

May 31, 2023

#### **VIA ELECTRONIC FILING**

Public Utility Commission of Oregon Attn: Filing Center 201 High Street SE, Suite 100 Salem, OR 97301-3398

#### Re: LC 82—PacifiCorp's Jim Bridger Long-Term Fuel Plan

In accordance with Order No. 23-131 issued in docket LC 82 on April 6, 2023, PacifiCorp d/b/a Pacific Power hereby submits for filing its Jim Bridger Long-Term Fuel Plan (LTFP).

The Jim Bridger LFTP contains highly commercially sensitive, non-public information related to PacifiCorp's fueling strategy at the facility. As a result, PacifiCorp classifies the Jim Bridger LTFP as containing both confidential and highly confidential information and provides it in accordance with the General Protective Order No. 16-128 and Modified Protective Order 23-120 in Docket No. UE 420, and General Protective Order 23-132 for Docket No. LC 82. A Revised Motion for Modified Protective Order in Docket LC 82 was filed on May 26, 2023, and an order is pending.

Please direct any inquiries about this filing to Cathie Allen, Regulatory Affairs Manager, at (503) 813-5934.

Sincerely,

Matthew McVee

Vice President, Regulatory Policy and Operations

= 1/l/n

Enclosure

cc: UE 420



# PACIFICORP HIGHLY CONFIDENTIAL LONG-TERM FUEL SUPPLY PLAN FOR THE JIM BRIDGER PLANT

May 31, 2023



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#### 1 INTRODUCTION AND EXECUTIVE SUMMARY

In PacifiCorp's 2014 Transition Adjustment Mechanism (TAM) filing, the Public Utility Commission of Oregon (Oregon Commission) adopted PacifiCorp's proposal to prepare periodic fuel supply plans comparing affiliate mine supply to alternative fuel supply options, including market alternatives for the Jim Bridger Power Plant. As set forth in PacifiCorp's compliance filing in the 2015 TAM, Docket UE 287, the purpose of long-term fuel supply plans for plants fueled from captive mines is to determine the least-cost, risk-adjusted coal supply evaluated on a multi-year basis. The long-term fuel plan is designed to ensure that fuel supplies are fair, just, and reasonable, and that they satisfy the Oregon Commission's prudence and affiliate interest standards.

PacifiCorp has previously filed long-term fuel plans in December 2015, March 2018, and April 2022. After the Company filed the 2018 Fuel Plan, the Oregon Commission directed PacifiCorp to develop an alternative analysis using a shortened plant life of January 1, 2030, instead of December 31, 2037, to comply with Oregon Senate Bill (SB) 1547 signed in 2016. PacifiCorp refreshed the 2018 Fuel Plan in March 2019 to evaluate the reasonableness of the Company's fueling strategy for the Jim Bridger plant using the shortened plant life. The 2023 Fuel Plan is consistent with Oregon SB 1547 as it contemplates consuming coal through 2029, in conformity with PacifiCorp's 2023 Integrated Resource Plan (IRP).

In the October 2021 final order in PacifiCorp's 2022 TAM, the Oregon Commission required PacifiCorp to provide an updated long-term fuel plan in 2022 and submit it with the 2023 TAM. In February of 2022, PacifiCorp sought to delay this filing because several events had created significant uncertainty which prevented the Company from definitively determining the least-cost, risk-adjusted coal supply for the Jim Bridger plant at that time.<sup>2</sup> Specifically, those events included actions by the United States Environmental Protection Agency (EPA) around Jim Bridger's regional haze obligations, revised dates for Idaho Power Company's exit from the Jim Bridger plant, and PacifiCorp's commitment to evaluate carbon capture, utilization and sequestration (CCUS) at the Jim Bridger plant.

Recognizing the uncertainties and difficulties, the Oregon Commission required PacifiCorp to file the 2022 Fuel Plan in April 2022 and clarified that the plan did not need to be a final strategy. While the 2022 Fuel Plan was preliminary, it considered the options available to PacifiCorp based on the best information available at the time. The 2023 Fuel Plan has confirmed the findings of the 2022 Fuel Plan and is likewise based on the best available information. Some uncertainties have been resolved in the last year, however uncertainty still exists surrounding many issues including the EPA's establishment of new nitrogen oxides (NOx) emissions budgets under Ozone National Ambient Air Quality Standards (Ozone Transport Rule) in the state of Wyoming, CCUS requirements, and coordination with Idaho Power Company on exit or gas conversion dates.

In the May 2022 final order in PacifiCorp's 2021 IRP Filing, the Oregon Commission directed PacifiCorp "to file an updated long-term fuel plan for Jim Bridger with its 2023 IRP... PacifiCorp agreed with that

<sup>&</sup>lt;sup>1</sup> In the Matter of PacifiCorp d/b/a Pacific Power, 2014 Transition Adjustment Mechanism, Docket No. UE 264, Net Power Costs Approved Subject to Adjustments, Order No. 13-387 (Oct. 28, 2013).

