SIERRA CLUB

October 20, 2020

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Public Utility Commission of Oregon
Attn: Filing Center
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Salem, OR 97301

Re: Docket No. UE 374 - In the Matter of PACIFICORP, dba PACIFIC POWER, Request for a General Rate Revision.

Enclosed for filing in the above-caption docket please find the Corrected Sierra Club Opening Brief. This version corrects redactions on page 5 and page 7 n.24. The confidential version of the Opening Brief will be served in accordance with OAR 860-001-0070(3) and the Commission's Covid-19 Response outlined in Order 20-088 on all eligible party representatives electronically via encrypted password protected ZIP folders

If you have any questions or require any additional information, please do not hesitate to contact me.

Respectfully submitted,

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BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

In the Matter of PACIFICORP d/b/a PACIFIC POWER, Request for a General Rate Revision	UE 374

CERTIFICATE OF SERVICE

I hereby certify that on this 20th day of October, 2020, I have served the foregoing Corrected Sierra Club Opening Brief upon all party representatives on the official service list for this proceeding. The public version of this document was served upon parties via email, and the confidential version of this documents was served pursuant to General Protective Order No. 20-040 upon all eligible party representatives electronically via encrypted password protected ZIP folders.

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BEFORE THE PUBLIC UTILITY COMMISSION
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Sierra Club Opening Brief

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I. Introduction

Sierra Club submits this opening brief urging the Commission to reject certain components of PacifiCorp's request to increase rates by approximately $78.9 million. Specifically, Sierra Club urges the Commission to disallow recovery in rates of PacifiCorp's emission control capital expenditures of $218.6 million ($56.9 million on an Oregon-allocated basis) at the Jim Bridger coal plant and $24.4 million ($6.3 million on an Oregon-allocated basis) at the Hayden coal plant. Additionally, Sierra Club urges the Commission to issue Exit Orders for PacifiCorp's coal plants with dates no later than December 31, 2025. Finally, Sierra Club supports Commission approval of an equity ratio of 51.86 percent and rate of return of 9.2 percent for the Company.

The Commission should disallow rate recovery of the Bridger emission control expenditures because PacifiCorp imprudently spent hundreds of millions of dollars installing selective catalytic reduction ("SCR") emissions controls at that plant. From as early as 2003, PacifiCorp manufactured a self-imposed deadline to install unnecessary and costly pollution controls at its coal plants in a thinly veiled effort to increase its rate base—all at the expense of its customers. While PacifiCorp has attempted to frame its decision making as a prudent, forward-looking analysis to comply with anticipated federal environmental requirements, the record shows that PacifiCorp chose one path forward—one that ensured the maximum return for its shareholders—and brushed aside any evidence that would put its chosen path in jeopardy. Neither falling gas prices nor significant changes in the cost of the Jim Bridger plant's coal supply caused the Company to reassess whether spending hundreds of millions of dollars on the project was in the best interest of the ratepayers. Moreover, PacifiCorp failed to evaluate the potential to defer or avoid other expenditures, including transmission expenditures, that would have been possible if the Company retired the Jim Bridger plant instead.

If the Commission approves the inclusion of these expenditures in rates, PacifiCorp's imprudent business practices will result in present and future harm to Oregon customers. PacifiCorp is asking the Commission to require ratepayers to pay for the costs of the Jim Bridger SCRs and, if the Commission approves the request, ratepayers could be on the hook in future proceedings to pay for the continued operation of Jim Bridger units 3 and 4 through 2037. By the Company's own analysis in its 2019 IRP, retirement for units 3 and 4—even accepting the SCRs as a sunk cost—would provide a ratepayer benefit of $141 million. But at least for Oregon ratepayers, those SCRs are not a sunk cost yet. When a utility acts with this level of imprudence, the Commission has found that a "disallowance should equal the amount of the unreasonable investment."[1] The Commission should disallow the cost of the SCR investments in full.

Sierra Club has further shown that the Company's decision to invest in SCRs at the Hayden coal plant was similarly flawed and therefore imprudent. As a minority owner at the plant, the Company abandoned its obligation to ensure that a major capital investment like the installation of SCRs was economically justified. Instead, with knowledge that the project would

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[1] *In the Matter of PacifiCorp, dba Pacific Power, Request for a General Rate Revision*, Docket No. UE 246, Order No. 12-493 at 31 (Dec. 20, 2012) [hereinafter "Order No. 12-493"].

likely result in an economic loss for ratepayers, the Company voted in favor of, and made no effort to challenge, the project.

This brief summarizes the key issues addressed by Sierra Club witnesses Drs. Jeremy Fisher and Ezra Hausman and AWEC witness Mr. Michael Gorman, as well as the testimony of PacifiCorp witnesses Messrs. Dana Ralston, Rick Link, James Owen, and Rick Vail.

II. Commission's Prudence Standard

To determine the recoverability of utility expenditures of ratepayer funds, the Commission evaluates whether the company's actions were reasonable and prudent in light of the circumstances that existed at the time.[2] The inquiry does not use hindsight but does require an objective standard of reasonableness that asks both what the utility knew and what it *should have* known.[3] "The prudence standard examines all actions of the utility—including the process that the utility used to make a decision."[4] Finally, the Commission's prudence standard requires more than just that the utility can offer *some* justification for its decision. The Commission must determine "whether the utility exercised the standard of care which a reasonable person would be expected to exercise under the same circumstances encountered by utility management at the time the decision had to be made."[5] This Commission has found that a utility failed to comply with its required standard of care when its inaction and lack of "management oversight" put

[2] *Id.* at 12-493 at 25.
[3] *Id.* at 25-26. *See also In the Matter of Public Utility Commission of Oregon Investigation to Consider Adoption of New Federal Standards Contained in the Energy Independence and Security Act of 2007*, Docket No. UM 1409, Appendix B to Order No. 09-501 at 3 of 7 (Dec. 18, 2009) ("The objective reasonableness of the utility's decision [is] based on information known, or knowable, at the time the utility made its investment decision.").
[4] Order No. 12-493 at 26. *See also In the Matter of PacifiCorp, dba Pacific Power, 2017 Transition Adjustment Mechanism*, Docket No. UE 307, Order No. 16-482 at 6 (Dec. 20, 2016).
[5] Order No. 12-493 at 27. *See also* Order No. 09-501 at 5 (Dec 18, 2009) (holding that in a rate case the Commission would apply the "reasonable person" standard).

Oregon ratepayers at risk, even though ratepayers were not necessarily harmed.[6] The burden of showing that proposed rates are "fair, just and reasonable"[7] is "borne by the utility throughout the proceeding and does not shift to any other party."[8]

III. PacifiCorp's Flawed Decision-Making Process to Install the Jim Bridger SCRs Resulted in Unnecessary and Imprudent Expenditures of Customer Funds

As Sierra Club has previously established, PacifiCorp's request for rate recovery of the Jim Bridger SCRs should be denied. **First**, PacifiCorp had no legal obligation to install the SCRs prior to EPA action on Wyoming's state implementation plan ("SIP"). By self-imposing compliance deadlines in 2015 and 2016, the Company created a false sense of urgency and inability to reconsider the project in light of changing circumstances.

Second, PacifiCorp failed to take into account falling gas prices that were rapidly and dramatically eliminating any economic benefit of the SCR project.

Third, PacifiCorp failed to meaningfully evaluate fundamental shifts at its Bridger coal mine that supplied a substantial majority of the fuel for the Jim Bridger plant.

Finally, PacifiCorp failed to assess whether retirement of the Jim Bridger plant, rather than expensive retrofits, could have resulted in avoiding other costs to ratepayers, particularly transmission lines.[9]

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[6] *In the Matter of Idaho Power Company, Request for General Rate Revision*, Docket No. UE 233, Order No. 13-132 at 6-7 (Apr. 11, 2013) ("We conclude that Idaho Power's management failures are grounds for disallowance to management expense included in revenue requirement. Although Idaho Power's improper conduct did not, by providence, harm ratepayers, its lack of management oversight put ratepayers at risk.").
[7] ORS 757.210(1)(a).
[8] *In the Matter of PacifiCorp's Proposal to Restructure and Reprice its Services in Accordance with the Provisions of SB 1149*, Docket No. UE 116, Order No. 01-787 at 6 (Sept. 7, 2001).
[9] As noted in Sierra Club's prehearing brief, the Company further failed to adequately assess potentially lower cost alternatives for Regional Haze compliance, including retirement of the Jim Bridger plant or converting it to run on gas. Moreover, the Company's EPC contract provided it with the ability to delay issuance of the FNTP beyond December 1, 2013 in order to evaluate alternatives in light of rapidly changing assumptions concerning gas prices and coal fuel supply. The Company simply chose not to take advantage of this flexibility. Sierra Club's prehearing brief is incorporated by reference.

A. PacifiCorp's Years-Long Plan to "Pre-Comply" with the Federal Clean Air Act Harmed its Customers

At the evidentiary hearing, PacifiCorp confirmed its years-long policy of moving to install pollution controls at its Utah and Wyoming coal plants before the Company had any legal obligation to do so:

- In its 2003 Comprehensive Air Initiative, the Company devised a 15-year voluntary emission reduction plan for 19 of its coal units in Utah and Wyoming, with a goal of [redacted]."[10]
- By 2005, the Company had plans to install [redacted]."[11]
- In 2009 the Company notified the Wyoming Department of Environmental Quality ("DEQ") that the Company was [redacted][12] According to that letter, the Company would [redacted][13]

The record is clear that PacifiCorp began laying the groundwork for the installation of SCRs at Bridger 3 and 4 *eleven years* before EPA issued its Regional Haze Rule for Wyoming—the regulation that finally set out PacifiCorp's compliance obligations under the federal Clean Air Act—in 2014.

Mr. Owen explained these voluntary expenditures as "an effort to get ahead of the regulation."[14] However, the record shows PacifiCorp was simply aiming for a plan that would be "[redacted] with the state's planning requirements," because the Company's overarching goal was to [redacted],[15] even though the

[10] Sierra Club/411 at Fisher/5.
[11] Sierra Club/412 at Fisher/2; Order 12-493 at 28.
[12] Sierra Club/410 at Fisher/1.
[13] *Id.* at Fisher/2.
[14] Sept. 11, 2020 Tr. at 67:6-7 (Owen, PacifiCorp).
[15] Sierra Club/410 at Fisher/1.

Company knew the rate increases for PacifiCorp's customers would be "[redacted]."[16] If securing [redacted] was not the goal, the Company has never explained why it needed to take Clean Air Act compliance matters into its own hands more than a decade before the federal EPA and then rush to comply with nonexistent requirements. Importantly, the Company's offer to install SCRs at Bridger 3 and 4[17] was the most expensive technology used to control NOx emissions at coal plants.

