

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

LC 84

In the Matter of

IDAHO POWER COMPANY,

2023 Integrated Resource Plan.

Renewable Northwest’s
Opening Comments

I. INTRODUCTION

Renewable Northwest (“RNW”) thanks the Oregon Public Utility Commission (the “OPUC” or the “Commission”) and OPUC Staff (“Staff”) for this opportunity to comment on Idaho Power Company’s (“Idaho Power” or “the Company”) 2023 Integrated Resource Plan (“IRP”). In the comments that follow, RNW expresses general support for Idaho Power’s preferred portfolio, updated reliability metrics, analysis around the Western Resource Adequacy Program (“WRAP”) and transmission planning while offering suggestions to ensure the selection of the least-cost, least-risk plan. We note that these opening comments are to some extent preliminary, and we look forward to reviewing Idaho Power’s responses as well as the discovery in this docket before preparing our next round of comments. Overall, we continue to be encouraged by the work Idaho Power is doing to reach its internal goal of 100% clean energy by 2045 and look forward to further engaging in this docket.

II. COMMENTS

1. RNW generally supports Idaho Power’s preferred portfolio as a least-cost, least-risk approach to meeting the Company’s projected needs, while raising questions about coal-to-gas conversions.

a. Idaho Power’s selection of significant renewable and storage resources in its preferred portfolio is validated by the robust turnout in its recent RFP.

Idaho Power’s 2023 IRP once again identifies a preferred portfolio comprising largely clean resources, including 841 MW of coal exits by 2030, plus -- over the full 20-year planning horizon -- 1,800 MW wind, 3,325 MW solar, and 1,453 MW of battery storage at durations ranging from four to 100 hours, as well as 30 MW geothermal and over 500 MW of demand-side resources including both demand response and energy efficiency. While we discuss certain details of the Company’s plan below -- sometimes supporting, sometimes critiquing -- the big

picture is clear and, in our view, correct. Idaho Power is embracing the clean energy transition not because of a policy mandate but rather because renewables and storage are the modern paradigm for a least-cost, least-risk system.

The Company's IRP relies for near-term progress on the Company's now-late-stage 2026 All-Source Request for Proposals ("2026 RFP"). The IRP, which was filed with the Commission before determination of the final shortlist in the 2026 RFP, includes the following in its action plan for potential Commission acknowledgement: "If economic, acquire up to 1,425 MW of combined wind and solar, or other economic resources." The Commission is now in the somewhat unusual position (for Oregon) of jointly reviewing an IRP whose action plan reflects a concrete final shortlist and, in a separate docket, reviewing that final shortlist. Without commenting specifically on the resources in the final shortlist, RNW wishes to highlight that the overall response to the RFP supports a conclusion that Idaho Power's near-term acquisition of over 1 GW of new clean resources is in fact a least-cost, least-risk approach to meeting the Company's needs.

Idaho Power's RFP demonstrates that there is a robust and competitive pool of resources ready to help the Company meet its near-term needs. The Company's December 4, 2023 Request for Acknowledgement of Final Shortlist details a bid pool of 192 bids, of which 146 were conforming, 51 were selected for the initial shortlist, and 10 were selected for the final shortlist.¹ Those ten bids, with commercial operation dates by 2027, total 3,430 MW of which over 3,000 MW constitute wind, solar, and battery storage. Overall, this very robust pool of submitted and selected renewable and storage bids helps to validate Idaho Power's selection of these resources in its IRP modeling.

In fact, while Oregon utilities have in recent years submitted to the Commission final shortlists reflecting a volume of resources in excess of expected contracting levels to allow for negotiations in an uncertain procurement environment, developments in Idaho Power's RFP docket suggest that a more generous acknowledgement may be appropriate in the IRP docket. Specifically, rather than acknowledging the acquisition of "**up to** 1,425 MW of combined wind and solar, or other economic resources," it may be appropriate for the Commission to consider acknowledging the acquisition of "**approximately 1,425 MW or more** combined wind and solar, or other economic resources, should Idaho Power's negotiations yield additional volumes of resources that are in the best interests of the Company and its customers. RNW believes this recommendation would align well with Staff's recommendation in UM 2255 that "the Company ... use its best judgment when selecting a final procurement volume ... [and i]f the Company decides to pursue a higher volume of projects, any such procurement beyond the scope of the

¹ See generally UM 2255, Request for Acknowledgement of Final Shortlist (Dec. 4, 2023), available at <https://edocs.puc.state.or.us/efdocs/HAH/um2255shah164737.pdf>

most recently acknowledg[ed] IRP, must be informed by a report by the Company detailing the reasons for such a decision.”²

RNW looks forward to a more thorough review of the IRP-RFP interaction and potentially offering more refined recommendations in our next round of comments.

b. Idaho Power’s planned coal-to-gas conversions may not represent a least-cost, least-risk approach to meeting the Company’s needs.

