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BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

In the Matter of
IDAHO POWER COMPANY,
2019 Integrated Resource Plan

Docket LC 74

SIERRA CLUB OPENING COMMENTS

April 2, 2020

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1. INTRODUCTION AND SUMMARY

Sierra Club appreciates the opportunity to comment on Idaho Power’s 2019 Integrated Resource Plan (“IRP”). These comments are based on a review of Idaho Power’s (“IPC” or “Company”) input assumptions and analytical approach, informed by Sierra Club’s active participation in Idaho Power’s 2019 advisory committee (“IRPAC”) meetings.

Idaho Power’s 2019 IRP represents a step forward in several respects, including increases in transparency and stakeholder engagement, as well as a substantially more capable analytical framework.

The 2019 IRP provided a venue for the assessment of substantively different pathways, rather than the apparent justification of a business as usual approach as represented in the 2017 IRP. The analysis behind Idaho Power’s 2019 IRP represents a dramatic improvement from that used in the 2017 version. Importantly, in the 2019 IRP, Idaho Power moved to the use of a capacity expansion modeling framework, a critical improvement over the manually selected portfolios in past IRPs. While no model guarantees an absence of bias, capacity expansion models reduce opportunities to influence the results through preconceptions, and may result in outcomes not immediately apparent to planners. This shift in model use is a critical step towards advancing IPC’s capabilities in examining clean, low cost futures. As one such example, the 2017 IRP assumed that Jim Bridger units 3 and 4 were committed resources through the end of the analysis period. By removing that constraint and searching for optimal replacement options, the 2019 IRP revealed more cost-effective alternatives. Some critical findings in the 2019 IRP included the advancement of the retirement dates for all Jim Bridger units, and the selection of company-owned renewable resources.

The changes made to the process for the 2019 IRP were notable. However, there are still substantial improvements required to successfully assess how Idaho Power can best capture the low-cost low-risk, low-emissions resources prevalent in Idaho and the surrounding region.

Accordingly, Sierra Club recommends that the Commission require that Idaho Power improve its examination of certain core elements of the IRP, either as an update to this IRP, in preparation for the 2021 IRP, or in an assessment prior to starting certain key projects. In particular, Sierra Club recommends that:

- Idaho Power must continue to assess the economic benefits to its own customers from the early retirement or divestment from Jim Bridger coal plant, and should not be held hostage by co-owner PacifiCorp's policy assumptions regarding a slow-walk retirement by Wyoming regulators.
- Future IRPs should clearly assess Idaho Power's progress and trajectory toward meeting its "Clean Today, Cleaner Tomorrow" corporate pledge to provide customers 100 percent clean energy by 2045, as measured by committed reductions in projected carbon dioxide ("CO₂") emissions.
- Future IRPs must be revised to include a reasonable reserve margin that includes flexible resources but does not inflate coal generation's role in balancing renewable resources.

2. ECONOMIC BENEFITS OF ACCELERATING JIM BRIDGER COAL UNIT RETIREMENTS

The 2019 IRP marked Idaho Power's first use of a capacity expansion modeling framework for integrated resource planning. The Company used a model called Aurora to assess not only new-build resources, but also the costs and benefits of maintaining the four units at Jim Bridger, a coal-fired power plant in southwest Wyoming. The capacity modeling process in the 2019 IRP, combined with subsequent "manual" adjustments, allowed Idaho Power to confirm that there were significant economic benefits from accelerating the retirement of Jim Bridger.

The Company also assessed the Jim Bridger power plant in the 2017 IRP, albeit with far less rigor. Rather than assessing accelerated retirement, the 2017 IRP only reviewed if it was economic to install selective catalytic reduction ("SCR") controls on Jim Bridger units 1 and 2 to meet regional haze requirements. The Company concluded that SCRs should not be installed on Jim Bridger units 1 and 2, and instead proposed shutting down Unit 2 in 2028 and Unit 1 in 2032. In Sierra Club's view, there was no justification in the 2017 IRP for assuming that a future EPA would allow the two Jim Bridger units to operate to 2028 or 2032 without legally-mandated emission controls. Additionally, the 2017 IRP treated Bridger Units 3 and 4 as "committed resources," so there was no evaluation of the potential economic benefits of retiring those units early.