When asked about spending ratepayer money before any legal requirement to do so, Mr. Owen defended the practice as "appropriate if it is supported by some other analysis in the company, for example, that the economic analysis supports that decision."[18] However, for the period in which PacifiCorp was laying the groundwork for its emission reduction plan, there is no evidence the Company conducted any type of concurrent economic or alternatives analyses to support the prudency of pre-complying with the Clean Air Act. The record shows its efforts were focused on convincing the state of Wyoming to go along with its plan.[19] For example, the Company had a public-facing message opposing SCRs at its coal plants—[redacted].[20]

In lieu of a robust economic analysis, the Company's threshold for deciding whether to pre-comply with the Clean Air Act's requirements appeared to be "[the Company] wouldn't spend hundreds of millions of dollars without having some type of engagement with the regulatory agencies and expect ratepayers to pay for that."[21] The problem is that the regulatory

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[16] *Id.* at Fisher/4.
[17] *Id.* at Fisher/2.
[18] Sept. 11, 2020 Tr. at 71:8-13 (Owen, PacifiCorp).
[19] Sierra Club/410.
[20] *Id.* at Fisher/1-2.
[21] Sept. 11, 2020 Tr. at 71:8-11 (Owen, PacifiCorp).

engagement occurring when the Company made these decisions did not concern ratepayer protections; rather, it was about negotiating SCR installation dates with the Wyoming DEQ, without regard to ratepayer impacts. The record shows that from 2003 until 2012, when it presented the projects for Certificates of Public Convenience and Necessity ("CPCN"), PacifiCorp's focus was not on carefully balancing customer impacts with Clean Air Act mandates; it was simply moving forward with its long-term emission reduction plan. As fully discussed in Sections III.A.1 and III.A.2 below, once it had to defend the SCR projects in prudency determinations before its utility commissions, the Company's economic rationales in support of these projects fell apart.

PacifiCorp tried to defend affirmatively implementing its long-term emission reduction plan by couching it as simply engaging with the Wyoming DEQ. According to Mr. Owen, it was "generally a good idea for regulated industries to anticipate what compliance requirements may come and evaluate what they can do to have early engagement with the regulatory agency."[22] In other words, the long-term emission reduction plan was simply working with the Wyoming DEQ "to plan for accommodating compliance."[23] Sierra Club agrees that substantive engagement with environmental agencies is not only encouraged but expected. What was unexpected was the [redacted].[24]

[22] *Id.* at 70:14-18.
[23] *Id.* at 71:19-72: 1.
[24] The company decided to [redacted]" *See* Sierra Club/412 at Fisher/2. *See also* Order 12-493 at 28.

1. <u>The Company could not point to any law requiring it to comply with an unapproved State Plan (SIP).</u>

The Company's opening brief claimed a December 31, 2009 BART permit (one the Company sought voluntarily) created a legal obligation to install the SCRs prior to EPA acting upon the draft state Regional Haze plan.[25] The Company further claimed that a state plan is legally enforceable, which is only true once it has been finalized by EPA. The Company conveniently failed to clarify that it was expending ratepayer funds based on a draft state implementation plan, one not yet approved by EPA, and that a draft plan is unenforceable under state or federal law. Rather than pointing to a statute or case law to support this view, Mr. Owen admitted, "I cannot cite to a specific order or specific language from DEQ requiring it."[26] Instead, Mr. Owen vaguely testified:

> [S]tates are sovereign. States create their own laws, they create their own rules, whether it be through their congress or through the judiciary or through an agency like Wyoming Department of Environmental Quality, and they codified the requirements of those rules, and then there's a mechanism that they will use to implement that rule."[27]

Again, he could not cite to a state law or order that required PacifiCorp to pre-comply with the Clean Air Act's Regional Haze Rule.

The reality is that, under the Clean Air Act, states must create and submit to EPA for approval state implementation plans that meet the goals of the Clean Air Act laid out by Congress.[28] States are also tasked with enforcing the limits they adopt in their EPA-approved SIPs through the issuance of permits.[29] Only once EPA approves a SIP does it become legally enforceable.[30] The Clean Air Act does not create two simultaneous and independent compliance

[25] PacifiCorp Opening Br.at 52.
[26] Sept. 11, 2020 Tr. at 77:24-25 (Owen, PacifiCorp).
[27] *Id.* at 91:5-10.
[28] *See N. Carolina, ex rel. Cooper v. Tennessee Valley Auth.*, 615 F.3d 291, 299 (4th Cir. 2010).
[29] *Id.*
[30] *Id.*

obligations. To the contrary, the doctrine of federal preemption explicitly forbids such an outcome.[31] The U.S. Supreme Court is emphatic on this point: "A state law also is pre-empted if it interferes with the methods by which the federal statute was designed to reach this goal."[32] The foregoing should certainly be understood by PacifiCorp, and it is simply not plausible that the Company does not understand how this 1963 statute works as it relates to regulating air pollution from its fossil fuel plants.

Ironically, had PacifiCorp's early 2000s emission reduction plan properly evaluated and factored in ratepayer impacts *and* remained flexible in evaluating the economics of coal-fired generation, its plan may have been successful. But the Company did not consider customer costs beyond acknowledging they would be "[redacted];" and it stubbornly pursued expensive SCR retrofits even in the face of mounting evidence that falling gas prices and increasing fuel costs made clear that pursing the retrofits were not in the best interest of its customers. Instead, as shown below, the Company has presented this Commission with a series of *post hoc* rationalizations to justify its SCR projects, none of which meet the Commission's standard for prudent utility decision-making.

2. <u>PacifiCorp failed to follow this Commission's direction in Order No. 12- 493 in UE 246.</u>

In its rush to install the SCRs at Bridger 3 and 4, PacifiCorp chose not to work with EPA on viable compliance alternatives to expensive SCR retrofits. This Commission ruled in 2012 that it was "not convinced by Pacific Power's claims that there were not legitimate alternative courses of action—both in terms of the mix of compliance actions and, particularly, in the timing of those actions—that could have allowed Pacific Power to meet its air quality requirements at a

[31] The Clean Air Act allows California to seek a waiver of preemption which prohibits states from enacting emission standards for new motor vehicles, but such waiver is not applicable here.
[32] *Int'l Paper Co. v. Ouellette*, 479 U.S. 481, 494 (1987).

lower cost and risk to the utility's Oregon ratepayers."[33] The Commission recognized that PacifiCorp was faced with regulatory obligations but it also had options that it failed to meaningfully exercise to the detriment of its customers.

Unfortunately, the Commission's 2012 order presciently described the scenario at hand today. The record in this case makes clear that PacifiCorp was aware it had options; in fact, it negotiated just such an alternative approach for unit 3 at the Naughton plant where it proposed to EPA, and EPA accepted, an alternative of converting the unit to burn gas rather than retrofitting it with an SCR.[34] In 2011, the Company was likewise well aware of the alternative PGE negotiated for its Boardman plant which also avoided costly SCR retrofits.[35]

PacifiCorp was no stranger to communicating with regulatory agencies during the 2012-13 time period. In fact, the Company has repeatedly emphasized how it reached out to Wyoming DEQ to in order to verify whether the agency intended to hold the Company to the state's BART permit deadlines.[36] But PacifiCorp never contacted EPA to discuss negotiating alternative compliance dates or control technology options, even though it was clear that the economics of the SCR projects were rapidly declining. Instead, without talking to EPA, the Company weakly asserted, "There is no reason to believe that, in examining the Wyoming DEQ's requirement for the 2015 and 2016 deadlines to install SCRs at Jim Bridger Units 3 and 4, the EPA would have deemed it preferable to allow a longer period of higher emissions for Regional Haze compliance."[37] That lack of initiative ended up costing Oregon rate payers millions of dollars.

[33] Order No. 12-493 at 28.
[34] 84 Fed. Reg. 10,433 (March 21, 2019). *See also* Sierra Club/100 at Fisher/ 28:7-21.
[35] 76 Fed. Reg. 38,997 (July 5, 2011). *See also* Sierra Club/100 at Fisher/29:3-19.
[36] PAC/829, PacifiCorp Letter to Wyoming DEQ (Mar. 5, 2013).
[37] PAC/4000 at Owen/20:7-10 (emphasis omitted).

B. PacifiCorp Failed to Reassess Project Costs in Light of Rapidly Falling Gas Prices Leading up to the Final Decision.

By far the single most important input to the Bridger SCR economic analysis was forecasted gas prices. These forecasts changed rapidly during the time in which PacifiCorp conducted its analysis and made its decisions. Yet, at each of the two key decision points for the project, PacifiCorp relied on a single comparison between an outdated gas price forecast and a "breakeven" gas price it had estimated months earlier. This simplistic analysis was insufficient to meet the Commission's prudence standard. To make matters worse, PacifiCorp failed or decided not to document several of the key choices it made about gas forecasts and the project's economics during this time frame—leaving large gaps in the company's explanation for why its wrong decisions could somehow still be reasonable. For these reasons, the Commission should find that PacifiCorp's decisions concerning gas prices and the Bridger SCR project were unreasonable and imprudent, and that the company has not met its burden to obtain Oregon rate recovery for the project.

1. <u>The importance of gas prices to the SCR project's economics.</u>

The Bridger Unit 3 SCR cost $102.8 million and the Unit 4 SCR cost $115.8 million, for a total project cost of $218.6 million.[38] PacifiCorp used its System Optimizer ("SO") model to perform a PVRR(d) economic analysis of the Bridger SCR projects.[39] PVRR(d) stands for the differential in the present value of revenue requirements—in other words, the economic difference between two model cases.[40] PVRR(d) can be expressed as a net benefit or a net cost, depending on the outcome. PacifiCorp evaluated the relative economics of the SCR projects

[38] PAC/800 at Teply/24:6-10. The Oregon-allocated costs are $26.8 million for Unit 3 and $30.1 million for Unit 4, for an Oregon-allocated total cost of $56.9 million. *Id.*
[39] PAC/700 at Link/88:6-7.
[40] Sept 10, 2020 Tr. at 11:2-8 (Link, PacifiCorp).

versus converting to gas-fueled operation under scenarios combining base, high, and low gas prices with base, high, and zero CO_2 prices.[41]

By far, the most consequential input to the PVRR(d) analysis for the Bridger SCRs was the price of gas. Mr. Link testified that "natural gas prices disproportionately affect the value of energy net of operating costs from Jim Bridger Units 3 and 4 when operating as a coal-fueled resource versus the value of energy net of operating costs from a natural gas-fueled resource replacement alternative."[42] To illustrate, the PVRR(d) of the SCR projects in the "base gas, $0 CO_2" scenario was a *benefit* of $262 million, while in the "low gas, $0 CO_2 scenario" it was a *cost* of $224 million.[43] In other words, assuming no CO_2 price, the difference *just* between the base and low gas price scenarios was $486 million.[44]

Mindful of the importance of gas prices, but seeking to shortcut further modeling, PacifiCorp developed a "breakeven analysis" that plotted the relationship between gas prices and PVRR(d) for the Bridger SCR projects.[45] The breakeven analysis projected that the PVRR(d) benefit of the projects hit zero when projected gas prices at the Opal hub were $4.86 per MMBtu over the analysis period.[46]