The 2023 IRP includes substantial changes from the 2021 plan regarding coal exits. In the 2021 IRP, two coal units were converted to gas and all remaining coal units were retired by 2028. In the current plan, all coal units are converted to natural gas, with the last conversion occurring in 2030. Jim Bridger units 1 and 2 are converted in both the 2021 and 2023 plans, but the units now run through 2037 instead of 2034.³ New to the 2023 IRP are the coal-to-gas conversions of Jim Bridger units 3 and 4 in 2030 and North Valmy units 1 and 2 in 2026. The converted Bridger 3 and 4 units operate through 2037 and Valmy 1 and 2 operate through the 20-year planning horizon. The coal-to-gas conversions total 967 MW.⁴

RNW is skeptical of the coal-to-gas conversions because of potential reliability risks, greenhouse gas emissions, and air pollution associated with gas-fired units. Below we outline several areas of concern around these conversions.

In our comments on the 2021 IRP, we questioned the Company’s capacity accreditation for gas-fired units.⁵ The Company previously assumed that gas plants have capacity values of over 90%, which is problematic given the known reliability risks of gas plants,⁶ especially if used as peaking resources when the risk of correlated, weather-related outages is highest. In the 2023 IRP, it is unclear to RNW what the assumed capacity values are for gas units. The technical appendix outlines that the Company used the Effective Load Carrying Capability (“ELCC”) method to credit renewable resources and storage, while using the Equivalent Forced Outage Rate during Demand (“EFORD”) to credit thermal resources. Specifically, “dispatchable resources were modeled using a monthly outage table that was calculated using their monthly capacity and EFORD.”⁷ RNW would appreciate the opportunity to review this table and would welcome more clarity around how the Company calculated the capacity contribution of thermal

² UM 2255, Staff Memo at 10 (Feb. 1, 2024), *available at* <https://edocs.puc.state.or.us/efdocs/HAU/um2255hau326541023.pdf>

³ Idaho Power 2021 IRP, page 102 and Idaho Power 2023 IRP, page 10

⁴ Idaho Power 2023 IRP, Appendix C, page 42

⁵ LC 78, RNW Initial Comments

⁶ See UCS report on reliability risks of gas plants: <https://www.ucsusa.org/resources/gas-malfunction>

⁷ Idaho Power 2023 IRP, Appendix C, page 90

resources, particularly for baseload and peaking gas units.

Further, RNW would like to understand whether the Company still intends to operate Bridger 1 and 2 as peaking units and whether it plans to use the other four converted units as peaking or baseload resources. Storage resources are well suited to meet the same needs as peaking gas resources with ELCC values of 81.2% for 4-hour stand-alone battery storage and 85.1% for 1:1 solar + 4-hour battery storage.⁸ Based on Tables 8.3 and 8.4, all modeled storage options have a lower levelized cost of energy than peaking gas and short duration storage has a comparable levelized cost of capacity to peaking gas.

It is unclear whether the magnitude of coal-to-gas conversions in this plan represents a viable path to Idaho Power's 100% clean energy by 2045 goal. The Company's annual greenhouse gas emissions vary widely depending on hydro conditions. For example, in 2013 and 2020, low water supply impacted hydro production and led to increased emissions.⁹ Bad hydro years over the 20-year planning period could leave the Company more reliant on its converted gas units, which could otherwise have been replaced by clean resources.

Additionally, gas-fired units emit nitrogen oxides (NOx) and sulfur dioxide (SO2), pollution which can damage the human respiratory system among other ill health effects. NOx pollution is significantly higher in the preferred portfolio (17,112 metric tons) than in alternative portfolios such as "without Valmy" (14,740 metric tons), "clean by 2045" (10,717 metric tons), "clean by 2035" (10,488 metric tons) and "high gas high carbon" (7,807 metric tons).¹⁰ Though the effects are more pronounced with NOx, the same is true of sulfur dioxide pollution.¹¹

RNW is also concerned about the drivers and underlying assumptions behind the coal-to-gas conversions. Idaho Power owns one-third of the Jim Bridger power plant, while PacifiCorp is the owner/operator with a two-thirds majority. Idaho Power and NV Energy have 50-50 ownership shares of the North Valmy power plant, with NV Energy as the operator. Idaho Power has been communicating with both utilities around timelines for coal exits, retirements, or conversions, though no formal agreements have been reached for Bridger 3 and 4 and Valmy 1 and 2. Given the drastic changes to coal treatment between the 2021 and 2023 plans, RNW is concerned that other utilities' decisions are driving Idaho Power's.