<sup>&</sup>lt;sup>2</sup> In the Matter of PacifiCorp d/b/a Pacific Power, 2022 Transition Adjustment Mechanism, Docket No. UE 390, Motion to Amend Order No. 21-379 (Feb. 11, 2019).

assessment and consented to provide the updated plan with the 2023 IRP"<sup>3</sup> which was released on March 31, 2023. In April 2023, the Oregon Commission extended the deadline to May 31, 2023.<sup>4</sup>

In the October 2022 final order of PacifiCorp's 2023 TAM, the Oregon Commission approved a stipulation where PacifiCorp agreed that "[m]odeling for the Long-Term Fuel Supply Plan will be conducted in a platform able to accept multiple fuel price tiers such as Aurora or PLEXOS. PacifiCorp will include the following scenarios:

- i. Scenario that does not assume a minimum take at either the Black Butte or Bridger Mine; (Refer to Scenario 6 below)
- ii. Scenario evaluating an alternative to the minimum take requirement in the Black Butte coal supply agreement signed in 2022; (Refer to Scenario 1 below)
- iii. Scenario evaluating early closure of the Bridger mine (before 2028) and fueling Jim Bridger through end of life with stockpiled coal supplies. (Refer to Scenario 3 below)"<sup>5</sup>

To develop the 2023 Fuel Plan, PacifiCorp studied, reviewed, and evaluated different fueling options for the Jim Bridger plant. The evaluation of these fueling options provides valuable insight into

As part of its 2023 IRP, PacifiCorp assessed various long-term coal supply options as well as alternative options for Jim Bridger Units 3 and 4, including retrofit for CCUS, conversion to natural gas and/or other alternative fuels, and early retirement. The 2023 IRP preferred portfolio selected the conversion of Units 3 and 4 to natural gas in 2030 which requires the ending of coal consumption by December 31, 2029.

Within the 2023 Fuel Plan, the Company has presented several different fueling options. The fueling options consider varying delivery schedules sourced from Bridger Coal Company (Bridger mine), the Black Butte mine, and mines located in Wyoming's Southern Powder River Basin (SPRB). Additionally, the different coal delivery options for the Bridger mine contain various mine plan scenarios outlining specified delivery schedules. Included in these different mine scenarios are estimated shutdown dates for the Bridger mine.

The 2023 Fuel Plan provides third-party coal supply volume and pricing estimates based upon the current contract and ongoing discussions with the Black Butte mine, as well as recent coal pricing forecasts from Energy Ventures Analysis (EVA). The 2023 Fuel Plan provides estimated volumes and rail rates for transportation services based on agreements with the Union Pacific Railroad (UPR) for the transport of coal from third-party coal supply sources. The estimated plant modifications and capital requirements, defined by equipment category, as well as total costs needed to support large volumes of SPRB coal are derived from a detailed third-party study completed in 2017 by the engineering and consulting firm Burns & McDonnell, adjusted for inflation and to account for volumes associated with operating two coal units instead of four coal units.

After considering factors influencing the long-term fueling strategy and information available to PacifiCorp at this time, the Company developed and evaluated six Jim Bridger plant coal fueling options:

<sup>&</sup>lt;sup>3</sup> In the Matter of PacifiCorp d/b/a Pacific Power, 2021 Integrated Resource Plan, Docket No. LC 77, 2021 IRP Acknowledged with Modifications and Exceptions, Order No. 22-178 (May 23, 2022).

<sup>&</sup>lt;sup>4</sup> In the Matter of PacifiCorp d/b/a Pacific Power, 2023 Integrated Resource Plan, Docket No. LC 82, Order No. 23-131 (Apr. 6, 2023).

<sup>&</sup>lt;sup>5</sup> In the Matter of PacifiCorp d/b/a Pacific Power, 2023 Transition Adjustment Mechanism, Docket No. UE 400, Comprehensive Stipulation Adopted: Directives for Future Filings, Order No. 22-389 (Oct. 25, 2022).



As a preliminary indication of the cost-effectiveness of the proposed scenarios using recent assumptions, the Company completed a Present Value Revenue Requirement (PVRR) calculation, comparing major components of PacifiCorp's system costs resulting from the various fueling options, including a composite ranking considering both financial and risk weighting. These costs include coal purchases, natural gas purchases, and system power purchases offset by wholesale power sales (System Costs). Other components not considered in the analysis include costs associated with qualifying facilities, power purchase agreements, geothermal and wheeling. These items do not vary with system dispatch in the PLEXOS model and would not vary between scenarios. This analysis is based on the Company's forward price curve for power and natural gas, which does not include greenhouse gas costs, but does account for the impacts of certain recently proposed EPA emissions requirements, such as the Ozone Transport Rule. The results of the PVRR analysis and risk evaluation indicate that Scenario 5 and Scenario 6 are the current least-cost, risk-adjusted options. Option 6 was modeled assuming no minimum take-or-pay obligations for the Bridger mine or Black Butte Coal Company. Based on PacifiCorp's evaluation using the PLEXOS model, all of the available incremental coal from the Bridger mine would be cost-effective. As a result, the fueling plans in Scenario 5 and Scenario 6 are essentially the same. Therefore, Scenarios 5 and 6 will be referred to as the "Preferred Scenario" in this report going forward.