It is now known that PacifiCorp's gas price assumptions for the Bridger SCR analysis were colossally inaccurate. By December 2014, the company's Official Forward Price Curve ("OFPC") projected a levelized average cost for gas at the Opal hub of $4.47 per MMBtu—well below the breakeven price of $4.86.[47] More recently, Figure 4 in Mr. Link's direct testimony

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41 PAC/700 at Link/94:13, Table 13; PAC/709, System Optimizer Results for Gas Price Scenarios [hereinafter "PAC/709"].
42 PAC/700 at Link/93:12-16.
43 PAC/709. *See also*, Sept 10, 2020 Tr. at 16:2-25 (Link, PacifiCorp).
44 *Id*.
45 PAC/700 at Link/106:1-13; PAC/710, Relationship between Gas Prices and the PVRR [hereinafter "PAC/710"].
46 PAC/700 at Link/107:9; PAC/710.
47 Sierra Club/100 at Fisher/14:1-3 (Figure 1).

shows the company using gas price scenarios in current economic evaluations with prices under $4.00 through 2030.[48] Similarly, while it does not present Opal prices, Confidential Exhibit PAC/701 shows forecasted Henry Hub prices from PacifiCorp's December 2017 OFPC below the $4.86 breakeven number until the year [redacted].[49]

2. <u>The Commission's prudence standard asks whether PacifiCorp met the standard of care that a reasonable person would exercise during a time of rapid and substantial declines in gas price forecasts.</u>

The question before the Commission is whether PacifiCorp's decisions related to the Bridger SCRs were reasonable, even though they were wrong. As noted above, this Commission's prudence standard requires that the utility demonstrate that it exercised the standard of care which a reasonable person would be expected to exercise under the same circumstances, taking into account all that the utility knew or *should have known*.[50] With respect to PacifiCorp's decisions regarding gas prices and the Bridger SCR project, the answer to this question is no. PacifiCorp offers no objectively reasonable explanation for its refusal to pause and robustly reassess the project's economic risks in light of the ongoing precipitous drop in forecasted gas prices during the time period in which the company made its key decisions.

3. <u>Marked declines in forecasted gas prices as a result of new production technology caused a precipitous drop in the SCR project's economic benefits throughout 2013.</u>

In Figure 14 of his direct testimony, Mr. Link compiled historic natural gas prices at the Opal hub and connected those historic prices to the prices projected in the base, low, and high natural gas price scenarios used for the Bridger SCR analysis.[51] The average price of natural gas

[48] PAC/700 at Link/65:12-13 (Figure 4).
[49] These last two perspectives are illustrative and not intended as apples-to-apples comparisons.
[50] Order No. 12-493 at 25.
[51] PAC/700 at Link/105:9.

during the years 2002 to 2011 was $4.38 per MMBtu.[52] In the four years preceding the Bridger analysis, gas prices were consistently and substantially below the breakeven price of $4.86 per MMBtu.[53] In Mr. Link's opinion, technological breakthroughs associated with hydraulic fracturing that vastly increased production of gas drove these low gas prices starting in 2009 and continuing through 2012.[54]

The difference between the base, low, and high gas price scenarios used in the Bridger analysis came down to how quickly prices would rebound in the new gas production era, and by how much those prices would rebound. In PacifiCorp's base case, prices reached the breakeven point in 2019; and in the low case, they did not reach the breakeven point at all.[55] The differences between the three third-party gas price forecasts to which PacifiCorp subscribed—[redacted]—came down to the same question. The way in which PacifiCorp selected the third-party forecast to use in each OFPC is discussed further in Section III.B.4.b, below.

Market consensus regarding when gas prices would rebound—and by how much—changed rapidly over the course of 2012 and 2013, with a corresponding impact on the economics of the Bridger SCRs. Over the course of PacifiCorp's analysis and decision period for the Bridger SCR projects, gas price forecasts declined rapidly—and the SCR project benefits dropped precipitously as the gas price forecasts declined.

PacifiCorp did an initial economic analysis of the Bridger SCR projects in August 2012, to support applications to the Wyoming and Utah commissions.[56] That analysis projected a [redacted]

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52 Sept 10, 2020 Tr. at 21:7-9 (Link, PacifiCorp).
53 *Id.* at 22:24-23:5.
54 *Id.* at 29:21-30:15.
55 *Id.* at 23:5-24:4.
56 Sierra Club/100 at Fisher/12:8-10.

[redacted] SCR benefit compared with gas conversion.[57] PacifiCorp updated that analysis in March of 2013. Based on a lower gas price forecast of $5.72 per MMBtu and some other changes, the projected benefit of the SCRs dropped to $183 million.[58] In May 2013, PacifiCorp made the initial decision to proceed with the SCRs, based on the gas price forecast and projected benefit from the March 2013 analysis.[59]

On December 1, 2013, PacifiCorp issued the Final Notice to Proceed ("FNTP") to the SCR project contractor.[60] Based on the company's September 2013 OFPC, by December 1 the gas price forecast had decreased to $5.35 per MMBtu and the project benefit declined to $130 million.[61] And when the company issued its December 2013 OFPC at the end of that same month, the gas price forecast had decreased to $5.00 per MMBtu and the project benefit had shrunk to just $6 million.[62] Alternatively, using the gas price forecast alone and not correcting for other errors, the project benefit by the end of December 2013 would have shrunk to $36.7 million.[63]

Thus, the total drop in the SCR project benefit from the initial decision in May 2013 to the December 2013 OFPC was $146 million.[64] That represents a drop in the project benefit of [redacted] in just seven months, as gas price forecasts adjusted to better reflect the new technological reality. And since the initial analysis in August 2012, nearly [redacted] of the estimated [redacted] value of the project had been wiped out.

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[57] Sierra Club/100 at Fisher/13:10-11, 15:1-3 (Figure 2).
[58] *Id.* at Fisher/12:13-14, 14:1-3 (Figure 1), 15:1-3 (Figure 2); Sept 10, 2020 Tr. at 7:16-8:11 (Link, PacifiCorp).
[59] PAC/800 at Teply/32:1 (Figure 1).
[60] PAC/700 at Link/106:19; PAC/800 at Teply/32 1 (Figure 1).
[61] Sierra Club/100 at Fisher/14:1-3 (Figure 1), 15:1-7 (including Figure 2).
[62] *Id.* at Fisher/14:1-3 (Figure 1), 15:1-3 (l Figure 2), 16:11-12.
[63] Sierra Club/100 at Fisher/52:15-17; PAC/3800 at Link/9:10-11.
[64] Sierra Club/100 at Fisher/52:17-18.

4. PacifiCorp's decision not to pause and reassess the project did not meet the Commission's prudence standard.

Sierra Club witness Dr. Jeremy Fisher testified that "[t]he rapidly declining benefit of the Bridger SCR project should have galvanized the Company to perform a far more rigorous assessment of the benefits or costs of continuing with the SCR projects. It should have paused the execution of the FNTP, if necessary, in order to conduct a final rigorous analysis."[65] Similarly, Staff witness Sabrinna Soldavini testified: "Given that natural gas prices fell significantly between May and December, Staff believes that a reasonable Company would have taken advantage of the flexibility it states that it gained through negotiating its EPC contract, to rerun its SO model as economics began to change."[66]

In its opening brief and in Mr. Link's reply and surrebuttal testimony,[67] PacifiCorp disputes these conclusions. According to PacifiCorp, so long as the OFPC price was above the breakeven point at the time of the contract signing and the subsequent FNTP, the company's decision was reasonable.[68] That argument is wrong for three reasons:

- First, it reflects a myopic view of PacifiCorp's standard of care, especially given the rapidly changing market conditions at the time.
- Second, it portrays the OFPCs as an objective, consensus view of the market at the time of the decision – which is not accurate.
- Third, the evidence suggests that PacifiCorp did not undertake the ongoing, detailed review of gas prices leading up the FNTP that the company claims.

Each of these points is discussed below.

[65] *Id.* at Fisher/54:8-11.
[66] Staff/2300 at Soldavini/28:5-8.
[67] *See, e.g.,* PAC/3800 at Link/10:13-14.
[68] PacifiCorp Opening Br. at 49.

a. *PacifiCorp's nearly sole reliance on comparing the breakeven price to the OFPC projection at a single point in time is misplaced.*

PacifiCorp states that its decision was reasonable because when it issued the FNTP on December 1, 2013, its September 2013 OFPC projected a gas price at the Opal hub of $5.35 per MMBtu, which exceeded the breakeven price of $4.86.[69] PacifiCorp's reliance on one comparison from a single point in time is incommensurate with the magnitude of a decision on a $218 million project. Beyond the size of the capital investment, the hundreds of millions of dollars of difference in project benefits (or costs) depending on gas prices made it even more important to base the decision on a robust analysis rather than a single data point.

The Commission's prudence standard asks whether a utility's decision was reasonable "under *all* circumstances"[70]—not just under the one circumstance that the utility considers supportive of its position. Given the scale of the financial consequences, PacifiCorp's argument that it was reasonable to rely on a single comparison at one point in time while market conditions changed rapidly is a myopic view of the standard of care—one that is at odds with the Commission's prudence standard discussed above.

PacifiCorp's heavy reliance on the comparison of the September 2013 OFPC price to the breakeven point at the time the FNTP was issued ignores the rate of decline in gas price forecasts over the decision time frame. In its opening brief, PacifiCorp argues that while it could have developed an off-cycle OFPC before making the FNTP decision, that would not have changed the outcome relative to the breakeven price. Again, however, that argument misses the mark. What the company knew as of December 1, 2013, based on the forecasts it had available, was that [redacted]

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[69] *Id.* at 48-49.
[70] Order No. 12-493 at 25 (emphasis added).

[redacted].[71]

PacifiCorp failed or refused to acknowledge that these trends existed and that they were quickly eroding the project's benefits.

