Docket No. UE 420
Exhibit SC/200
Witness: Ed Burgess

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

In the Matter of PACIFICORP d/b/a PACIFIC POWER, 2024 Transition Adjustment Mechanism	Docket UE 420

Rebuttal Testimony of Ed Burgess

On Behalf of

Sierra Club

Public Version

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1. Overview

Q. What is the focus of your rebuttal testimony?

A. The focus of my rebuttal testimony is on Mr. Owen's Reply Testimony regarding Jim Bridger coal fuel costs. I also briefly address Mr. Mitchell's Reply Testimony on Extended Day Ahead Market ("EDAM") and AURORA modeling. Mr. Owen's Reply addressed several other issues I raised, particularly regarding new coal supply agreements ("CSAs") for coal supplies in Utah. While my Rebuttal does not specifically address Mr. Owen's Reply on several of these issues, I still support my initial findings and recommendations.

2. Bridger Coal Company ("BCC") Scenario Analysis in the 2023 Long Term Fuel Supply Plan ("LTFSP")

Q. Can you reiterate some key features of PacifiCorp's scenario analysis in its LTFSP?

A. Yes. PacifiCorp ("Company") compared the total net power costs ("NPC") cost of six different fueling scenarios. Of these, the Company's preferred option was Scenario 5/6, which [redacted] In my opening testimony, I concluded that Scenario 4 would be a more prudent option (of those that PacifiCorp studied) since it includes a lower volume of BCC coal,[1] and therefore reduces PacifiCorp customers' exposure to one of the Company's most costly coal plants. It also reduces the risk of exposing customers to fixed mining costs that could become stranded assets.

Q. According to PacifiCorp's most recent analysis, which of these scenarios was lower in cost from a Present Value Revenue Requirement ("PVRR") perspective?

A. If PacifiCorp's analysis is taken at face value, then Scenario 5/6 is about $[redacted] (PVRR) lower in cost than Scenario 4.[2] However, this does not necessarily mean it is the least-cost, least-risk scenario overall. As I alluded to, Scenario 5/6 exposes PacifiCorp customers to more generation from Jim Bridger, and the risks associated with that

[1] *See* Reply Test. of James Owen at Owen/37:16-20 [hereinafter "PAC/500"] (describing Scenario 4 as a low production scenario, representing the minimum operating level at the Jim Bridger mine).
[2] PAC/500 at Owen/36:3-4.

generation. Additionally, there may be other potentially lower cost scenarios that PacifiCorp did not study, such as retiring the Jim Bridger plant and Bridger mine before 2029 or operating the plant and mine on a seasonal basis.

Q. Do you think PacifiCorp's analysis suggesting Scenario 5/6 is lower in cost than Scenario 4 (or other unstudied options) should be taken at face value?

A. No. As PacifiCorp conceded in its Reply Testimony, the Company's original LTFSP analysis contained a significant error that upon correction resulted in a much smaller cost differential between Scenario 4 and Scenario 5/6. More specifically, the cost differential shrank from $[redacted](PVRR) to $[redacted](PVRR) after the correction was made. In other words, PacifiCorp's original analysis contained an error with a magnitude of at least $[redacted](PVRR). It is conceivable there are other errors in PacifiCorp's analysis of a similar magnitude that remain uncorrected and would further shrink the cost differential to $0 or less. As I will discuss below, there were several other potential errors that I identified in Opening Testimony that PacifiCorp did not correct in its Reply.

Q. Can you further describe the error PacifiCorp made in its original LTFSP analysis?

A. According to PacifiCorp's Reply Testimony: "PacifiCorp has identified an error in the reporting of market purchases and sales in the 2023 Fuel Plan results, which made wholesale sales appear to be a larger portion of the benefits in Scenario 5 than was actually the case."[3] In other words, the benefits from wholesale sales in Scenario 5 were erroneously inflated, an issue that I raised in Opening Testimony.