The benefits of pursuing the Preferred Scenario as the long-term fueling strategy for the Jim Bridger plant include the following:

- Provides the least-cost, risk-adjusted fuel supply for the Jim Bridger plant,

Although the Preferred Scenario is the current least-cost, risk-adjusted fueling option for the Jim Bridger plant, PacifiCorp will continue to evaluate the best fueling option for the Jim Bridger plant, taking into consideration both cost and risk, and will update the long-term fuel supply plan after each IRP is released to reflect changing assumptions and expectations.

#### 2 EVALUATION METHODOLOGY

In the 2023 Fuel Plan, PacifiCorp evaluated several different fueling options for the Jim Bridger plant. The methodology used to evaluate the fueling options is similar to the methodology used in the April 2022 long-term fuel plan. As noted above, the 2023 Fuel Plan considers the variable components of PacifiCorp's System Costs. The same production software used in the 2023 Integrated Resource Plan (IRP), PLEXOS, was used for the 2023 Fuel Plan. Prior plans used PacifiCorp's Generation and Regulation Initiative Decision Tools model (GRID) and costs for the consumed tons required to support the generation forecast under each fueling option were then calculated. The cost of coal for the Jim Bridger plant under each fueling option was then compared to the system benefits of incremental coal-fired generation from the PLEXOS model on a PVRR basis.

#### 3 BACKGROUND

The Jim Bridger plant is a coal-fired plant located in Sweetwater County, Wyoming. The facility is located approximately eight miles north of Point of Rocks, Wyoming, and approximately 24 miles east of Rock Springs, Wyoming.

The Jim Bridger plant is the largest power plant on the PacifiCorp system (2,120 megawatts) and is jointly owned by PacifiCorp (66.7%) and Idaho Power Company (Idaho Power) (33.3%). The Jim Bridger plant consists of four almost identical units, each with a nominal 530 net megawatt capacity. Over the four-year period of 2019-2022, the Jim Bridger plant consumed approximately 24 million tons of coal, an average of six million tons per year. The plant is designed to consume coal sourced from southwest Wyoming with heat content in the range of 9,000 Btu/lb. to 10,000 Btu/lb.

The Bridger mine is located adjacent to the Jim Bridger plant. Having ceased underground mining operations in December 2021, the Bridger mine currently consists solely of surface mining operations. Like the Jim Bridger plant, the Bridger mine is jointly owned by PacifiCorp (66.7%) and Idaho Power (33.3%). The surface mine is a combination dragline and truck/loader operation that produces approximately million tons of coal per year.

For regulatory purposes, the Bridger mine is consolidated with PacifiCorp's operations. PacifiCorp's share of the Bridger mine is included in the PacifiCorp rate base and its share of mining costs, including depreciation and depletion, is included in System Costs.

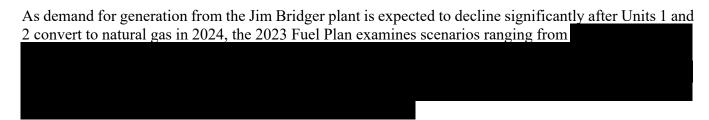
In addition to the Bridger mine deliveries, the Jim Bridger plant has historically received the remaining portion of its coal supply requirements from the nearby Black Butte mine. The UPR provides rail access for all the coal delivered from the Black Butte mine to the plant.

#### 4 ASSUMPTIONS

Currently, the Jim Bridger plant has three potential sources for coal supply:

- The Bridger mine
- The Black Butte mine

• Wyoming's SPRB mines



To assist with the characterization of the potential supply changes over time, the fueling options have been separated into "near-term" and "long-term" periods for discussion purposes. For purposes of the 2023 Fuel Plan, the near-term period has been defined as 2023 and corresponds to the time that Units 1 and 2 are consuming coal before the conversion of those units to gas operation. The key assumptions in the 2023 Fuel Plan are explained below:

#### 4.1.1 Generation

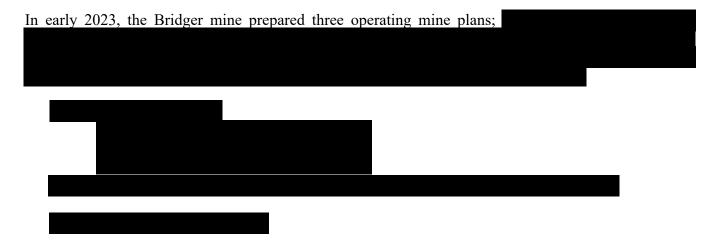
As mentioned above, generation forecast assumptions are provided by PacifiCorp's PLEXOS model for each fueling option studied. To ensure compliance with the Regional Haze Consent Decree with the State of Wyoming, the 2023 Fuel Plan assumes Jim Bridger Units 1 and 2 will stop consuming coal December 31, 2023, and convert to natural gas in 2024. Consistent with the outcome of the 2023 IRP, Jim Bridger Units 3 and 4 will continue to consume coal until December 31, 2029, and then also convert to natural gas in 2030.