The use of a single comparison between the September 2013 OFPC and the breakeven point also ignores the fact that—as Mr. Link acknowledged[72]—the North American gas market had changed drastically only a few years prior, and the long-term consequences of that change were still unknown. Further, in addition to the rapid decline in PacifiCorp's third-party gas forecasts, the company's position ignores a rapid decline in the forwards market for gas between the second and third quarter of 2013, when Mr. Link claimed he and Mr. Teply were in frequent contact regarding these issues.[73]

In his reply and surrebuttal testimony, as well as his cross examination, Mr. Link defended the heavy reliance on the breakeven point by arguing that two other factors buffered the project's economics against the ongoing drop in gas prices.[74] First, Mr. Link cited a $21 million PVRR(d) benefit from a reduction in the cost of the EPC contract.[75] Second, he discussed the use of CO_2 price sensitivities in the analysis despite his expressed skepticism that such prices would come to fruition.[76] However, Mr. Link acknowledged that the impact of changes in gas prices on project economics was over an order of magnitude greater than the impact of the EPC price change.[77] Similarly, if one compares the "low gas, base CO_2" scenario with the "low gas, $0 CO_2" scenario—or the "base gas, base CO_2" scenario with the base gas, $0 CO_2" scenario in

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[71] Sierra Club/400 at Fisher/8:17-9:8; Sept 11, 2020 Tr. at 47:21-25 (Link, PacifiCorp).
[72] Sept. 10, 2020 Tr. at 30:3-15 (Link, PacifiCorp).
[73] Sierra Club/100 at Fisher/48:13-49:3 (including Figure 7) (decline in forwards). PAC/700 at Link/106:17-19; Sept. 10, 2020 Tr. at 58:5-60:20 (Link, PacifiCorp) (frequent contact).
[74] *E.g.*, Sept 10, 2020 Tr. at 49:1-10, 52:1-16 (Link, PacifiCorp).
[75] PAC/3800 at Link/9:11-13. *See also* Sept. 10, 2020 Tr. at 52:9-16 (Link, PacifiCorp).
[76] Sept 10, 2020 Tr. at 49:1-10, 52:1-8 (Link, PacifiCorp).
[77] *Id.* at 54:9-14. *See also* PAC/709 (going from a benefit of $262 million in the base gas, $0 CO_2 scenario to a cost of $224 million in the low gas, $0 CO_2 scenario).

the same exhibit—it is readily apparent that the impact of gas prices is also an order of magnitude greater than the impact of CO_2 prices.[78]

For all of these reasons, PacifiCorp's use of a single data point to justify such a costly long-term decision is insufficient to meet the Commission's prudence standard. Further, Mr. Link's attempts to rehabilitate the decision with arguments about the EPC contract or CO_2 prices fall short because they are not nearly as impactful as making the wrong call on gas prices.

b. The OFPCs are not what PacifiCorp portrays them to be.

The second flaw in PacifiCorp's position is that it portrays the OFPCs as an objective, consensus view of the market that is contemporaneous with the making of the key decisions on the Bridger SCRs. For example, PacifiCorp's opening brief stated that "PacifiCorp develops its quarterly OFPCs using three third-party expert forecasts . . . ."[79] PacifiCorp also claims that the September 2013 OFPC "reflected the Company's most accurate estimate of long-term gas prices."[80] Mr. Link testified at length to all of the analysis that goes into each OFPC.[81]

These characterizations are not accurate. For example, each OFPC is only developed using three third-party forecasts in the sense that PacifiCorp selects one of the three forecasts to incorporate in the OFPC. And the Company did not document the reasons for this subjective selection of that one forecast. During the Bridger SCR decision period, the Company did not select the lowest (and ultimately, the most accurate) of the three forecasts for any OFPC that PacifiCorp relied on—again, with no documentation for why not, even though PacifiCorp was aware that it would eventually come before its regulators to seek cost recovery for the project.

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[78] PAC/709 (going from a cost of $224 million in the low gas, $0 CO_2 scenario to a cost of $285 million in the low gas, base CO_2 scenario; or from a benefit of $183 million in the base gas, base CO_2 scenario to a benefit of $262 million in the base gas, $0 CO_2 scenario).
[79] PacifiCorp Opening Br. at 49.
[80] *Id*.
[81] Sept 10, 2020 Tr. at 26:15-27:18 (Link, PacifiCorp).

Finally, the third-party forecasts that PacifiCorp incorporated into the OFPCs for the key decisions were eight months old when those decisions were made.

PacifiCorp's May 2013 decision to proceed with the SCR project was based on the September 2012 OFPC.[82] In other words, the decision to proceed relied on a forecast that was eight months old when the Company made its decision.[83] PacifiCorp relied on this stale forecast in a rapidly changing gas market despite the fact that by then, the company had issued two more recent OFPCs—in December 2012 and March 2013.[84] On cross, Mr. Link said that it "certainly can" take two months to update the economic analysis on account of the need to update other assumptions, test results, revise testimony, etc.[85] However, he could not recall any other assumption besides gas prices that PacifiCorp changed when it updated the August 2012 Bridger SCR analysis in the spring of 2013.[86]

Creation of the OFPCs was examined in detail during Mr. Link's confidential cross exam, using the workpapers for the September 2013 and December 2013 OFPCs.[87] The first 60 months of the OFPC are market forwards; the following 12 months are a blend of market forwards and a third-party fundamentals-based forecast; and all of the months after that are based on a third-party fundamentals forecast.[88] As previously noted, PacifiCorp subscribed to three third-party forecasts for the fundamentals portion: [redacted].[89]

[82] *Id.* at 44:10-17 (Link, PacifiCorp). The OFPCs from December 2011 to December 2016 were entered into evidence as Sierra Club/715. Sierra Club/715, Attachment to PacifiCorp Response to Sierra Club Data Request 1.6.
[83] Sept 10, 2020 Tr. at 44:10-17 (Link, PacifiCorp).
[84] *Id.*
[85] Sept 10, 2020 Tr. at 47:8-21 (Link, PacifiCorp).
[86] *Id.* at 54:20-55:12 (Link, PacifiCorp).
[87] Sierra Club/718, Confidential Attachment to Sierra Club 7.1-1 [hereinafter "Sierra Club/718"].
[88] Sept 11, 2020 Tr. at 11:10-12:4 (Link, PacifiCorp); Sierra Club/718, 09-13 OFPC tab, column T and 12-13 OFPC tab, column F.
[89] Sierra Club/100 at Fisher/46:1-3 n.109; Sierra Club/102, PacifiCorp Response to Sierra Club Data request 1.5(b).

The September 2013 OFPC, on which the December 1, 2013 FNTP was based, had as its primary input a [redacted] gas price forecast.[90] [redacted].[91] This was approximately the same span of time between the forecast and decision in the initial decision in May 2013, which used the September 2012 forecast.[92] While Mr. Link was readily able to explain how he adjusted the [redacted], when asked to explain why the company used [redacted], he demurred.[93]

As to the December 2013 OFPC, that was simply the [redacted][94]

Mr. Link protested that PacifiCorp does not [redacted], but his argument was semantic—not substantive.[95] He explained that the company [redacted].[96] But however he defined it, Mr. Link still [redacted]

[90] Sept 11, 2020 Tr. at 15:8-12 (Link, PacifiCorp); Sierra Club/718.
[91] Sept 11, 2020 Tr. at 17:6-19:6 (Link, PacifiCorp).
[92] *Id.* at 19:1-6.
[93] *Id.* at 16:5-17:5.
[94] *Id.* at 21:4-9.
[95] *Id.* at 22:9.
[96] *Id.* at 22:1-5.

[redacted]. And the company did not document the basis for selecting the forecast that it did for any of the OFPCs that were material to the Bridger SCR decision.[97]

This last point is crucial because the forecasts differed substantially in their projections of when and to what extent gas prices would rebound from the low prices seen continuously since the start of the production increases due to new technology. At the hearing, Mr. Link claimed that there was a "consensus expectation" among forecasters that growth in electric and industrial sector demand as well as exports would balance the increased production and cause gas prices to rebound in a way that was consistent with PacifiCorp's base case gas price scenario.[98] (The base case gas scenario was the September 2012 OFPC.[99]) However, prices in the [redacted] forecast did *not* reflect Mr. Link's claimed consensus because they were [redacted] in both the August 2013 and November 2013 forecasts.[100]

When asked how [redacted] fundamentals assumptions regarding growth in demand in the electric sector and exports differed from the other two forecasts, Mr. Link was unable to answer.[101] Perhaps this was because Mr. Link never documented the reasons for his decision to only select a forecast that assumed high demand growth for the OFPCs, instead of the [redacted] forecast:

> Q. But you told me that you concluded there was a consensus among the forecasters as to these issues, and so my question is, these conclusions that you made from what the forecasters were providing, were those conclusions written down?
>
> A. Maybe not in that general sense.[102]

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[97] *Id.* at 25:13-20.
[98] Sept 10, 2020 Tr. at 36:11-37:17 (Link, PacifiCorp).
[99] PAC/709.
[100] Sierra Club/400 at Fisher/9:9-12 (Confidential Table 1).
[101] Sept 10, 2020 Tr. at 39:2-9 (Link, PacifiCorp).
[102] *Id.* at 41:17-22.

The only justification Mr. Link could offer for consistently rejecting the more accurate [redacted] forecast was that [redacted] forecasted lower prices than [redacted] did—leading him to characterize [redacted] as "an outlier."[103] But comparing three numbers and calling one an outlier is hardly a thorough analysis of market fundamentals. Perhaps reflective of this lack of detail, Mr. Link also could not recall when he first became aware that the assumptions of the forecasts PacifiCorp adopted regarding demand growth causing gas prices to rebound were wrong.[104] He could only say that it was after the company made the SCR decision.[105]

The Commission has explained that while "a utility does not automatically fail its burden of proof if it is unable to present contemporaneous evidence of its own actions[,] . . . the process used by the utility to make a decision to invest in a plant is highly valuable in determining whether the utility's actions were reasonable and prudent in light of the circumstances which then existed."[106] "Although there may be unique circumstances where a utility is able to overcome the inability to explain its internal decision-making processes, a utility's actions are generally a primary consideration in a prudence review."[107]

With respect to the Bridger SCR decisions, there is no valid explanation—and certainly no contemporaneous evidence—for why PacifiCorp:

- Selected the forecast it did for each of the pertinent OFPCs;
- Adopted a "consensus" view about demand growth causing gas prices to rebound that was not actually a consensus;
- Consistently chose only the high forecasts instead of the forecast that projected prices that would be less than the SCR project's breakeven point, again with no documentation; and

[103] *Id.* at 40:23-24.
[104] *Id.* at 37:18-38:18.
[105] *Id.*
[106] Order No. 12-493 at 26.
[107] *Id.*

- Relied on forecasts that were eight months old at the time the key decisions were made.

It is not hindsight review to state that a utility should have good reasons and contemporaneous evidence to explain how it made decisions that turned out to be so wrong.

c. The evidence shows that PacifiCorp was not closely monitoring the impact of gas prices on the SCR project economics during the time between the initial decision and the FNTP.

In his direct testimony, Mr. Link stated that "[b]etween May and December 2013, management personnel were in frequent contact and regularly monitoring the economics of the SCR investment."[108] On cross Mr. Link asserted that he and Mr. Teply "were just conferring very, very, very frequently" during the time leading up to the FNTP in December 2013.[109]

However, Sierra Club expert witness Dr. Fisher explained that PacifiCorp conducted no new economic modeling of the project after the early 2013 update to the August 2012 analysis "and did not re-assess the value of the Bridger SCR after September 2013 through any mechanism."[110] Dr. Fisher testified that any evidence indicating that gas price changes were being considered between September and December 2013 would have been deleted.[111] Dr. Fisher also pointed out that a memo PacifiCorp issued four days after the FNTP decision to memorialize the justifications for its decision never mentioned the ongoing gas price decreases occurring at that time.[112]

At the hearing, when asked specifically about gas prices, Mr. Link acknowledged that "there's not a lot of frequency once you have the number, perform the calculation, you know,

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108 PAC/700 at Link/106:17-19.
109 Sept 10, 2020 Tr. at 59:3-8 (Link, PacifiCorp).
110 Sierra Club/100 at Fisher/55:11-13 (citing Sierra Club/102, PacifiCorp Response to Sierra Club Data Request 1.4(d)).
111 Sierra Club/100 at Fisher/56:7-12.
112 *Id.* at Fisher/57:13-18 (citing Sierra Club/118, Confidential December 5, 2013 Memorandum).

that is a -- a pretty brief and short conversation around the factors."[113] Mr. Link also acknowledged that neither he nor Mr. Teply ever documented their reasons for concluding that the SCR project would continue to be economic despite the rapid decline in projected gas prices.[114]

In sum, when it made its Bridger SCR decisions, PacifiCorp bet that even though gas prices had dropped substantially as a result of major technological breakthroughs, and gas price forecasts were dropping precipitously throughout the analysis period, those prices would rebound quickly enough and strongly enough to save the project's economics in the long run.[115] That bet was not only wrong, it was unreasonable when the company made it, for all of the reasons just discussed.