In contrast, in the 2019 IRP, the Company assessed the accelerated retirement of all four Jim Bridger units at different stages, revealing that all four Jim Bridger units were uneconomic and warranted retirement within the planning period. Evaluation via "hand-built" portfolios to

prioritize optimization for IPC customers, rather than WECC-wide optimization, accelerated those retirement schedules further, as displayed in Table 1. In addition to showing the Company’s proposed retirement schedule for Jim Bridger in 2017, June 2019 and as amended in the final IRP, the table also shows PacifiCorp’s proposed retirement schedule, which is substantially later than IPC.

Table 1. Jim Bridger unit retirement dates under various IRP iterations

| Year | IPC 2017 IRP | IPC June 2019 IRP | IPC Amended 2019 IRP | PacifiCorp 2019 IRP ¹ |
|------|--|--|--------------------------------|----------------------------------|
| 2020 | | | | |
| 2021 | | | | |
| 2022 | | Retire 1 st JB unit | Retire 1 st JB unit | |
| 2023 | | | | Retire 1 st JB unit |
| 2024 | | | | |
| 2025 | | | | |
| 2026 | | Retire 2 nd JB unit | Retire 2 nd JB unit | |
| 2027 | | | | |
| 2028 | Retire 1 st JB unit | | Retire 3 rd JB unit | Retire 2 nd JB unit |
| 2029 | | | | |
| 2030 | | | Retire 4 th JB unit | |
| 2031 | | | | |
| 2032 | Retire 2 nd JB unit | | | |
| 2033 | | | | |
| 2034 | | Retire 3 rd & 4 th units | | |
| 2035 | | | | |
| 2036 | 3 rd & 4 th JB units remain operating throughout planning period | | | |
| 2037 | | | | Retire 3rd & 4th units |

After running the capacity expansion model, Idaho Power made manual portfolio adjustments to a subset of the portfolios,² resulting in additional economic improvements for IPC customers. During the course of the manual portfolio review, alternatives delaying the retirement date of the first Jim Bridger unit from 2022 to either 2023 or 2024 were evaluated as well as portfolios that extended operation of some Jim Bridger units beyond 2030. Notably, no alternative extending the life of Jim Bridger was found to be economic relative to retiring all four Jim Bridger units by 2030.

Idaho Power found that the majority of the economic benefits reflected in the Amended IRP resulted from accelerated coal retirements, specifically finding “favorable economics associated

¹ PacifiCorp, 2019 Integrated Resource Plan, Volume II, Appendix M at 278 (Oct. 18, 2019), available at <https://www.pacifiCorp.com/energy/integrated-resource-plan.html> (“hereinafter “PacifiCorp 2019 IRP”) (“Preferred Portfolio (P-45CNW)”).

² Idaho Power Company, 2019 Amended Integrated Resource Plan at 9 (Jan. 2020) (hereinafter “IPC 2019 Amended IRP”).

with ... exit from five of seven coal-fired generating units by the end of 2026 and exit from the remaining two units at the Jim Bridger facility by the end of the 2020s .”³

Idaho Power owns one-third of Jim Bridger. The remainder is owned by PacifiCorp, which operates across a six-state territory, including Wyoming (comprising only 15% of PacifiCorp’s load). PacifiCorp’s recently completed 2019 IRP also concluded that accelerating the closure of Jim Bridger would result in a net benefit to ratepayers, but while Idaho Power has confirmed that an expedient and structured exit of all four units is beneficial, PacifiCorp has signaled its intent to effectuate a closure at a far slower pace, as shown in Table 1, above. Specifically, where Idaho Power is seeking exit from Bridger 1 as early as 2022 and Bridger 2 in 2026, PacifiCorp announced they intend to only exit Jim Bridger 1 “by the end of December 2023,”⁴ and Bridger 2 by 2028, delays of a year and two years, respectively. While Idaho Power has found a benefit in de-risking its portfolio through the retirement of the remaining Bridger units before the end of 2030, PacifiCorp has elected to hold the Bridger units in use through 2037.

Sierra Club is concerned that PacifiCorp’s delayed retirement is not designed to protect ratepayers, but rather protect the utility in Wyoming, a state openly hostile to the closure of non-economic coal plants. While such political machinations should not impact the ratepayers of Oregon, the Company identifies that PacifiCorp might seek to block Idaho Power’s timely exit, calling the failure to negotiate for an early exit a prospect that would “adversely impact customers economically.”⁵ IPC calls this out as one of the “highest partner risk” among this IRP’s Action Items. PacifiCorp’s election to maintain the Bridger coal plant, even non-economically, should not impose a risk or a cost on IPC’s customers.