On a total plant basis (i.e., including Idaho Power's expected consumption), coal consumption is forecast to be in the range of million to million tons for 2023.

#### 4.1.2 Plant Depreciable Life

The assumed depreciable life in Oregon of PacifiCorp's share of the Jim Bridger plant extends through 2029 for Units 1 and 2 and through 2025 for Units 3 and 4. Other states in PacifiCorp's service territory use differing depreciable lives for different units ranging from 2023 to 2037, based upon PacifiCorp's 2018 depreciation study and other regulatory agreements.

#### 4.1.3 Bridger Mine Plans





#### 4.1.4 Third Party Coal

Due to the geographic location of the Jim Bridger plant, economic fuel supply alternatives other than the Bridger mine are limited to one additional operating mine located in southwest Wyoming and the SPRB mines of Campbell County, Wyoming.

The Black Butte mine, located 20 miles southeast of the Jim Bridger plant, is operated by Lighthouse Resources Inc. (Lighthouse). Lighthouse emerged from bankruptcy in 2020. The mine is a multiple seam, multiple pit operation with the overburden removed by draglines and a truck/loader fleet. In recent years, the mine has produced less than tons per year and the Jim Bridger plant has been the mine's primary customer. Between 2019 and 2022 the Jim Bridger plant received approximately tons, an average of tons per year, from the Black Butte mine. Coal from the Black Butte mine is delivered by rail to the Jim Bridger plant under an agreement with UPR.<sup>6</sup>

The Powder River Basin is the largest coal mining region in the United States. Coal from the SPRB is classified as sub-bituminous coal. SPRB coal contains an average heat content of approximately 8,800 Btu/lb. The coal mined in the SPRB is low sulfur and low ash. Due to its unique quality characteristics, SPRB coal has been consumed by energy markets in multiple states across the country. In 2022, there were seven mining companies operating twelve active mines in Wyoming's Powder River Basin, producing roughly 238 million tons. SPRB mines contain the highest heat content coal in the basin ranging between 8,600 Btu/lb. and 8,950 Btu/lb. These mines are located about 550 miles from the Jim Bridger plant. SPRB mines and the Jim Bridger plant are served by UPR. Consumption of SPRB coal requires UPR delivery.

#### 4.1.5 Black Butte Pricing

As of May 2023, coal from the Black Butte mine is purchased under a Coal Supply Agreement (CSA) signed June 19, 2022, that ends December 31, 2023.

<sup>&</sup>lt;sup>6</sup> Due to limited coal reserves, estimated production costs, transportation difficulties, and the planned closure of the Naughton plant in 2025, Kemmerer Operations, LLC's Kemmerer mine is not considered a viable fuel source for the Bridger plant.

#### **4.1.6** Black Butte Mine Volume

PacifiCorp conducted a high-level review of the Black Butte mine coal resource and reserve estimates in 2015. The study consisted of reviewing available third-party Black Butte reserve and geology documents, along with Black Butte's geology information and permitting status. At the time, based on the information reviewed, the conclusion of the review was that the Black Butte mine had tons that could be considered economic coal reserves under the terms and conditions of the then-current contract.

PacifiCorp and Idaho Power purchased 14 million tons between 2016 and 2022. The scenario that consumes the highest volume of Black Butte coal, assumes purchases of and Idaho Power between 2023 and 2029. Therefore, this study assumes that Black Butte has sufficient coal reserves to satisfy the Jim Bridger plant. Note that the reserve estimate includes the expansion of Black Butte mine into the Pit 15 area. As of May 2023, the permitting process for this area is still pending with federal government agencies. If Pit 15 is not permitted, the risk exists that sufficient reserves may not be available from the Black Butte mine under

#### 4.1.7 Assumed SPRB Coal Pricing

Coal pricing for 2023 comes from a coal supply agreement with

. Volumes purchased by PacifiCorp range from

. SPRB coal pricing in the 2023 Fuel Plan beyond 2023 is based on a long-term coal forecast published by EVA in spring 2023.

