCorp's Clean Energy Implementation Plan (CEIP) 2022 Public Participation Plan and related dockets*, Docket Nos. UE-210305, UE-210297, UE-210295, Joint Comments on Customer Benefit Indicators on Behalf of the Energy Project, Front and Centered, NW Energy Coalition, and the Washington State Office of the Attorney General, Public Counsel Unit (July 30, 2021), *available at* https://www.utc.wa.gov/casedocket/2021/210305/docsets [hereinafter "Joint Advocates' Comments on Proposed Metrics"].
[46] *Id.* at 31.
[47] *Id.* at 32.

Home Energy Savings program (part of the energy efficiency specific actions) focuses on HICs except for the final subcategory, which calls out "named communities." It is likely easier for PacifiCorp to target HICs than vulnerable populations, as the former are geographically predefined and don't require the potential prioritization, outreach, and implementation challenges that the vulnerable populations might require. However, it is important to ensure that these programs reach customers who would otherwise be unable to access them, such as low-income communities and other vulnerable populations in non-HICs, like the Walla Walla area. It is unclear from the plan how PacifiCorp plans to prioritize those customers and the Company's intentions should be more clearly delineated. Through its stakeholder process, PacifiCorp should also focus on identifying programs specifically targeting vulnerable populations who may not reside in highly-impacted communities.

C. Considerations for Equitable and Cost-Effective Transportation Electrification

PacifiCorp proposes to establish an electric vehicle grant program to provide additional support for named communities to install EV charging infrastructure, purchase EV charging infrastructure, conduct outreach and education, and potentially purchase EVs.[48] The Company intends to detail the assumptions in its 2022 Transportation Electrification Plan. Sierra Club applauds the initial concept of this proposal. With regards to this CEIP, PacifiCorp should include EV load management in its suite of demand response specific actions to anticipate and address the cost and equity impacts of the transition to electric transportation. Electrifying transportation can have unintended equity consequences if not carefully planned. If EV load is unmanaged, the majority of EV charging will likely occur during peak periods and create considerable rate pressure due to increasing electric system costs from EVs consuming energy

[48] *Id.* at 91.

when prices are highest and due to the need for significant infrastructure buildout to accommodate the higher system peak load. Higher electricity costs disproportionately burden low-income customers, who are also less likely to benefit directly from EV ownership and charging infrastructure deployment in the near term, another reason why incentives and grants to support low-income customers transitioning to electric vehicles is so critical.

Despite the potential for negative grid impacts, EVs are more flexible than many other traditional loads, meaning that in most cases, the timing and speed of charging can be controlled through load management. We did not see a discussion of load management as part of PacifiCorp's demand response specific actions. Utilities can ensure that EV charging is aligned with grid needs through managed charging programs: passive (i.e., shaping customer behavior through rate design or other incentives) or active (i.e., using communication/dispatch signals to control charging).

Managed charging programs could save PacifiCorp and its ratepayers significant future costs if the utility anticipates the inequitable grid impacts of EV load by incorporating load management into its CEIP—as a specific offering among the demand response programs[49] and as part of the CBI metrics, which will be discussed below.

D. PacifiCorp Should Include Reduced Pollution Burden and Pollution Exposure as a Customer Benefit Indicator

Sierra Club is largely supportive of the Joint Comments on Customer Benefit Indicators on behalf of four parties in Washington that were submitted to the utilities on July 30, 2021.[50] The Joint Advocates identified important CBIs and metrics that PacifiCorp should adopt but has declined to in this proceeding. Specifically, the Company should adopt the Joint Advocates'

[49] *Id.* at 81-83.
[50] Joint Advocates' Comments on Proposed Metrics.

recommendation to track "Reduced Pollution Burden and Pollution Exposure" as a CBI, including the following as metrics:

- Decrease in share of population and pollution, by race/ethnicity, geography and all customer groups
- Decrease in air pollution exposure index, by race/ethnicity and all other customer groups
- Reduction of particulates from fossil fuel burners in targets neighborhoods
- Reduction in airborne particles in neighborhoods next to rain lines that transport coal
- Improved air quality due to reduction in diesel particulate emissions.

In its CEIP, PacifiCorp responded to Joint Advocates request to track reduced pollution burden and exposure by stating that it does not plan to track this CBI and metrics because the Company does not directly control the source of emissions, or because the Company does not have significant emitting resources within its Washington service territory.[51] Sierra Club understands that PacifiCorp is not directly a significant contributor to diesel emissions nor does it have significant emitting resources located within its Washington service territory. Nevertheless, the Company is in the fortunate position of having a tremendous influence on reducing these environmental burdens. In fact, the Company's active collaboration is necessary for taking certain actions, such as reducing diesel particulate emissions. For example, through its Transportation Electrification Plan, the Company can target diesel vehicles in named communities for electrification, such as school buses and farm equipment. Electrifying these types of diesel vehicles would undoubtedly improve the air quality of the community.