Q. How does PacifiCorp characterize these benefits in its corrected analysis?

A. PacifiCorp states that in the corrected analysis, "approximately 11 percent of the incremental Jim Bridger coal-fired generation in Scenario 5 relative to Scenario 4 took the form of additional market sales, including 21 percent in 2024."[4] Thus, some amount of the incremental generation from the Jim Bridger plant under Scenario 5 is still going towards off-system, wholesale sales, rather than serving PacifiCorp's customers.

[3] PAC/500 at Owen/39:13-15.
[4] PAC/500 at Owen/39:18-20.

Q. Do you agree with PacifiCorp's characterization of Sierra Club's position regarding off-system sales?

A. No. PacifiCorp states that Sierra Club "cherry picks NPC components to support their flawed narrative"[5] and insinuates that Sierra Club sought to remove wholesale sales from the NPC analysis. None of this is true. Sierra Club has always recognized that wholesale purchases and sales should be part of a comprehensive NPC analysis. However, Sierra Club remains concerned that PacifiCorp's analysis – whether intentional or not – may be skewing the results towards a certain preferred outcome (i.e., Scenario 5/6). One factor, among others, Sierra Club identified that could skew the results would be if PacifiCorp is using different assumptions between scenarios regarding the quantity of wholesale purchases and sales. This concern was evidently warranted given the error that PacifiCorp acknowledged, which was specifically related to its treatment of wholesale sales. Sierra Club remains concerned there are still other errors or inconsistencies inflating the benefits of Scenario 5.

Q. What other errors or inconsistencies in the LTFSP remain uncorrected?

A. I identified several potential categories of errors or inconsistencies in my Opening Testimony (page 31 line 25 through page 32 line 10), including:

- the inclusion of 2023 costs,
- an unexplained change in "other generation" between scenarios that is unrelated to Jim Bridger's output,
- inconsistent coal pricing assumptions between regulatory filings, especially after 2025, and
- the inability to consider new generation resources in the later years.

It is not clear to me that any of these (let alone all of them) were actually addressed in PacifiCorp's correction. As one example, my Opening Testimony mentioned the fact that the LTFSP scenario comparison included costs from 2023, even though these costs are irrelevant for decision-making in 2024 and beyond. In PacifiCorp's original analysis, the

[5] PAC/500 at Owen/40:18-19.

2023 costs inflated the differential between Scenario 4 and 5 by $[redacted] In the corrected analysis, this discrepancy appears to have been reduced to about $[redacted].[6] PacifiCorp's Reply Testimony did not provide any sound rationale for continuing to include these 2023 costs in its corrected analysis, other than the fact that the Integrated Resource Plan ("IRP") also starts in 2023. The fact that the IRP's time horizon starts in 2023 does not change the fact that 2023 costs should be excluded when evaluating a fueling plan for 2024 or identifying prudent costs for 2024 TAM recovery. PacifiCorp also provides no explanation for why 2023 costs differ between Scenarios 4 and 5, even though the quantities of fuel received are identical in the analysis for that year (and presumably cannot be changed mid-year anyways).

By the same token as the 2023 costs (which should definitely be excluded from consideration in the 2024 TAM), the PVRR calculation that PacifiCorp uses to compare the scenarios in the LTFSP also includes costs for years beyond 2024 (i.e., 2025-2029) which are arguably not relevant to the 2024 TAM. In both PacifiCorp's original analysis and its correct analysis, I estimate that these future post-2024 costs account for about $[redacted] of the PVRR difference between Scenarios 4 and 5.