#### 4.1.8 Powder River Basin Coal in the Near-Term

Powder River Basin coal has a high propensity to spontaneously combust and is the most friable coal type consumed in the power industry. While major plant modifications would be required to receive and consume large volumes of SPRB coal safely and reliably at the Jim Bridger plant, currently the plant is likely capable of consuming SPRB coal on a limited scale without major modification to the plant's coal unloading or coal consuming infrastructure. For example, in a test during 2015, the plant handled and consumed 10 trains totaling 140,540 tons of SPRB coal. Based on knowledge gained from that test and PacifiCorp's professional judgment, PacifiCorp believes that up to a total of 800,000 tons of SPRB coal per year can be safely and reliably consumed without major modifications to the plant infrastructure. This estimate is considered aggressive, as issues with scheduling or handling coal could result in lower maximum annual SPRB volumes using the existing infrastructure. The current 800,000-ton assumption could be adjusted based upon the results of actual coal deliveries in 2023 from the

#### 4.1.9 Transportation

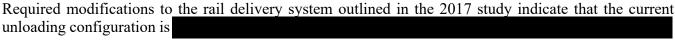
Coal from the Bridger mine is delivered to the Jim Bridger plant via conveyor belt, and the cost of conveying the coal is included in the delivered coal cost. The Jim Bridger plant is also connected by a rail spur to the UPR mainline track. UPR has the trackage rights to the mainline and spur to the Jim Bridger plant and, as a result, the Jim Bridger plant is captive to UPR for deliveries by rail. Deliveries from all sources other than the Bridger mine are assumed to be delivered by the UPR. As mentioned above, the

transportation rates for delivery of Black Butte and SPRB coal are based upon the current rail transportation agreement with UPR and escalated beyond 2023.

#### 4.2 JIM BRIDGER PLANT CAPITAL

PacifiCorp selected the consulting firm Burns & McDonnell (B&M) to perform an independent capital evaluation of the plant modifications and capital expenditures required at the Jim Bridger plant to consume volumes, up to 100%, of SPRB coal. B&M completed a comprehensive study in June 2017. The study outlined high priority plant modifications and the estimated costs in converting the Jim Bridger plant's main fuel source to SPRB coal. The study focused on required modifications to several systems including coal handling and storage, rail delivery, mechanical process/power island, electrical, substation and overhead distribution and air permitting.

The required coal handling system modifications identified engineering controls that would be needed and relied upon to reduce and mitigate coal dust throughout the coal handling system. The study emphasized the importance of having adequate wash down capability by installing and utilizing fixed pipe wash down systems in existing coal reclaim and conveyor tunnels, crusher houses, tripper bays and in the rail unloading hopper facilities. The study also assumed a loop track and thaw shed would be required. Recommendations were made on how to safely and reliably handle SPRB coal: keep areas clean, eliminate ignition sources and detect spontaneous combustion with accumulated SPRB coal dust. These safety steps are designed to protect people, equipment, and enclosures from explosions due to the dangerous spontaneous combustion tendencies of SPRB coal.



In the 2023 Fuel Plan, the capital modifications for

The
2023 Fuel Plan assumes that Idaho Power will participate in the capital modifications. PacifiCorp's estimated cost of the capital modifications based on B&M's June 2017 study is approximately as provided in Table 1.

# TABLE 1 Jim Bridger Plant Capital Costs



# **5 FUEL SUPPLY MIX**

PacifiCorp evaluated six fueling scenarios for the Jim Bridger plant for the 2023 Fuel Plan. Those scenarios are described below. Please refer to Appendices 1-13 for detailed fueling mix and pricing information for each fueling option considered. Summaries of the fuel supply mix, including average volumes for the near-term and long-term, for each fueling option evaluated are provided below. Note that Scenarios 5 and 6 result in the same solution but were run in PLEXOS with different assumptions as seen below.

5.1	SCENARIO 1			
Sce	nario 1 considers			

# 5.2 SCENARIO 2 Scenario 2 considers 5.3 SCENARIO 3 Scenario 3 considers 5.4 SCENARIO 4 Scenario 4 considers SCENARIO 5 Scenario 5 considers 5.6 SCENARIO 6 Scenario 6 considers

# **6 PVRR ANALYSIS AND RESULTS**

#### 6.1 JIM BRIDGER COAL FUELING COST ANALYSIS

The PVRR analysis represents a present value revenue requirement using major NPC components for the PacifiCorp system. The fuel costs for all coal and gas plants are included along with power purchase costs offset by power sales revenues. Scenario 2

The

PVRR results have been discounted using PacifiCorp's weighted average cost of capital. A total PVRR

differential has been calculated for each of the six fueling scenarios comparing the total PVRR for each option against the Preferred Scenario, the fueling option with the lowest PVRR dollar amount.

Table 2 below shows the results of the PVRR analysis for each fueling option in the 2023 Fuel Plan supplying the Jim Bridger plant with coal through December 2029. Also included in Table 2 is a financial ranking from 1 to 6 for each of the fueling options. Table 2 also shows the Preferred

The other fueling options range between these options. Additional discussion on risk assessment for each fueling option is presented in the next section below.

TABLE 2 PVRR Analysis Through December 2029



#### 6.2 RISK ANALYSIS

The following table provides a risk assessment for each scenario and outline the specific categories that have been considered in the risk evaluation analysis. Table 3 illustrates a risk assessment of Scenarios 1 through 6 through December 2029.