C. PacifiCorp Failed to Reassess Costs After a Major Disruption to the Bridger Mining Plan that Resulted in Significant Loss of Value for the SCR Project.

PacifiCorp not only put customer funds at risk by placing a bad bet on high future gas prices, but the Company also effectively doubled down by betting that coal prices would remain steady, despite dramatic changes to the Jim Bridger plant's fuel supply. Sierra Club has shown that the SCR decision was significantly devalued by fundamental and long-lasting changes at the Bridger Mine in October 2013. As shown in Sierra Club's prehearing brief, in August 2012, the Company evaluated two different futures for the Bridger mine: one in which the mine fuels all four Jim Bridger units (the "four unit scenario") and another in which units 3 and 4 are converted to gas and the mine only fuels two Jim Bridger units (the "two unit scenario").[116] For the four-unit scenario, the Company assumed that both the surface and underground Bridger mines would

[113] Sept 10, 2020 Tr. at 59:18-60:14 (Link, PacifiCorp).
[114] *Id.* at 60:15-18.
[115] Staff witness Soldavini likewise characterized PacifiCorp's decision as a bet based on a deficient analysis. Staff/2300 at Soldavini/28:15-19.
[116] Sept. 10, 2020 Tr. at 102:14-24 (Ralston, PacifiCorp).

continue supplying coal until 2037;[117] whereas, for the two-unit scenario, the Company assumed that if only two units continued on coal, the surface mine would close by 2017 and thereby impose accelerated remediation costs on ratepayers.[118] By October 2013, these assumptions were fundamentally altered. Rather than assuming that both the surface and underground mines would be utilized through 2037 for a four-unit scenario,[119] the Company determined that it would close the underground mine in 2022—fourteen years ahead of schedule—with only the [redacted] surface mine operating through 2037.[120]

Rather than fully analyze the cost implications that this fundamental change might have on the economic viability of the SCR project—particularly in comparison to converting the Bridger units to burn gas—in October 2013 the Company merely created a 10-year mine plan for the four-unit/SCR scenario.[121] The mine plan failed to account for cost implications after 2023[122]—despite the fact that the Jim Bridger plant and Bridger mine were projected to operate through 2037—as well as third-party coal costs.[123] As a result, the 2013 mine plan did not provide PacifiCorp with a clear understanding of the cost implications resulting from operational changes at the Bridger mine, and the Company never fully evaluated how those changes would have impacted costs of the two-unit/no-SCR scenario.[124] Nevertheless, PacifiCorp concluded that anticipated costs increases at the Bridger mine would roughly match various avoided costs, essentially resulting in a wash.[125]

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[117] PAC/2600 at Ralston/7:14-16.
[118] Sept. 10, 2020 Tr. at 104:12-105:2 (Ralston, PacifiCorp).
[119] PAC/2600 at Ralston/7:14-16, 7:19-20.
[120] Sierra Club/102, PacifiCorp Response to Sierra Club Data Request 1.8.
[121] Sept. 10, 2020 Tr. at 107:11-13 (Ralston, PacifiCorp).
[122] Sept. 11, 2020 Tr. at 112:23-113:1 (Ralston, PacifiCorp).
[123] PAC/2600 at Ralston/3:13-16.
[124] Sept. 10, 2020 Tr. at 107:20-22 (Ralston, PacifiCorp).
[125] PAC/2600 at Ralston/9:5-8.

In the fall of 2013, the Company had multiple reasons to suspect that steady project economics were not the case. PacifiCorp knew that closure of the underground mine would, at a minimum, require increased reliance on both the [redacted] Bridger surface mine[126] and the [redacted] Black Butte mine;[127] yet, the Company failed to prepare a long-term fueling plan that would have fully evaluated fuel cost impacts[128] or prepare a mine plan specifically for the two-unit scenario in order to test the SCR decision against the next least cost option: conversion of units 3 and 4 to natural gas.[129]

In a *post hoc* analysis created for this proceeding, the Company posited that had PacifiCorp created a mining plan for the two-unit scenario in October 2013 (which it did not bother to do), it would have shown that the four-unit/SCR scenario was negatively impacted by $16.7 million;[130] but, as shown below, this calculation was fraught with errors and severely underestimated cost impacts. As Dr. Fisher testified, the new mine plan harmed the SCR decision by $59.3 million.[131] While PacifiCorp has attempted to cast doubt on Dr. Fisher's calculation, Mr. Ralston's testimony confirms that his calculation failed to capture full cost impacts in a myriad of ways.

1. <u>PacifiCorp failed to fully analyze the October 2013 mine plan's cost impacts on the SCR project.</u>

At hearing, Mr. Ralston confirmed that the Company did not prepare a long-term fueling plan in the fall of October 2013,[132] even though such a plan would have projected fuel costs from

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[126] Sept. 11, 2020 Tr. at 118:1-9 (Ralston, PacifiCorp).
[127] *Id.* at 121:5-24.
[128] *Id.* at 125:17-19.
[129] Sept. 10, 2020 Tr. at 107:20-22 (Ralston, PacifiCorp).
[130] *Id.* at 105:7-12.
[131] Sierra Club/400 at Fisher/13:16-19.
[132] Sept. 11, 2020 Tr. at 125:17-19 (Ralston, PacifiCorp).

both the Bridger mine and external, third party sources.[133] Mr. Ralston also confirmed that in October 2013, the Company was aware that the Bridger surface mine was consistently [redacted] than the underground mine and that third party coal was [redacted]. Nevertheless, the Company did not prepare a long-term fueling plan, claiming that it [redacted],[134] which, presumably, the Company [redacted]. However, and as demonstrated in Sierra Club's prehearing brief, the Company negotiated contract flexibility for just such an occasion: unforeseen changes requiring further analysis prior to moving forward with the SCR project. Under the EPC contract's own terms, the Company could have delayed issuing the FNTP in order to fully vet impacts of the October 2013 mine plan; it merely chose not to do so.

The Company's failure to exercise its option under the EPC contract to delay issuance of the FNTP beyond December 1, 2013 is egregious in light of coal fuel cost projections that the Company had in its possession in October 2013 but had not fully quantified in relation to the SCR project. First, the Company understood that closure of the underground mine years ahead of schedule would require increased reliance on the [redacted] surface mine.[135] As Mr. Ralston testified at hearing, in 2013 the Company projected that [redacted][136] Relying on the same workpaper from which Mr. Ralston confirmed this information, [redacted][137] Yet the Company

[133] *Id.* at 125:12-16. *See also* PAC/2600 at Ralston/6:19-21 (describing a long-term fueling plan as "an evaluation and analysis of the available fueling options at a coal plant").
[134] Sept. 11, 2020 Tr. at 125:19-126:1 (Ralston, PacifiCorp).
[135] *Id.* at 118:1-9.
[136] *Id.* at 117:9-14. *See also* Sierra Club/ 708, BCC Production-Operating Cost Schedules (4-unit Coal Operation), OPEX tab [hereinafter "Sierra Club/708].
[137] Sierra Club/708, OPEX tab, lines 123,188.

largely did not analyze how this cost difference would impact the economic viability of the SCR project, as the October 2013 mine plan included only a 10-year cost projection for the surface and underground Bridger mines.

Second, the Company was aware that the Bridger plant would require significantly higher reliance on external, third party coal supplies.[138] While the Bridger plant has historically received approximately two-thirds of its coal supply from the Bridger mine and one-third from external sources (primarily from the Black Butte mine), in October 2013, the Company anticipated that those figures would switch following closure of the Bridger underground mine in 2022: two-thirds of the plant's coal would come from external, third party suppliers by 2023 and one-third would come from the Bridger surface mine.[139] As Mr. Ralston confirmed, the Company anticipated that coal deliveries from the Bridger mine would [redacted] between 2014 and 2023, with [redacted][140] As a result of this [redacted], PacifiCorp anticipated spending roughly [redacted] on third party coal in 2023 than it had in 2022.[141] In the Company's January 2013 long term fueling plan, third party coal was projected to be [redacted] than Bridger mine coal in every year between 2015 and 2030,[142] and by October 2013, the Company still projected that third party coals would be [redacted] than Bridger mine coal each year between 2014 and 2024, except for 2014, 2015, and 2017.[143] Moreover, the Company knew that its coal supply agreement with Black Butte would be [redacted][144] and that external coal costs were projected to [redacted] by approximately [redacted]

[138] Sept. 11, 2020 Tr. at 119:12-16 (Ralston, PacifiCorp).
[139] PAC/2603, Confidential Corrected Coal Cost Comparison; Sierra Club/713, CONF Exhibit_PAC_2306_CONF and WPs [hereinafter "Sierra Club/713"].
[140] Sept. 11, 2020 Tr. at 120:3-6 (Ralston, PacifiCorp).
[141] *Id.* at 120:20-24.
[142] *Id.* at 121:5-18.
[143] *Id.* at 121:19-24.
[144] *Id.* at 123:13-21.

[redacted][145] While Mr. Ralston stated that a projection beyond 2023 would be "too hard to determine[,]" he anticipated that external coal costs [redacted] "in that neighborhood" and that the Company was "[redacted]"[146]

All of this information was available to PacifiCorp in October 2013; yet, the Company did not fully analyze how these changes would impact its decision to install SCRs on Bridger units 3 and 4. While the Company claims that the October 2013 mine plan did not raise any red flags that would have justified delaying issuance of the FNTP in December 2013 or even completing a full analysis through a long-term fuel plan,[147] it is clear that the Company's cost projections were preliminary and even internally inconsistent. For instance, through discovery, PacifiCorp produced two separate spreadsheets, each entitled "BRIDGER," containing [redacted].[148]

2. <u>The Company's post hoc analysis is fundamentally flawed.</u>

Acknowledging that the Company failed to meaningfully evaluate cost implications for the SCR project in October 2013 or at any time before issuing the FNTP on December 1, 2013, PacifiCorp now presents a *post hoc* analysis attempting to downplay the impacts of the October 2013 mine plan by alleging that that SCR project was only negatively impacted by $16.7 million.[149] Mr. Ralston described at hearing that his $16.7 million calculation consists of essentially three parts. First, Mr. Ralston calculated that the October 2013 mine plan increased the cost of coal for the four-unit scenario by approximately [redacted], or 2.8 percent,[150] over a

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[145] *Id.* at 123:22-124:2.
[146] *Id.* at 124:7-14.
[147] PAC/4100 at Ralston/7:3-14.
[148] Sept. 11, 2020 Tr. at 122:3-123:12 (Ralston, PacifiCorp). *See also* Sierra Club/732 and Sierra Club/733.
[149] Sept. 10, 2020 Tr. at 105:7-12 (Ralston, PacifiCorp).
[150] PAC/4100 at Ralston/6:10.

ten-year period.[151] He then multiplied the estimated costs for the two-unit scenario, as calculated in January 2013, by that 2.8 percent.[152] This calculation showed that the cost of the two-unit scenario increased by approximately [redacted].[153] Finally, he subtracted the difference between the new four-unit and two-unit costs [redacted] minus [redacted]), resulting in an approximately $16.7 million differential, negatively impacting the four-unit/SCR scenario.[154] As shown below, each of Mr. Ralston's steps were filled with errors and misleading information.