As another example that I addressed in my Opening Testimony, there was an unexplained [redacted] in "other generation" (described as "hydro, wind, etc.") for Scenario 5 relative to Scenario 4. This was true even though there was [redacted] from Jim Bridger in Scenario 5, which [redacted]. In PacifiCorp's original analysis I estimate that this unexplained [redacted] in other generation from Scenario 4 to 5 inflated the cost differential by at least $[redacted] in 2024 alone. PacifiCorp's corrected analysis appears to have partially resolved this issue, since the amount of "other generation" is only [redacted] in Scenario 5. However, this is still a problematic assumption because it suggests that the increased generation from Jim Bridger output in Scenario 5 only ever displaces thermal resources or market purchases, and never displaces other generation (e.g., hydro, wind

[6] Confidential Workpaper Accompanying Reply Test. of James Owen (PAC/500), "Total NPC MMBTU MWH (Corrected).xlsx."

curtailment, etc.). For this reason, I still would have expected Scenario 5 to have a [redacted] amount of other generation.

Finally, as I pointed out in my Opening Testimony, there are coal cost inputs that are inconsistent or vary inexplicably between the workpapers PacifiCorp provided. For instance, the BCC $/ton assumptions used in the LTFSP for Scenario 5 is noticeably lower than those provided in PacifiCorp's Compliance Filing to Order No. 22-389,[7] even though the total tons delivered is identical in each year. If the cost per ton assumptions were adjusted to be consistent with the Compliance Filing, I estimate that this would increase Scenario 5's costs by about $[redacted]. Furthermore, the incremental coal costs in Scenario 5 of the LTFSP inexplicably [redacted] in years 2027 and 2028.

Q. What do you think the PVRR cost differential between Scenarios 4 and 5 would be if these other corrections were made?

A. If other corrections were made, I believe the PVRR cost differential between Scenarios 4 and 5 would be *de minimis*. In other words, I think it is reasonable to consider Scenarios 4 and 5 as roughly on par with each other from a cost perspective. Meanwhile, Scenario 4 would carry much less risk exposure to the costs of Jim Bridger for PacifiCorp customers.

Q. Have you estimated what the 2024 NPC cost difference would be under Scenario 4?

A. Yes. Based on PacifiCorp's corrected analysis, Scenario 4's 2024 NPC costs appear to be about [redacted] higher than Scenario 5. However, this increased cost does not take into account any of the potential corrections I mentioned earlier. It also carries lower risk exposure to generation from Jim Bridger and fixed mining costs. For comparison, this increase in costs is equivalent to about [redacted]% of PacifiCorp's estimated wholesale transactions. In other words, it would be similar to PacifiCorp underestimating wholesale power prices by about $[redacted]MWh. It is also worth noting that, according to PacifiCorp, 21 percent of the incremental Jim Bridger generation in 2024 under Scenario 5 goes towards additional market sales. I estimate that this contributes $[redacted] million in benefits

[7] Provided in PacifiCorp Response to Sierra Club Data Request 1.22, Ex. SC/104.

to Scenario 5. Thus, if these incremental wholesale sales did not materialize, the NPC of Scenarios 4 and 5 would be virtually identical.

3. Costs Associated with Early Mine Closure

Q. PacifiCorp's Reply asserts that "Sierra Club errantly compares the cost of closing BCC in 2023 with calendar year 2023 costs in other scenarios that assume BCC will operate through 2029. Sierra Club fails to recognize that prudently incurred costs for mine investment and reclamation costs are recovered during the mine's operating life. Operating costs will increase when these fixed costs are expensed or funded over a shorter period of time."[8] Do you agree?

A. No. I do agree that operating costs will increase when fixed costs are expensed over a shorter period of time. However, and unfortunately, neither PacifiCorp's Reply nor its LTFSP delineated what costs from future years (i.e., 2024-2029) it considers fixed and would therefore need to be recovered in 2023 if BCC closed early. Thus, I was unable to assess the impacts of early closure on fixed cost recovery. Based on my preliminary analysis comparing Scenarios 3 and 5, it appears that PacifiCorp considers over [redacted] of BCC costs in 2024-2029 to be fixed. However, with the possible exceptions of reclamation and depreciation costs, it's not clear to me what other categories of future costs in these years could be considered "fixed" at the time of PacifiCorp's application.