TABLE 3
Risk Evaluation Through 2029



The defined risk profile categories include (1) Incremental Capital – the risks associated with the total costs of incremental capital expenditures related to each fueling scenario, (2) Coal Market – risks associated with adequate coal supplies, as well as coal and transportation price, (3) Power and Natural Gas Market Volatility – risks associated with power market price volatility driven by changing natural gas prices, availability of hydro generation, impacts of renewable energy sources, load demand, and (4) Jim Bridger Plant Environmental Compliance – risks associated with new environmental regulations that could change generation at the Jim Bridger plant.

For each fueling scenario under each risk category, a number ranging between 1 and 4 has been assigned. Number 1 is designated as "favorable and low risk." Number 2 is "favorable and moderate risk," and number 3 is "less favorable and high risk." Number 4 is designated as "least favorable and highest risk." The sum of the risk numbers for each category for each scenario, results in an overall "composite project risk" score.



# 7 REMAINING UNCERTAINTIES

Recent and ongoing events have increased uncertainty around the future of Jim Bridger plant's fuel plans in a way that make definitive Jim Bridger long-term coal supply decisions or commitments high risk at

this time. The following is a short summary of some of the major uncertainties that impact the 2023 Fuel Plan and an explanation of how the plan may change depending on the resolution of the uncertainties.

#### 7.1 JIM BRIDGER GAS CONVERSIONS

Jim Bridger Units 1 and 2 are scheduled to be converted to natural gas in 2024 as required by a Regional Haze Consent Decree with the State of Wyoming. Based on the Company's 2023 IRP, Units 3 and 4 are scheduled to be converted to natural gas in 2030. The 2023 IRP analyzed a scenario where Jim Bridger Units 3 and 4 were not converted to natural gas, which resulted in significantly higher costs to PacifiCorp customers.<sup>7</sup> The natural gas conversion of Jim Bridger Units 1 and 2 is an enforceable environmental compliance requirement (Regional Haze requirements under the Clean Air Act (CAA)) under a consent decree entered into by the state of Wyoming and the Company<sup>8</sup> and an administrative consent order with EPA. The state of Wyoming issued an air permit for the natural gas conversion of Jim Bridger Units 1 and 2 in December 2022, as well as submitted a state-approved revised regional haze state implementation plan to EPA requiring the natural gas conversion. EPA is reviewing the submission and is expected to conduct a separate federal public comment process on the plan in summer of 2023. PacifiCorp submitted a notice of compliance and request for termination of the EPA order in March of 2023, which is currently under EPA review. While some of these processes have not yet been finalized, and uncertainty remains, the gas conversion process is underway and any alternative compliance scenarios will be based on Units 1 and 2 converting to gas. The conversion of Units 3 and 4 is further out in time and thus subject to more uncertainty. Due to these uncertainties,

# 7.2 PACIFICORP'S COMMITMENT AND REQUIREMENT TO EVALUATE CCUS AT JIM BRIDGER

Pursuant to Wyoming Statute §§ 37-18-101 and -102 and the Wyoming Public Service Commission Administrative Rules, PacifiCorp is required to analyze the suitability of CCUS at coal fired electric generation facilities, owned in whole or in part with another utility or utilities subject to the provisions of Wyo. Stat. § 37-18-102(a). The Company has determined that Jim Bridger Units 3 and 4 are potentially suitable candidates for CCUS. Additionally, the consent decree entered into by the state of Wyoming and the Company required the Company to issue request(s) for proposals (RFP) for the installation of CCUS at Jim Bridger Units 3 and 4 no later than January 1, 2023. PacifiCorp released the CCUS RFP to qualified bidders in November of 2022 for the Jim Bridger facility.

CCUS installation at Jim Bridger Units 3 and/or 4 has the potential to significantly impact coal burn and dispatch. The generation forecast and coal requirement at the Jim Bridger plant will likely increase if PacifiCorp elects to, or is required to, install CCUS at Bridger Units 3 and/or 4. Proceeding with the Preferred Scenario in the near-term would not preclude the future installation of CCUS at the Jim Bridger plant while PacifiCorp continues to evaluate options and work to comply with Wyoming's CCUS regulations. Fueling strategies for CCUS scenarios would focus on availability and reliability of coal supply.

<sup>&</sup>lt;sup>7</sup> PacifiCorp's 2023 IRP, Chapter 9 – Modeling and Portfolio Selection Results, pages 266-267.

<sup>&</sup>lt;sup>8</sup> Wyoming Consent Decree, Docket No. 2022-CV-200-333 (February 14, 2022).

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#### 7.3 PROPOSED EPA RULES

#### Ozone Transport Rule

The EPA proposed a federal implementation plan for 26 states, including Wyoming, in April of 2022, to eliminate significant contributions to nonattainment of the 2015 ozone National Ambient Air Quality Standard (NAAQS) in neighboring states, known as the Ozone Transport Rule, "good neighbor rule," or "interstate transport" provision of the CAA. However, on January 31, 2023, EPA delayed final action on Wyoming's ozone interstate transport state implementation plan to December of 2023. Wyoming cannot be included in the federal plan until EPA disapproves the state plan. EPA finalized its federal ozone plan on March 15, 2023, but deferred action on Wyoming, meaning the state is currently not subject to the federal plan but could be once EPA finalizes its determination on the state plan. EPA's deferral of Wyoming is currently under litigation. EPA's federal plan is focused on reducing NOx, a precursor to ozone formation, and requires fossil-fuel-fired power plants to participate in an allowance-based ozone season trading program beginning in 2023. The federal rule includes SCR-like NOx budgets for each generating unit and will impact the Company and its operations. The final rule has been released by EPA but has not yet been published in the Federal Register, meaning compliance timelines are not yet established.