First, and as a threshold matter, Mr. Ralston acknowledged that his calculation only covered a ten-year timespan: 2014 through 2023.[155] As the $16.7 million calculation assessed increased coal costs resulting from closure of the Bridger underground mine in 2022, by Mr. Ralston's own explanation, the $16.7 million differential largely fails to take into account the very change impacting coal costs, as it only captures one year of costs following closure of the underground mine.[156] Moreover, Mr. Ralston's calculation did not capture the then-expected lifespan of the Bridger plant or the Bridger surface mine: 2037. As Mr. Link testified regarding projected natural gas prices, a 20-year forecast is an appropriate analytical time frame to evaluate "potential compliance alternatives for the Bridger three and four facilities[.]"[157] Mr. Link testified that a shorter forecast would not be prudent, as various alternatives, including early retirement, "could potentially have an impact on the [C]ompany's resource needs, [and its] load and resource balance[;]"[158] and, likewise, the Company must ensure that it is "capturing the potential costs and/or benefits associated with an early retirement scenario that was part of the

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[151] Sept. 11, 2020 Tr. at 111:19-22 (Ralston, PacifiCorp).
[152] *Id.* at 111:25-112:3.
[153] *Id.* at 112:4-6.
[154] *Id.* at 112:7-13.
[155] *Id.* at 112:23-113:1.
[156] *Id.* at 113:2-4 (Mr. Ralston acknowledging that his calculation does not take into account any coal costs after 2023).
[157] Sept. 10, 2020 Tr. at 9:17-25 (Link, PacifiCorp).
[158] *Id.* at 10:2-3.

equation when [it was] evaluating [the Bridger] SCR investments."[159] Nevertheless, Mr. Ralston inexplicitly limited his analysis to a 10-year forecast that could not—and did not—capture "the potential costs and/or benefits" associated with either early retirement of the Jim Bridger plant or conversion of units 3 and 4 to natural gas.[160]

Second, as noted, Mr. Ralston's differential is based upon multiplying the January 2013 two-unit scenario costs by 2.8 percent, his projected average increased coal fuel cost through 2023. This 2.8 percent represented costs from both the Bridger mine and third party suppliers,[161] and, as Mr. Ralston testified, assumed a 0.5 percent reduction in third party coal costs.[162] However, Mr. Ralston acknowledged that his projected third party coal costs include both third party coal and "coal from inventory," which is a blend of Bridger Mine coal and third party coal.[163] Because Bridger Mine coal is lower cost than third party coal, "coal from inventory" is [redacted].[164] Mr. Ralston acknowledged that the "coal from inventory" was a driving factor contributing to the 0.5 percent decrease.[165] Removing the "coal from inventory," in October 2013, PacifiCorp anticipated that third party coal costs would *increase* by approximately [redacted] through 2023,[166] as noted above.

Third, when Mr. Ralston multiplied the January 2013 four-unit and two-unit scenario costs by his erroneous 2.8 percent, he did not make any adjustments to assumptions underpinning the two-unit scenario.[167] Importantly, Mr. Ralston did not remove the assumed increased clean-up costs for the two-unit scenario that would have been required if the surface mine closed in

[159] *Id.* at 10:7-10.
[160] Sierra Club/713.
[161] PAC/2600 at Ralston/10:19-20.
[162] PAC/4100 at Ralston/7:18-8:3.
[163] Sept. 11, 2020 Tr. at 127:24-128:3 (Ralston, PacifiCorp).
[164] *Id.* at 128:10-14.
[165] *Id.* at 128:15-19.
[166] *Id.* at 123:22-124:2.
[167] Sept. 10, 2020 Tr. at 109:20-110:3 (Ralston, PacifiCorp).

2017—an assumption that no longer applied by October 2013.[168] While Mr. Ralston unequivocally stated at hearing that his $16.7 million calculation did not remove the accelerated remediation costs associated with the January 2013 two-unit costs,[169] his testimony attempted to confuse this issue by insinuating that his own calculation did take into account accelerated remediation costs[170] and further wrongly claimed that Dr. Fisher "double counted" accelerated remediation costs in his calculation,[171] a claim that the Company has since wisely abandoned.[172] Mr. Ralston's hearing testimony as well as his workpapers clearly show that he merely took January 2013 costs for the two-unit scenario and multiplied those costs by 2.8 percent—without ever removing the estimated $28.3 million in accelerated remediation costs associated with closure of the surface mine in 2017.[173] As a result, even assuming that Mr. Ralston's $16.7 million differential is accurate in its other assumptions—which it is not, as explained above—the differential should be increased by $28.3 million, for a total of $45 million, to account for the elimination of accelerated remediation costs. As explained above, by December 2013, the value of the SCR project had fallen to approximately $6 million, meaning that the disruptions at the Bridger mine wiped out any value of the SCR project, even based on a 10-year calculation that failed to quantify the mine plan impacts through the life of the Jim Bridger power plant and Bridger mine.

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168 *Id.* at 105:22-24 (Mr. Ralston testifying that his prefiled testimony "made clear that the two unit no SCR analysis under an October mine plan would remove [accelerated remediation costs] if [the Company] would have ran the two unit scenario.").
169 *Id.* at 109:20-25.
170 PAC/4100 at Ralston/8:11-14.
171 PAC/2600 at Ralston/9:17-18.
172 PAC/4100 at Ralston/8:5-11.
173 Sept. 10, 2020 Tr. at 109:3-7 (Ralston, PacifiCorp) (explaining that Mr. Ralston merely multiplied the January 2013 2-unit scenario costs by 2.8 percent), 106:17-19; Sierra Club/713.

3. Dr. Fisher convincingly showed that the true cost impacts of the October 2013 Mine Plan were $59.3 million.

In his opening and rebuttal testimony, Dr. Fisher testified that the October 2013 mine plan negatively impacted the SCR project by $59.3 million.[174] This figure is comprised of (1) $31 million in increased coal costs, when comparing the January 2013 long term fueling plan with the November 2014 long term fueling plan; and (2) $28.3 million in the elimination of accelerated remediation costs for the surface mine. Neither figure has been meaningfully disputed by PacifiCorp. First, the $31 million calculation was completed by Mr. Ralston in a previous proceeding.[175] While this calculation compared the Company's January 2013 and November 2014 long-term fueling plans,[176] the Company knew by October 2013 that the closure of the Bridger underground mine would result in greater reliance on [redacted] sources of coal, as explained above. The $31 million figure is more accurate than Mr. Ralston's $16.7 million differential, as Mr. Ralston's calculation only projects cost changes over a 10-year timespan and therefore fails to account for the long-impacts of changes made in the October 2013 mine plan. The Company had the ability to, but did not, complete a thorough analysis to evaluate these cost impacts on the SCR project.

Second, there is no dispute between the parties that (1) the accelerated remediation costs associated with closure of the Bridger surface mine in 2017 are valued at approximately $28.3 million (2014 dollars)[177] and (2) Mr. Ralston's calculation failed to remove this cost,[178] even though in October 2013 the Company projected that the surface mine would continue operating through 2037 and therefore knew that the $28.3 million should be eliminated.

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174 Sierra Club/100 at Fisher/44:5-9; Sierra Club/400 at Fisher/13:16-19.
175 Sierra Club/108, UTC Ralston Rebuttal Testimony at Fisher/10 [hereinafter "Sierra Club/108"]; Sierra Club/400 at Fisher/14:7.
176 PAC/4100 at Ralston/4:4-7.
177 Sept. 10, 2020 Tr. at 106:10-19 (Ralston, PacifiCorp).
178 *Id.* at 109:20-25.

Even with this undisputed information, the Company still has attempted to discredit Dr. Fisher's testimony by asserting that he failed to account for $51.5 million in avoided capital spend from the January 2013 long-term fueling plan to the October 2013 mine plan.[179] But Sierra Club explained in its prehearing brief that this reduction would have been accounted for in Mr. Ralston's previous $31 million differential.[180] At hearing, Mr. Ralston again [redacted].[181] Accordingly, there is no meaningful dispute regarding the accuracy of Dr. Fisher's analysis and that the October 2013 mine plan negatively impacted the SCR project by $59.3 million—meaning that the project was a liability for PacifiCorp's customers even before construction began.

D. PacifiCorp Failed to Demonstrate that Transmission Costs could not have been Avoided

The Bridger plant is located on a transmission path where PacifiCorp plans a set of transmission upgrades that the company calls the Energy Gateway projects.[182] PacifiCorp seeks rate recovery for the Gateway projects in this case. Segment D.2 of the Gateway West project runs from the Aeolus substation in southeastern Wyoming to Bridger/Anticline substation in south central Wyoming. Segment D.3 of the Gateway West project runs from Bridger/Anticline west to the Populus substation in southeastern Idaho. The Gateway South project runs from Aeolus southwest through northern Colorado and on to the Mona Clover substation south of Salt Lake City, Utah.

In this case, Staff and Sierra Club both testified that PacifiCorp should have evaluated whether any transmission investments could be avoided or deferred by retiring the Bridger units,

[179] PAC/4100 at Ralston/9:8-10.
[180] Sierra Club Prehearing Br. at 21. *See also* Sierra Club/108 at Fisher/14:19-15:1.
[181] Sept. 11, 2020 Tr. at 130:19-23 (Ralston, PacifiCorp).
[182] A good map of transmission paths for these projects can be found in Figure 1 on page 5 of Exhibit Sierra Club/723, PacifiCorp's 2010 Gateway West transmission Study.

to determine whether to include any resulting savings in the economic analysis of the SCR project. In its opening brief, PacifiCorp argued that it was not necessary for the Company to conduct such an analysis, because the need for the Gateway West transmission project was independent of continued operation of the Bridger units.[183] PacifiCorp called Sierra Club's position "simplistic[];" and stated that during high power transfer conditions, if the Gateway South transmission line trips, the remaining power would overload the line east of Bridger if the Gateway West projects are not built.[184] PacifiCorp relied on Company witness Rick Vail's surrebuttal testimony for this assertion. However, at the hearing the evidence demonstrated that the studies Mr. Vail relied on for his opinion did not evaluate the issues he described in his surrebuttal testimony. The evidentiary hearing also made clear that a trip on Gateway South would overload the transmission line east of Bridger even after the only currently-planned segment of Gateway West is built—obviating that contingency as a justification for building that project even if Bridger retired.