Q. Presuming reclamation and depreciation costs make up the majority of fixed costs in 2024 through 2029, would those necessarily need to be recovered immediately in the case of an early mine closure?

A. No. There may be other means of recovering these costs more gradually, such as through a regulatory asset with a lifetime through 2029. Additionally, it is possible that the Energy Infrastructure Reinvestment ("EIR") program, which was authorized through the Inflation Reduction Act ("IRA") and provides low-cost financing to facilitate the retooling, repowering, repurposing, or replacing of fossil infrastructure to reduce greenhouse gas emissions, could be leveraged to reduce some of these fixed costs. For example, the director of the Loans Program Office at the U.S. Department of Energy,

[8] PAC/500 at Owen/37:11-16.

environmental remediation at brownfield sites accompanying the redevelopment of coal facilities.[9] PacifiCorp's Application and Reply make no attempt to explore these potential options for alleviating fixed costs.[10]

Q. Was Sierra Club's discussion of early BCC closure linked to Scenario 4?

A. No. PacifiCorp's Reply seems to conflate these issues.[11] The Company seems to suggest that Scenario 4 should be excluded from consideration due to Sierra Club's arguments regarding early mine closure. However, [redacted] Scenario 4 [redacted]. I continue to recommend that Scenario 4 would be a more prudent option than Scenario 5, however this is not on the basis of early mine closure. That said, there may be other scenarios that include early mine closure that are even more prudent than Scenario 4.

Q. Are there other early mine closure scenarios that PacifiCorp did not evaluate in its LTFSP?

A. Yes. For example, there could be a "Phase-down and Replace" scenario where PacifiCorp operates [redacted] at which point other generation resources could be added, such as low-cost wind or solar. If located near the Jim Bridger site, these replacement resources could leverage energy community bonus IRA tax credits and the EIR program to lower their overall costs and mitigate any remining fixed reclamation costs. It's also not clear why the draglines could not be operated for a portion of the year to minimize base fuel costs.

Q. PacifiCorp's Reply asserts that Scenario 3 [redacted][12] Do you agree?

A. Not entirely. Sierra Club requested a scenario that operated Bridger mine through 2025. In contrast, Scenario 3 [redacted]. Additionally, Scenario 3 [redacted]

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[9] *Tapping into DOE's $250B of Loan Auth. for Projects that Reinvest in US Clean Energy Infrastructure,* Util. Dive (July 6, 2023), *available at* https://www.utilitydive.com/news/department-of-energy-doe-250-billion-loan-authority-solar-wind-storage-nuclear-clean-energy/653530/.

[10] PacifiCorp Response to Sierra Club Data Request 5.2, attached as Ex. SC/201.

[11] PAC/500 at Owen/37.

[12] PAC/500 at Owen/41.

[redacted]

[redacted]

4. Annual LTFSP Update

Q. In PacifiCorp's Reply Testimony, the Company disagreed with your recommendation to update the LTFSP every year, rather than every two years. How do you respond?

A. I stand by my earlier recommendation to update the LTFSP every year. PacifiCorp argues that every two years is appropriate since that would coincide with its IRP cycle. PacifiCorp asserts that "this makes sense because (1) the IRP relies upon data developed for the long-term fuel plan, and (2) the long-term fuel plan relies upon the resource mix in the preferred portfolio from the biennial IRP filing."[13] Yet, in the current IRP cycle, the IRP did not rely on the LTFSP, because it was not completed until after the IRP was finalized. And while the LTFSP may be informed by the resource mix in the IRP preferred portfolio, the IRP update occurs on the off years, which should also inform a yearly LTFSP.