Jim Bridger Units 3 and 4 are currently equipped with SCR. Given the impacts of the federal plan on PacifiCorp's Utah coal plants, and depending on EPA's determination on Wyoming's state plan, these units may take on a more critical role in the compliance and reliability strategy for PacifiCorp's fleet and may operate at higher levels than previously forecasted during the ozone season (May – September). Proceeding with the Preferred Scenario, as explained above when discussing the possibility of CCUS at the Jim Bridger plant, keeps all the fueling alternatives on the table as PacifiCorp determines the most effective course of action for compliance with the rule and preserving reliability. Litigation of Utah and other state plan disapprovals is currently underway, and the final rule is also expected to be heavily litigated.

EPA's deferred action on Wyoming's state plan creates a great deal of uncertainty about how the Ozone Transport Rule will impact PacifiCorp's coal fleet. While this is pending, the Preferred Scenario is the most economical in the interim and will provide PacifiCorp time to better understand this potential regulation and its impacts on the generation fleet.

#### Greenhouse Gas Rule

EPA issued proposed regulations under section 111 of the CAA on May 23, 2023, to address greenhouse gas emissions from fossil-fuel fired electric generating units (the "Greenhouse Gas Rule"). The standards proposed in the rule would regulate new gas-fired combustion turbines and set standards for states to regulate existing coal plants, converted natural gas plants and certain large and frequently used existing gas turbine plants. The standards vary significantly based on facility-specific factors – including whether the unit is new or existing, whether it is fueled by coal or natural gas, how frequently it operates, and whether it is scheduled to retire in the coming years. Coal units operating beyond 2032 face increasingly stringent emission limits, and those operating beyond 2040 must comply with emission limits consistent with carbon capture and sequestration starting in 2030. PacifiCorp is evaluating the specific impacts of the proposal and how they impact the Bridger Units and the fueling plan. The impacts from the Greenhouse Gas Rule create some uncertainty due to changing future requirements for coal and gas units and because these requirements could be adjusted when the rule is finalized. The Preferred Scenario allows PacifiCorp

<sup>&</sup>lt;sup>9</sup> See 42 U.S.C. 7410(a)(2)(D)(i)(I); 87 Fed. Reg. 20036 (April 6, 2022).

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to maintain options to address the impacts and system-wide adjustments that may result from the proposed rule.

#### 7.4 IDAHO POWER COMPANY'S PLANNED EXIT DATES

PacifiCorp's 2023 IRP Preferred Portfolio plans for Jim Bridger plant Units 1 and 2 to cease consuming coal on December 31, 2023, and convert to natural gas consumption. PacifiCorp's IRP also anticipates that Units 3 and 4 will cease consuming coal on December 31, 2029, and convert to natural gas. The IRP also provides December 31, 2037, as the closure date for all units. PacifiCorp and Idaho Power Company (Idaho Power) are aligned in the decision to consume coal in Units 1 and 2 through 2023, since Idaho Power's 2021 IRP calls for the conversion of two units to natural gas consumption in 2024. However, PacifiCorp and Idaho Power currently differ on the operation of Jim Bridger plant Units 3 and 4. Idaho Power's 2021 IRP provides December 31, 2025, as the closure date for a third Jim Bridger plant unit and December 31, 2028, as the closure date for a fourth Jim Bridger plant unit. Currently, these differences make modeling the Jim Bridger plant's future fueling needs difficult. Idaho Power is preparing an updated IRP which is scheduled to be released later in 2023. For purposes of the 2023 Fuel Plan, PacifiCorp has assumed the information in Idaho Power's 2021 IRP will remain the same. Ultimately, as co-owners of Jim Bridger plant and Bridger mine, PacifiCorp and Idaho Power will need to align their plans to best accommodate the unique needs of their respective customers. The solutions will impact each owner's access to and usage of the Jim Bridger plant and Bridger mine in the future.