In her opening testimony, Staff witness Ms. Soldavini stated that as a general proposition, "Staff believes that a reasonable analysis would include considering and measuring the effect of any major secondary effects an investment decision may have."[185] Ms. Soldavini noted that in PacifiCorp's 2013 IRP, Sierra Club raised the issue of potential avoided transmission costs associated with early retirement of Bridger and agreed that "PacifiCorp should at least have analyzed these effects to provide the Commission with more information regarding the least-cost option."[186] She stated that after Sierra Club raised this concern, PacifiCorp still chose not to perform additional analysis to determine whether a Bridger retirement "might allow PacifiCorp

[183] PacifiCorp Opening Br. at 47.
[184] *Id.* at 47-48.
[185] Staff/700 at Soldavini/48:4-6.
[186] *Id.* at Soldavini/48:6-10.

to defer near-term planned transmission investments, thus changing the economics of the compliance scenarios."[187]

In his reply testimony, Mr. Link acknowledged that the 2013 IRP modeling "assumed in all cases that all segments of the Energy Gateway project would be implemented."[188] However, he also testified that PacifiCorp subsequently conducted a sensitivity analysis that removed the Gateway projects and Wyoming wind resources "from both the SCR and gas conversion alternative model runs."[189] According to Mr. Link, the sensitivity "resulted in a PVRR(d) of $230 million favorable to the SCR."[190]

In rebuttal, Sierra Club witness Dr. Fisher testified that Mr. Link's sensitivity run missed the point entirely.[191] It was not possible to evaluate the potential for deferred transmission project savings resulting from a Bridger retirement by removing the transmission project from both the Bridger SCR and gas conversion scenarios and comparing the results. Such a test would have no bearing on the transmission costs that could be saved were Bridger retired. Dr. Fisher also explained that a well-tailored analysis should examine potential savings from a Bridger retirement with the wind additions and a downsized transmission project, in addition to a scenario eliminating the transmission project and wind additions altogether.[192]

In 2013, PacifiCorp stated that retiring Bridger 3 and 4 "would reduce the need to transport thermal resources westward between the proposed Anticline [Bridger] substation and existing Populus substations from Wyoming to the Company's load centers, but it would not avoid the need for more transmission capacity out of Wyoming."[193] According to PacifiCorp, its

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[187] *Id.* at Soldavini/48:11-16.
[188] PAC/2300 Errata at Link/16:9-10.
[189] *Id.* at Link/16:10-14.
[190] *Id.* at Link/16:14-15.
[191] Sierra Club/400 at Fisher/26:1-28:4.
[192] *Id.* at Fisher/27:4-28:2.
[193] *Id.* at Fisher/28:5-15 (quoting Sierra Club/409).

"existing transmission system is highly constrained east of Bridger and limits the Company's ability to reliably transport low cost energy including existing and future thermal and renewable energy sources therein. Retirement of Bridger Units 3 and 4 would not avoid the need for Gateway West in that regard."[194] Furthermore the Company's acknowledgement that retiring Bridger would reduce the need for transmission west of Bridger. Dr. Fisher challenged the Company's assertion that a constraint east of Bridger is relevant to determining whether transmission could be avoided by a Bridger retirement—given that power primarily flows west from Bridger on that path.[195]

In response, PacifiCorp witness Rick Vail countered that "[e]ven if the Company had retired Units 3 and 4 instead of installing the SCRs, it would not have avoided the need for additional transmission investment in the Company's system."[196] Mr. Vail asserted that "the identified transmission constraint east of Jim Bridger has a direct correlation to needing transmission west of Jim Bridger."[197] He claimed that as wind resources are added in eastern Wyoming, the first transmission constraint identified is east of Bridger, and that this constraint will be mitigated by adding Gateway West Segment D.2 (Aeolus – Bridger/Anticline).[198] He continued that as additional wind is added in eastern Wyoming, the next constraint identified is between Wyoming and Utah that will be mitigated by adding Gateway South – Segment F (Aeolus – Clover).[199] He stated that if Gateway South trips during high transfer conditions, "the remaining power will flow on the Aeolus West and Bridger West transmission paths, overloading the existing 345 kV lines west of Jim Bridger above their thermal ratings[;]" and

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[194] *Id.* at Fisher/28:16-20 (quoting Sierra Club/409).
[195] *Id.* at Fisher/28:21-29:6.
[196] PAC/4200 at Vail/45:14-16.
[197] *Id.* at Vail/46:16-17.
[198] *Id.* at Vail/46:17-20.
[199] *Id.* at Vail/46:20-47:1.

that Gateway West Segment D.3 (Bridger/Anticline – Populus) will mitigate this reliability violation.[200] Mr. Vail concluded that "these events would occur even if Units 3 and 4 at Jim Bridger were retired."[201]

When asked to produce the transmission studies that Mr. Vail relied on for these conclusions, the Company produced two. The Company's response and the two studies were entered into evidence and discussed at the hearing.[202] From that discussion, it is clear that neither of the studies evaluated the scenarios or drew the conclusions that Mr. Vail described in his surrebuttal testimony.

The first study was the 2010 Gateway West study.[203] The object of that study was to demonstrate that the Gateway West upgrades could achieve the power transfer levels that PacifiCorp projected and not cause negative impacts on transmission paths external to PacifiCorp.[204] Notably, the object of the study was *not* to determine the relationship between wind additions in eastern Wyoming and a transmission constraint on the existing path between Aeolus and Bridger/Anticline that Mr. Vail identified in his surrebuttal.[205] While Mr. Vail noted that the identified constraint was one of the items tested in the study, a detailed review of the study cases showed that every case involving the Gateway West segments tested them in their as-upgraded capacity and not their capacity prior to upgrade.[206] Mr. Vail confirmed that "what [the study is] trying to do is take the upgrades and -- and test the system with the upgrades . . . "[207]

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[200] *Id.* at Vail/47:1-6.
[201] *Id.* at Vail/47:6-7.
[202] Sierra Club/722, PacifiCorp Response to Sierra Club Data Request 12.2; Sierra Club/723, Gateway West 2010 Study; Sierra Club/724 Aeolus West 2018 Study.
[203] Sierra Club/723, Gateway West 2010 Study.
[204] Sept. 9, 2020 Tr. at 205:12-207:19 (Vail, PacifiCorp).
[205] *Id.* at 208:12-209:1.
[206] *Id.* at 212:5-213:14.
[207] *Id.* at 214:4-10.

He also testified:

> Q. So, this study did not specifically evaluate or test . . . either the transmission constraint that you describe on page 46 of your surrebuttal testimony, or the reliability violation that you describe on page 47 of the rebuttal testimony, is that true?
>
> A. Yeah, that is true.[208]

The second study was the 2018 Aeolus West study.[209] This study is of questionable relevance given the prohibition on hindsight review, because no draft of the study was available in 2013 and the wind additions evaluated in the study were neither known nor expected in 2013.[210] Nevertheless, Mr. Vail interpreted the 2018 Aeolus West study as providing evidence concerning the scenarios he described in his surrebuttal testimony, then at hearing he agreed that the study did not evaluate those scenarios.[211] Among other things, the study assumed continued generation from Bridger 3 and 4 and included no scenario where Bridger was retired.[212]

Relatedly, Mr. Vail acknowledged that once Gateway West Segment D.2 from Aeolus to Bridger/Anticline was added, that transmission segment would still overload during the contingency he described in his surrebuttal where the Gateway South line trips and the remaining power has to flow on Gateway West—at least until Segment D.3 from Bridger/Anticline to Populus is added.[213] However, there is currently no target in-service date for Segment D.3.[214] Thus, it is unclear how Segment D.2 would be justified—even if Bridger retired—to mitigate a reliability violation that it will not actually mitigate.

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[208] *Id.* at 214:18-24.
[209] Sierra Club/724, Aeolus West 2018 Study).
[210] Sept. 9, 2020 Tr. at 216:14-17, 218:2-6 (Vail, PacifiCorp).
[211] *Id.* at 226:16-20.
[212] *Id.* at 223:15-23.
[213] *Id.* at 230:9-16.
[214] *Id.* at 200:6-8.

Finally, Mr. Vail conceded that a study would be needed to evaluate how much transmission capacity retiring Bridger would open up, and no such study has been done.[215] On redirect, PacifiCorp counsel invited Mr. Vail to walk back that opinion by asking, "notwithstanding your comment that you need to study it," would Mr. Vail nonetheless stand behind his surrebuttal conclusion—to which he agreed.[216] However, given Mr. Vail's statement that a study is needed to make that determination, his answer to a request to give his opinion notwithstanding any such study cannot be considered probative or meaningful.

In sum, PacifiCorp did not refute the substantial questions regarding a potential for avoided transmission savings that the Company should have evaluated as part of the Bridger SCR economic analysis. PacifiCorp claimed that there could be no such avoided transmission savings because of the need for Gateway West to mitigate certain reliability scenarios; but the studies offered do not support that position because the studies did not evaluate the scenarios PacifiCorp cites. The Commission should accept Staff and Sierra Club's position on this issue as an additional factor warranting denial of rate recovery for the Bridger SCR project.

E. The Commission Should Fully Disallow Rate Recovery of the Bridger SCR Project.

As noted earlier in this brief, the net costs resulting from PacifiCorp's imprudent decision to install the Bridger SCRs are estimated to run in the hundreds of millions of dollars, based on the PVRR(d) results for the low gas price scenarios. The Alliance for Western Energy Consumers ("AWEC") witness Lance Kaufman presents a similar conclusion.[217] In the face of such a costly mistake, the Commission is presented with the question of what to do about it. The proposals by Staff and the Company are insufficient to address the magnitude of the error and the

[215] *Id.* at 234:2-4.
[216] *Id.* at 238:24-239:5.
[217] AWEC/300 at Kaufman/35:6-11 (including Figure 7).

resulting costs. Sierra Club concurs with AWEC and CUB that a full disallowance of rate recovery for the Bridger SCRs is the most prudent course, to avoid imposing the costs of PacifiCorp's foreseeable and avoidable mistakes on ratepayers.