Given the near-term timeline of Idaho Power’s proposed exit, and the threat posed by PacifiCorp’s election to maintain even the first unit longer than IPC finds economic, the Commission should direct Idaho Power to report back to this Commission by the end of calendar year 2020 on its exit negotiations with PacifiCorp.

3. PREFERRED PORTFOLIO CO₂ EMISSIONS ARE NOT CONSISTENT WITH IDAHO POWER’S “CLEAN TODAY, CLEANER TOMORROW” PLEDGE

On March 26, 2019, Idaho Power unveiled its “Clean Today, Cleaner Tomorrow” initiative, a goal to “continue its path away from coal and invest in storage and additional clean generation.”⁶ Idaho Power described this goal to its shareholders and the public as a top line environment, social, and governance (“ESG”) initiative,⁷ designed to attract a broader range of clean energy or sustainability investors. And yet Idaho Power’s planning is inconsistent with its message to

³ *Id.* at 5.

⁴ PacifiCorp 2019 IRP, Volume I at 22 (“Action Item 1c”).

⁵ IPC 2019 Amended IRP at 118.

⁶ IPC, *Idaho Power sets goal for 100-percent clean energy by 2045* (Mar. 26, 2019), available at <https://www.idahopower.com/news/idaho-power-sets-goal-for-100-percent-clean-energy-by-2045/>.

⁷ Idaho Power Form 10-K, 2019 (Filed Feb. 20, 2020).

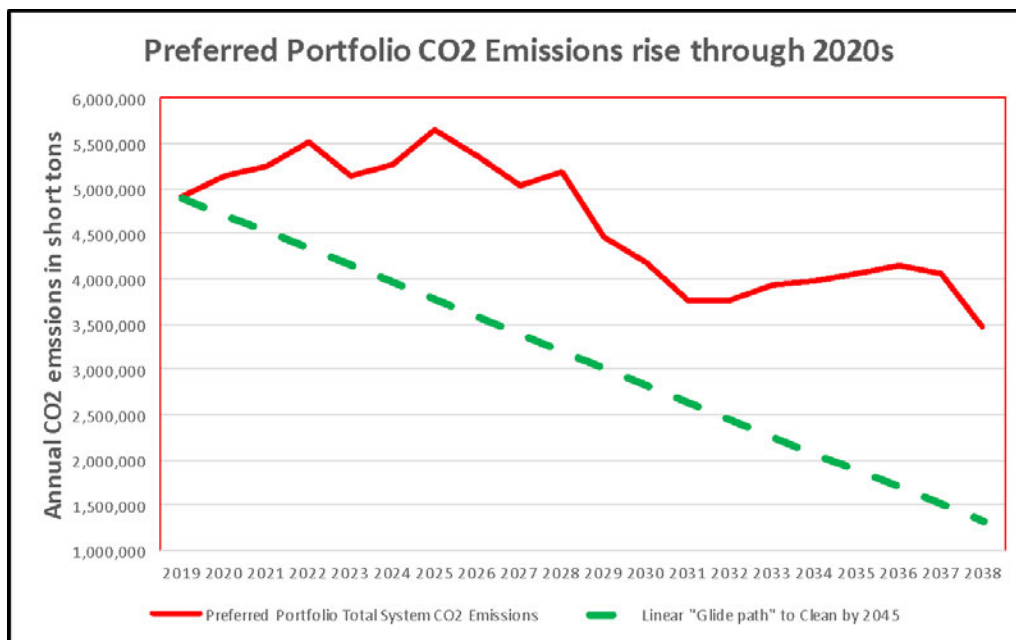
investors in the key metrics of carbon emissions, new fossil investments, and assessed carbon risk. While ratepayers are normally one to two steps removed from investor concerns, marketing a goal inconsistent with actual planning will drive away ESG investors, and could undermine the Company’s borrowing costs in the face of increasing investor concern.

A. Preferred portfolio CO₂ emissions rise through the 2020s

We appreciate IPC honoring the IRPAC members’ request to display the cumulative carbon emissions of various portfolios analyzed in the 2019 IRP.

The Executive Summary states, “[t]he preferred portfolio was selected in part to further the company’s pathway to reduced [CO₂] emissions.”⁸ A page later, the Company notes that its current CO₂ goal is to reduce average CO₂ emissions over the 2010-2020 period to 15-20% below the 2005 level.⁹

Figure 1. Total System CO₂ Emissions¹⁰



According to the IRP, Idaho Power conducted the resource analysis to ensure that “portfolios are aligned with the company’s purpose of providing customers reliable and affordable energy”¹¹. The IRP also stated that “expansion of wind and solar resources in the 2030s, is considered to align well with Idaho Power’s goal of 100 percent clean energy by 2045.”¹²

⁸ IPC 2019 Amended IRP at 10.