#### 8 CONCLUSION

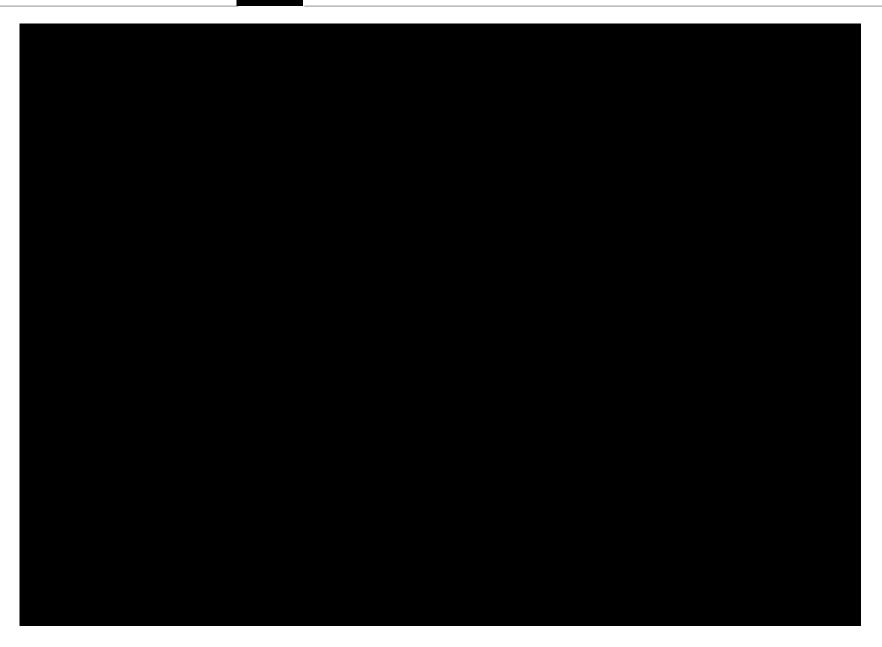
In this 2023 Fuel Plan, PacifiCorp has identified a long-term fueling plan for the Jim Bridger plant that aligns with the Company's 2023 IRP, responds to changing fuel requirements, and allows flexibility to deal with uncertainty. This plan is PacifiCorp management's current strategy and lays out the various considerations and options available to PacifiCorp based on the best information available at this time. Alternative mine plans have been developed, evaluated, and reviewed for the Bridger mine which provided information and direction in determining the optimal volume at the Bridger mine.

After considering factors influencing this long-term fueling strategy and information available to the Company at this time, six different fueling options have been developed and evaluated. Based upon the results of the detailed PVRR analysis, which was further enhanced by utilizing a risk profile, the Preferred Scenario (Scenarios 5 and 6) provides the least-cost, risk-adjusted option and informs PacifiCorp's 2023 Jim Bridger plant fueling strategy. The Preferred Scenario assumes BCC operates two draglines. This plan would allow PacifiCorp

Although the Preferred Scenario is the current least-cost, risk-adjusted fueling option for the Jim Bridger plant, energy market volatility and changing environmental legislation continues to create uncertainty around the future of Jim Bridger. PacifiCorp will continue to evaluate the best fueling options for the Jim Bridger plant as conditions change and as decision points for various supply options approach. PacifiCorp will update the long-term fuel supply plan after the 2025 IRP is finalized.

# APPENDIX 1 – SCENARIO 1 –





# APPENDIX 3 – SCENARIO 3 –



# APPENDIX 4 – SCENARIO 4 –



# APPENDIX 5 – SCENARIO 5 –



# APPENDIX 6 – SCENARIO 6 –



# APPENDIX 7 – JIM BRIDGER PLANT CONSUMED FUEL SUMMARY



# APPENDIX 7 – JIM BRIDGER PLANT CONSUMED FUEL SUMMARY (CONT'D.)



# APPENDIX 8 – SCENARIO 1 – JIM BRIDGER PLANT



# APPENDIX 8 – SCENARIO 1 – JIM BRIDGER PLANT (CONT'D.)



# APPENDIX 9 – SCENARIO 2 – JIM BRIDGER PLANT



# APPENDIX 9 – SCENARIO 2 – JIM BRIDGER PLANT (CONT'D.)



# APPENDIX 10 – SCENARIO 3 – JIM BRIDGER PLANT



# APPENDIX 10 – SCENARIO 3 – JIM BRIDGER PLANT (CONT'D)



# APPENDIX 11 – SCENARIO 4 – JIM BRIDGER PLANT



# APPENDIX 11 – SCENARIO 4 – JIM BRIDGER PLANT (CONT'D.)



# APPENDIX 12 – SCENARIO 5 – JIM BRIDGER PLANT



# APPENDIX 12 – SCENARIO 5 – JIM BRIDGER PLANT (CONT'D.)



# APPENDIX 13 – SCENARIO 6 – JIM BRIDGER PLANT



# APPENDIX 13 – SCENARIO 6 – JIM BRIDGER PLANT (CONT'D.)



#### **CERTIFICATE OF SERVICE**

I certify that I delivered a true and correct copy of PacifiCorp's **Jim Bridger Long Term Fuel Plan** on the parties listed below via electronic mail in compliance with OAR 860-001-0180.

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Dated this 31st day of May, 2023.

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#### **CERTIFICATE OF SERVICE**

I certify that I delivered a true and correct copy of PacifiCorp's **Jim Bridger Long Term Fuel Plan** on the parties listed below via electronic mail in compliance with OAR 860-001-0180.

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