The Oregon-allocated costs for the Bridger SCRs are $26.8 million for Unit 3 and $30.1 million for Unit 4, for an Oregon-allocated total cost of $56.7 million.[218] Staff proposes two alternative remedies. The first alternative is for the Commission to impose a management disallowance of [redacted], which is 10% of the total Oregon-allocated cost.[219] In its prehearing brief, Staff clarifies that this disallowance would be implemented as a reduction in rate base that would then apply to each year of cost recovery.[220] Staff's second alternative is for the Commission to allow the full Oregon-allocated undepreciated balance of the expenditure into rates, but not allow the Company to earn a rate of return on that balance.[221] Staff calculates that undepreciated balance to be [redacted].[222]

PacifiCorp proposes instead that if the Commission makes an adjustment, it should be a one-time disallowance of $4.3 million.[223] PacifiCorp claims that this amount is 10% of what it argues to be the remaining Oregon-allocated undepreciated balance of $43.5 million.[224]

As AWEC and CUB explain in their prehearing briefs, these amounts are insufficient to protect ratepayers against the Oregon share of much higher net costs from the Bridger SCR project.[225] Staff witness Sabrinna Soldavini acknowledged that Staff's proposed disallowance is simply a best guess based on the information available:

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[218] PAC/800 at Teply/24:6-10.
[219] Staff/700 at Soldavini/19:21-20:2.
[220] Staff Prehearing Br. at 38 (citing Staff/2300 at Soldavini/50).
[221] Staff/2300 at Soldavini/4:1-18.
[222] *Id.*
[223] PAC/4400 at McCoy/19:18-21.
[224] *Id.*
[225] CUB Prehearing Br at 12-14; AWEC Prehearing Br. at 33-35.

> It is quite difficult to determine a precise dollar figure which represents the costs to ratepayers of PacifiCorp not having performed alternative analyses. Indeed, it is the case that because additional analysis was not performed at the time that the difference in cost between the selected course of action and unexplored alternatives cannot be precisely determined today.[226]

Staff's point about the information gap caused by PacifiCorp's refusal to do alternative analysis is well-taken. However, the conclusion Staff draws from that point—essentially, to err in the Company's favor with a reduced disallowance—is not well-taken. As noted earlier, PacifiCorp has the burden of demonstrating its entitlement to the rate relief it seeks. If PacifiCorp fails to undertake alternative analyses or proceeds with a project imprudently during a time of rapidly eroding economic benefits, the financial consequences of those mistakes should fall on the Company, not its customers. Only a full disallowance will do that.

Finally, unsatisfied with even Staff's modest disallowance, PacifiCorp quibbles with Staff's method in an attempt to reduce the disallowance by another $1.4 million.[227] PacifiCorp's main argument is that Staff's method for calculating its recommended Bridger SCR disallowance is different than the method the Commission used to calculate the disallowance in Order No. 12-493.[228] However, the disallowance in Order No. 12-493 was (a) eight years ago; and (b) imposed on a broader set of investments with a larger bucket of costs.[229] PacifiCorp cites no authority that states the Commission in this proceeding is somehow bound to the formula it used to calculate a different disallowance in a prior proceeding.

PacifiCorp also complains that it "has already absorbed $13.3 million in Oregon depreciation for the Jim Bridger SCRs as a result of regulatory lag."[230] However, regulatory lag

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[226] Staff/700 at Soldavini/50:11-15.
[227] PacifiCorp Opening Br. at 54.
[228] *Id.*
[229] Order No. 12-493 at 32.
[230] PacifiCorp Opening Br. at 54.

is typically defined as "the quite usual delay between the time when reported rates of profit are above or below standard and the time when an offsetting rate decrease or rate increase may be put into effect by commission order or otherwise."[231] Regulatory lag does not typically encompass expenses claimed to be absorbed during a long rate case stay-out –a matter solely within the Company's control that no doubt had other financial and strategic advantages.

Lastly, Sierra Club echoes AWEC's arguments that the Bridger SCR project provided other extraordinary benefits to PacifiCorp's bottom line, including the preservation of an above-market affiliated coal business and favorable cost allocation in the State of Washington.[232] In fashioning a disallowance, the Commission should not only be mindful of its obligation to protect ratepayers from PacifiCorp's costly mistakes; the Commission should also be clear-eyed about other advantages the Company gained by proceeding with this risky project when so much evidence counseled for caution instead.

IV. PacifiCorp Had No Legally Binding Obligation to Install SCRs at Hayden

Sierra Club established through its opening testimony, prehearing brief, and at hearing that the Hayden SCRs were neither required by law nor economic, even before installation began. Nevertheless, PacifiCorp maintains its position that it did not pursue arbitration to challenge the Hayden SCRs because the project was legally required.[233] To that end, PacifiCorp claims that under its Hayden participation agreement, "[w]here the Operating Agent proposes a capital improvement (such as SCRs) to comply with applicable law, a non-consenting owner's *only option* is to assert that the capital addition is *not* required by applicable law."[234] This

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[231] James C. Bonbright, *Principles of Public Utility Rates* at 96 (2nd ed. 1988).
[232] AWEC Prehearing Br. at 34-35.
[233] PacifiCorp Opening Br. at 54 ("PacifiCorp prudently declined to challenge installation of SCRs at Hayden Units 1 and 2 because *these investments were legally required*." (emphasis added)).
[234] *Id.* at 55 (first emphasis added, second emphasis in original).

extraordinary statement is both incorrect and illogical. Under PacifiCorp's constrained reading of the participation agreement, once the Public Service Company of Colorado ("PSCo") proposed an option to comply with applicable law—regardless of how much that option would cost ratepayers—PacifiCorp had no ability to question the proposal or present a counter proposal that would be equally capable of complying with applicable law, including early retirement.

Moreover, PacifiCorp's position that the Hayden SCRs were required by law is wrong. The Company points to the Colorado Clean Air Clean Jobs Act and the Clean Air Act's regional haze requirements as evidence that it and its co-owners were legally bound to install the Hayden SCRs. However, as Sierra Club has previously established, neither law imposed a binding legal obligation to install the SCRs at the time that PacifiCorp [redacted] and declined to pursue arbitration in opposition. First, while PSCo received approval from the Colorado Public Utilities Commission ("PUC") for its emission reduction plan under the Clean Air Clean Jobs Act, which included installation of the Hayden SCRs, such approval did not mandate installation. Rather, it merely guaranteed cost recovery for PSCo if the company installed the SCRs.[235] In fact, the Colorado PUC required that PSCo submit an application for a Certificate of Public Convenience and Necessity and receive approval before any construction began.[236] Second, as with the Jim Bridger SCRs, Colorado's SIP implementing Clean Air Act regional haze requirements was not legally binding until approval by the federal EPA, which did not occur until *after* PacifiCorp [redacted].

PacifiCorp should have pursued arbitration, as it knew that the SCR project would be an economic liability for ratepayers. According to PacifiCorp, it "concluded that SCRs were the more favorable economic option, in light of the coal contract take-or-pay termination costs that

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[235] Sept. 10, 2020 Tr. at 115:9-12 (Ralston, PacifiCorp).
[236] *Id.* at 115:13-18.

would likely apply if PacifiCorp pursued early retirement to avoid SCR investments for economic reasons[,]"[237] but the Company never responded to Dr. Fisher's testimony pointing out that when PacifiCorp [redacted].[238] As Sierra Club showed in its prehearing brief, [redacted].[239] PacifiCorp failed to act on this information, instead insisting that as a minority owner it had no leverage to oppose the Hayden SCRs. Such inaction was imprudent and not in the best interest of the Company's customers.

V. The Commission Should Issue Exit Orders with Dates No Later than December 31, 2025; in the alternative, the Commission Should Direct PacifiCorp to Prepare an Analysis in the Company's 2021 IRP Evaluating Whether Retaining its Coal-Fired Units beyond December 31, 2025 is in the Best Interest of Oregon Ratepayers

As Sierra Club established through testimony and its prehearing brief, the Commission should adopt exit orders with dates no later than December 31, 2025. Governor Brown's Executive Order ("EO") 20-04 made clear that the Commission should act as quickly as possible and with all its vested authority to help Oregon reduce its greenhouse gas emissions.[240] While PacifiCorp is correct that its current exit order requests would comply with ORS 757.518,[241] Oregon law does not mandate that the Commission wait until the final moment—2030—to remove coal-burning generation from Oregon retail customer's rates. The Commission has authority and a mandate through EO 20-04 to act as quickly as possible. Additionally, the

[237] PacifiCorp Opening Br. at 56.
[238] Sierra Club/100 at Fisher/77:17-78:2.
[239] Sierra Club Opening Br. at 27; Sierra Club/100 at Fisher/79:16-80:1.
[240] Sierra Club/302, EO 20-04 at Ordering ¶ 3(A).
[241] PacifiCorp Opening Br. at 64.

COVID-19 pandemic is depressing current and projected electricity demand and decreasing wholesale energy market prices. These impacts are not expected to be short term; rather, the pandemic is likely to fundamentally alter current assumptions made for electricity generation, including coal burning power plants.

Of the fifteen coal units for which PacifiCorp seeks exit orders, eight would have exit dates by December 31, 2025.[242] Sierra Club does not oppose exit orders for these eight units. However, for the remaining seven units with exit dates beyond December 31, 2025, PacifiCorp should be directed to prepare an analysis in the Company's 2021 IRP, evaluating whether retaining its coal-fired units beyond December 31, 2025 is in Oregon's interest. Specifically, such an analysis should include current load, electricity price, and gas price expectations; updated renewable and storage resource costs; and the social cost of carbon.[243] PacifiCorp agreed to provide such an analysis in Mr. Link's testimony,[244] and there is no reason that the Commission should not hold the Company to that commitment.

VI. The Commission Should Approve an Equity Ratio of 51.86 Percent and Rate of Return of 9.2 Percent

Sierra Club has reviewed the record evidence in this proceeding, including pre-filed testimony and exhibits submitted by the Company, Staff, and AWEC as well as cross examination conducted at the evidentiary hearing. Upon review, Sierra Club recommends that the Commission adopt AWEC witness Mr. Michael Gorman's proposal that the Commission approve a 51.86 percent common equity ratio with a 9.2 percent return on common equity (7.01 percent overall rate of return). Mr. Gorman credibly testified that his proposal would allow PacifiCorp to maintain its strong credit standing and access to capital at a reasonable cost to

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[242] *Id.* at 65.
[243] Sierra Club/500 at Hausman/13:7-13.
[244] PAC/3800 at Link/28:13-15, 28:18-21.

ratepayers.[245] PacifiCorp bears the burden of justifying its capital structure and authorized rate of return. The Company has not meaningfully rebutted Mr. Gorman's proposal. Accordingly, the Commission should adopt Mr. Gorman's recommendations.

VII. Conclusion

PacifiCorp's capital expenditures of $218.6 million at the Jim Bridger coal plant and $24.4 million at the Hayden coal plant were not necessary under existing regulations, were not economic for PacifiCorp's customers, and, as a result, were not prudently incurred. The Commission must reject PacifiCorp's request to include those expenses in its rate base. Additionally, the Commission should issue exit orders for all of PacifiCorp's coal units with dates no later than December 31, 2025, or, in the alternative, require the Company to an analysis in its 2021 IRP evaluating whether retaining its coal-fired units beyond December 31, 2025 is in Oregon's interest. Finally, the Commission should award a rate of return of 9.2 percent with a capital structure with a 51.86 percent equity ratio.

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Respectfully submitted,

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[245] AWEC/600 at Gorman/5; *see also* AWEC/200 at Gorman/61:20-22.

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