⁹ *Id.* at 11.

¹⁰ *Id.*, Appendix C at 69.

¹¹ *Id.* at 124.

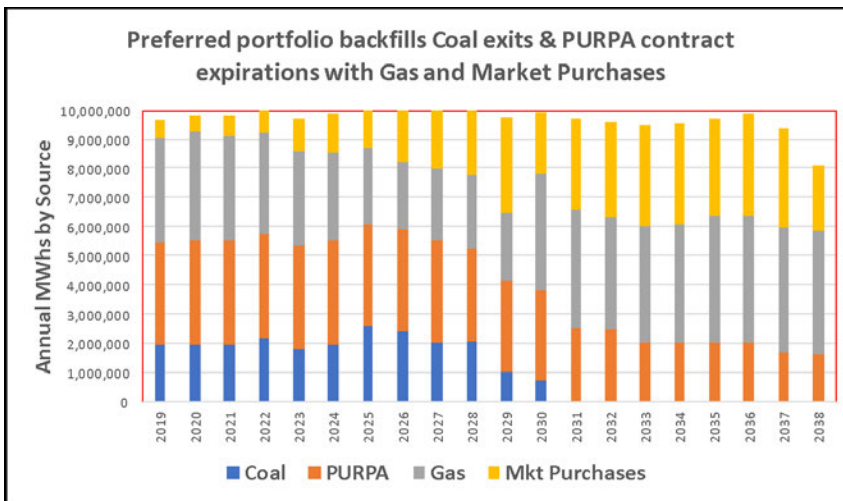
¹² *Id.* (emphasis added).

However, as shown in Figure 1, the 2019 preferred portfolio’s CO₂ emissions do not evidence progress adequate to meet a “Clean by 2045” goal. Company needs to update its CO₂ goals to align with the “Clean by 2045” target. Additionally, future IRPs must evaluate portfolio designs to meet the 2045 goal, in addition to meeting reliability and affordability metrics.

B. Idaho Power substituted gas generation for coal and wind power

Make no mistake, the preferred portfolio is a “bet on gas” portfolio. As displayed in Figure 2, declines in coal and PURPA generation after the proposed Boardman to Hemingway transmission project (“B2H”) comes online in 2026 are offset by increases in Idaho Power building gas-fired generation and gas-fired market purchases¹³.

Figure 2. Natural Gas Substitutes for Coal and PURPA



In 2018 IPC purchased 9.3% of total delivered energy from wholesale markets.¹⁴ By the 2030s, IPC projects that they will lean on Northwestern wholesale markets for 3 times as many MWh.

4. THE IRP OVERESTIMATED IPC’S RESERVE REQUIREMENTS

Sierra Club is concerned that Idaho Power has overestimated the magnitude of reserves that the Company would be required to carry to serve customer needs in the future. In addition, Idaho Power included a substantial additional regulating reserve (i.e. flexibility) requirement above the planning reserve margin. Combined, the higher planning reserve and flexibility requirements directly impact the Company’s selection of coal retirements, the B2H transmission line, and the need for new future resources.

A high planning reserve margin will tend to select for resources with capacity value, while regulation reserve requirements will tend to select for fast ramping or access to fast ramping

¹³ Implied by emissions rate of 47 tons/MWh, see IPC 2019 Amended IRP, Appendix C at 68.

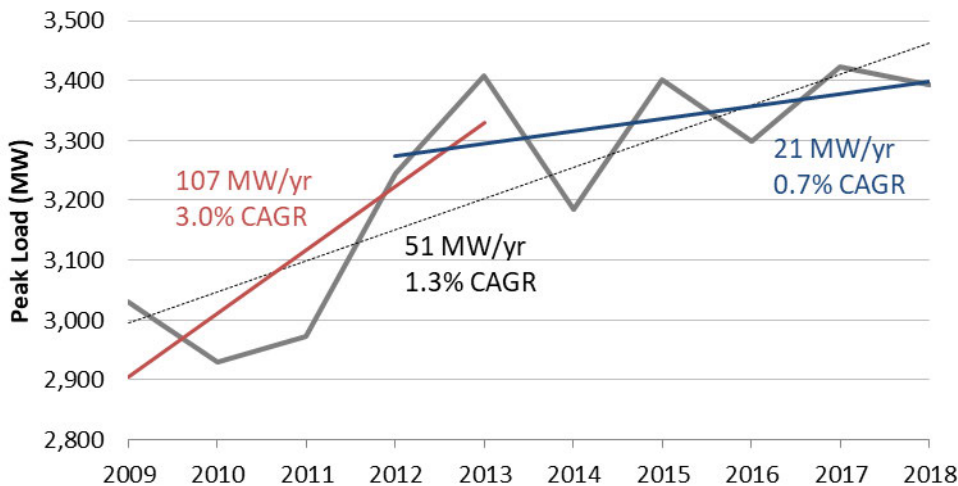
¹⁴ IPC 2019 Amended IRP at 29.