[51] Corrected PAC Draft CEIP, App. A at 16.

PacifiCorp is already willing to track CBIs and metrics for which it does not have direct responsibility or control. The Company is rightfully proposing "Indoor Air Quality" as a CBI and will track the following metrics:[52]

- Number of households using wood as primary or secondary heating
- Non-electric to electric conversions for Low-income weatherization program.

PacifiCorp does not have direct control over the number of customers who are using wood as a primary or secondary heating source, but the Company rightfully understands that it does have some control over the solution for improving the indoor air quality in those households. As with identifying and tracking metrics for improving indoor air quality, the Company should be tracking CBIs and creating metrics for reducing pollution burden because it has the ability to shape outcomes through its actions.

E. Additional CBI Metrics

PacifiCorp collected several sets of baseline data for the metrics underlying its nine CBIs. In general, the records are thorough and do a good job of disaggregating data by HIC, vulnerable population, and other informative subcategories. For example, breaking out HIC-specific System Average Interruption Duration Index ("SAIDI"), System Average Interruption Frequency Index ("SAIFI"), and Customer Average Interruption Duration Index ("CAIDI") scores is transparent and beneficial for evaluating equity impacts. However, there are a few areas for improvement.

1. PacifiCorp should be tracking more than participation and expenditures on its energy, efficiency, and billing assistance programs. While participation is an important measure of engagement and program expenditures are an important component of equitably distributing benefits, neither helps quantify the actual impacts of the various programs. Instead, tracking the dollar, kW, and kWh savings from each program, across specific, named communities where applicable, would help PacifiCorp, the public, and the UTC evaluate the programs' success and course correct for higher impact and equity if necessary. Although the utility may already track some program impacts in other dockets (ex: energy efficiency), the CBI metric framework offers the important opportunity to

[52] Corrected PAC Draft CEIP at 35.

specifically call out and seek progress on impacts by named community. Such impact metrics would fit well under the CBI "Efficiency of housing stock and small businesses, including low-income housing," under which PacifiCorp is already tracking program count and expenditures. The CBI is intended to encompass the "cost reduction" benefit category, making such impact metrics highly appropriate.

2. While household energy burden is an important indicator of energy affordability, it would be useful to track trends in electricity costs, such as the average monthly bill as compared to previous years, as PacifiCorp pursues GHG neutrality. Stakeholder survey, both the public respondents and the Equity Advisory Group ranked affordability as one of the most important CBI categories. To that end, the utility should add a metric examining trends in bill impacts.

3. PacifiCorp plans to track the headcount of staff supporting program delivery in Washington who are women, minorities, and/or can show disadvantage, but will only do so for third party program delivery staff who are customer and or vendor/trade ally facing (either in person, via email/mail, web meeting or phone) and are focused on engaging customers in outreach, technical, and back-office functions. The rationale for this decision is unclear but given the importance of staff diversity at all levels of an organization, PacifiCorp should be collecting this demographic information about all staff, not just the subset it identified.

VII. The Commission Should Return to Its Previous Practice of Providing Comments on the Integrated Resource Plan Acknowledgement Letter Prior to the Company Fully Developing Its Clean Energy Implementation Plan.

In previous IRP cycles, after extensive Staff and stakeholder review, it was the Commission's practice to provide comments and feedback to the utility through its Acknowledgment Letter attachment. The Commission would comment on what it liked in the utility's analysis, what it did not, and highlighted areas for improvement in the next IRP. Through this informal process the Commission could provide feedback that, although does not carry the weight of an order or even a Policy Statement, nevertheless provided all parties insight into its thinking and crucially provided direction to the utility should it subsequently base any actions on its IRP. In this IRP cycle, the Commission deferred any comment in lieu of the CEIP process. Sierra Club understands why the Commission took this approach in this first CEIP and recognizes that all parties, including the Commission, are grappling with how to appropriately implement CETA.

Given our experience with this process to-date, Sierra Club encourages the Commission to consider reverting to its past practice of providing comments through the IRP acknowledgement letter. Sierra Club's position is underscored by the position it finds itself in, advocating for an extension of the CEIP process and asking that the Commission require the Company to rerun its models and set new specific and interim CEIP targets all the while the Company is busy laying the groundwork for the 2023 IRP and trying to implement this CEIP. To some extent, this may be unavoidable, and a feature of the process as defined in CETA. There is always a chance that the Company will have rerun its IRP analysis to determine new specific and interim targets. However, as is clear from these comments, the IRP process has significant impact on the CEIP. By not providing comment on the IRP, the Commission is foregoing a critical opportunity to shape the Company's CEIP prior to its development and reducing the amount of regulatory administrative process in the CEIP. If the Commission is not satisfied with the basis of the Company's CEIP, as we are advocating in this CEIP, identifying that issue earlier in the process would reduce administrative burden and allow all parties, including the Company, to focus on implementing CETA.

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Respectfully submitted,

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