Perhaps more importantly, an annual update is necessary to coincide with the TAM cycle, when cost recovery for Jim Bridger fuel is decided. Since there is no CSA that the Commission can review for BCC fuel, the LTFSP appears to be the only way the Commission can evaluate whether BCC costs included in the TAM are appropriate. Moreover, as PacifiCorp acknowledged, a significant error was made in its original 2023 LTFSP analysis, which highlights the need for more scrutiny rather than less. Importantly, the Commission gave extensive guidance in the 2023 TAM proceeding (Order No. 22-389) on how and when PacifiCorp should provide its analysis of newly executed CSAs. Because there is technically no CSA for BCC coal fuel, PacifiCorp is able to evade these requirements for this particular fuel source. Thus, in addition to updating the LTFSP on an annual basis, I further recommend that the guidelines provided in Order No. 22-389 for CSA analysis also apply to the LTFSP analysis.

[13] PAC/500 at Owen/41:13-15.

5. EDAM Participation

Q. What was PacifiCorp's response to your recommendations regarding oversight of EDAM participation?

A. PacifiCorp dismissed my recommendations as "irrelevant" to the 2024 TAM because EDAM is scheduled for implementation in 2025.[14]

Q. Do you agree?

A. No. PacifiCorp has publicly announced its intention to begin EDAM participation in 2024, not 2025.[15] If the Company does indeed plan to participate in 2024, then the issues I raised are highly relevant to the 2024 TAM. If PacifiCorp has, in fact, delayed its intended participation date to 2025 then the Company should clarify this. Even if the Company has delayed until 2025, I still think it would be warranted for the Commission to begin considering the EDAM oversight issues, and their interaction with future TAM cycles, well in advance of PacifiCorp's participation.

6. Modeling Minimum Take Requirements

Q. Mr. Mitchell's Reply suggests that the Commission previously rejected Sierra Club's argument that "the Company should not model minimum take requirements."[16] Is that true?

A. No. Order No 22-389 confirms that the Commission is indeed interested in analysis of scenarios without minimum take requirements. In fact, the Commission directed PacifiCorp to perform such analysis for its Hunter contracts in this proceeding. Sierra Club is encouraged that PacifiCorp did perform an analysis with varying levels of minimum take requirements for most of the new or amended CSAs presented in its application. However, this was not universally the case since PacifiCorp did not perform such analysis on the speculative Black Butte CSA that was originally included in its 2024 NPC calculations. Now that the Black Butte CSA has been removed, Sierra Club has fewer concerns in this regard.

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[14] Reply Test. of Ramon J. Mitchell at Mitchell/117 [hereinafter "PAC/400"].
[15] https://www.pacificorp.com/about/newsroom/news-releases/EDAM-innovative-efforts.html
[16] PAC/400 at Mitchell/83:3-4.

Q. Does this conclude your rebuttal testimony?

A. Yes.

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Exhibit SC/201
PacifiCorp Response to Sierra Club Data Request 5.2

Sierra Club Data Request 5.2

Please refer to Tapping into DOE's $250B of Loan Authority for Projects that Reinvest in US Clean Energy Infrastructure (available at https://www.utilitydive.com/news/department-of-energy-doe-250-billion-loan-authority-solar-wind-storage-nuclear-clean-energy/653530/), wherein Jigar Shah, the director of the Loans Program Office at the U.S. Department of Energy, describes using Energy Infrastructure Reinvestment financing to finance remediation of several on-site coal ash ponds at a former coal plant site that is being repurposed for clean energy.

(a) In quantifying the assumed reclamation costs at the Bridger coal mine under Scenarios 1 through 6 in the 2023 Jim Bridger Long Term Fuel Supply Plan, please explain whether PacifiCorp factored in potential cost savings from using U.S. Department of Energy loans made available under the Energy Infrastructure Reinvestment program.

(b) If the answer to SC 5.2(a) is no, please explain why not.

Response to Sierra Club Data Request 5.2

(a) No.

(b) The Company is evaluating the United States (U.S.) Department of Energy (DOE) loan program for future use. The program has a lengthy and complex approval process that takes approximately one year. PacifiCorp is also evaluating its mortgage to ensure that the U.S. DOE loans can be secured and are pari-passu to other First Mortgage Bonds.