resources. In this IRP, Idaho Power utilized a 15% planning reserve margin, and included additional regulating reserves to accommodate variations from planned load and variable renewable energy output.¹⁵

As a result of this approach, IPC states, portfolios are “constrained by the peak-hour capacity planning margin and hourly flexibility requirements.”¹⁶ Specifically, Idaho Power models Jim Bridger as serving substantial perceived capacity and flexibility¹⁷ needs, which means that its retirement triggers very high cost replacement in the form of the B2H transmission line. And yet the explanation that replacing Bridger triggers capacity and flexibility needs should be interrogated.

Idaho Power’s 2019 IRP projects peak loads to grow at 50 MW per year while the average-energy requirement grows by only 20 MW (average) per year.¹⁸ This results in a planning reserve margin rising at a 1.3% cumulative average growth rate (“CAGR”), a growing load factor, and a continued shift towards high capacity, low energy assets.

Figure 3. Historic peak load (MW)



Idaho Power’s assumption of aggressive peak load growth appears to be rooted in a selective history, as shown in Figure 3, above. Over the last 10-years, the Company’s load has grown at the 1.3% CAGR. However, that growth was largely driven by a jump in peak load from 2009 to 2013, when load grew at 3.0% per year, or nearly 500 MW in four years. That increase is largely associated with the recovery after the 2008 financial collapse. If we exclude that one-time rebound effect, and look at the last six years, we see a much more attenuated growth at less than a 1% CAGR, or only 21 MW per year.

¹⁵ *Id.* at 9.

¹⁶ *Id.* at 97.

¹⁷ *Id.* at 87. (“AURORA modeling indicates removal of Jim Bridger units needs to be carefully evaluated because of potential heightened concerns about meeting regulating reserve requirements following their removal.”)

¹⁸ *Id.* at 27.

The more modest increase in peak load growth should result in a lower capacity obligation in 2024, when Idaho Power is looking at the second Jim Bridger exit, and thus a lower cost transition at that time. While a second look at Idaho Power's peak requirements might not accelerate the retirement of the non-economic Jim Bridger coal plant, it could ease the barrier to transition.

Future IRP analyses should conduct more of a comprehensive analysis of the opportunities for controlling the rate of future peak load growth using resources that advance Idaho Power's Clean by 2045 objectives.

Secondarily, the assessment that Jim Bridger serves as a valuable flexibility resource needs to be closely interrogated. A review of historic operating parameters shows that while Jim Bridger ramps nearly every day, it rarely shuts down, and like other coal-fired power plants is unable to operate below a certain minimum. In 2019, the Jim Bridger units shut down an average of 6.5 times each, operating in 95% of all hours, even during a year of near record low market power prices.¹⁹ Coal units incur high costs to shut down and start again in the form of thermal wear and increased operations and maintenance costs,²⁰ and the units are slow to ramp to full capacity from black start, taking 10-11 hours to ramp from off to full operations. Even operational, the ramping capacity of the units are limited: all four Bridger units take approximately 3-4 hours to ramp from minimum operating capacity to their maximum capacity, and Bridger units 3 & 4 are only able to ramp down to about half of their maximum capacity, even under low market price conditions.

Overall, the assertion that the Jim Bridger power plant plays a high value role in balancing variable renewable resources or flexible capacity should be revisited. Fast ramp resources such as storage should be considered as having a substantially higher value than older, slow moving thermal boilers.

We thank the Commission for its consideration of our comments in this matter.

Dated: April 2, 2020

Respectfully submitted,

/s/ Gloria D. Smith
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¹⁹ EPA, Clean Air Markets Data (2019).

²⁰ Phillip Graeter & Seth Schwartz, *Recent Changes to U.S. Coal Plant Operations and Current Compensation Practices*, NARUC (Jan. 2020), available at <https://pubs.naruc.org/pub/7B762FE1-A71B-E947-04FB-D2154DE77D45>.

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