For example, in Idaho Power's 2021 IRP, the Company exited Bridger unit 3 by 2025 and unit 4 by 2028.¹² In the current plan, Idaho Power states that Pacificorp found it would be cost effective

⁸ Idaho Power 2023 IRP, Appendix C, page 92

⁹ Idaho Power 2023 IRP, Figure 3.2

¹⁰ Idaho Power 2023 IRP, Appendix C, pages 82-83

¹¹ Idaho Power 2023 IRP, Appendix C, pages 80-81

¹² Idaho Power 2021 IRP, Table 1.3

to convert Bridger 3 and 4 to gas in 2030 in its 2023 IRP, which Idaho Power then included as an option in its modeling. However, Sierra Club raised concerns, and OPUC Staff concurred, that “unrealistic coal prices” were potentially resulting in the delayed retirement of Bridger 3 and 4.¹³ NV Energy’s analysis of the North Valmy conversions is also questionable. In testimony before the Public Utilities Commission of Nevada, Sierra Club found that NV Energy “does not provide adequate support for its proposal to convert Valmy Units 1 and 2 to gas, install SCR, and run the units through 2049” and does not adequately assess alternatives.¹⁴ We share the concerns outlined above and hope to see more robust analysis from Idaho Power justifying the drastic changes to its treatment of coal in the 2023 plan.

Based on these considerations, RNW recommends that Idaho Power model an alternative scenario where the Company exits coal by 2030 without the Jim Bridger 3 and 4 and North Valmy 1 and 2 coal-to-gas conversions. This portfolio would provide a helpful point of comparison to the portfolios included in the 2023 IRP in terms of emissions reductions, costs, and risks.

c. Renewable Northwest supports Idaho Power’s proposed long-duration storage pilot as a thoughtful approach to exploring a key emerging resource.

Idaho Power’s preferred portfolio includes 200 MW of long-duration (100-hour) storage in 2038, specifically iron-air batteries. In the interim, the Company plans to explore a 5 MW long-duration storage pilot in the 2024-2028 action plan window. RNW supports the idea of a pilot project to explore the capabilities of long-duration storage and is curious to see more details as the project develops. Long-duration storage can provide a number of grid benefits including reducing renewable energy curtailment and shifting the delivery of power inter-seasonally. As a summer-peaking utility potentially facing lower summer base flows, long-duration storage could fill a critical need.

d. Support for selection of geothermal

Idaho Power’s preferred portfolio also includes 30 MW of geothermal resources in 2030. Capacity needs in the west coupled with advances in geothermal technology suggest geothermal may also be a key emerging resource in the region.

RNW’s understanding is that modern geothermal plants are long-lead resources and may need special consideration to come to fruition on a time frame that is well aligned with the Company’s plan. Since 2030 is only six years away, we recommend the Company and the Commission consider whether any supplemental processes -- such as a Request for Information -- may be

¹³ LC 82, Staff Round 2 Comments, page 37

¹⁴ Docket No. 23-08015, Direct Testimony of Rose Anderson on behalf of Sierra Club, page 3

appropriate both to send clear market signals to developers and to set Idaho Power on a path to aligning procurement of long-lead resources with the Company's needs.

2. RNW supports Idaho Power's updated reliability metrics.

Idaho Power adopted a reliability threshold of 0.1 event-days per year (1-in-10) for its current IRP. Previously the Company used a more stringent threshold of 0.05 event-days per year. The 0.1 loss of load expectation (LOLE) metric is widely used in the industry, and RNW supports its use in the 2023 IRP.

Additionally, Idaho Power may want to investigate new adequacy metrics being developed by the Northwest Power and Conservation Council ("NWPPCC"). The Pacific Northwest Power Supply Adequacy Assessment for 2027 proposes a multi-metric approach to resource adequacy that includes metrics on the probability, frequency, duration, and magnitude of shortfall events.¹⁵ The NWPPCC's Adequacy Assessment and the continuing development of a comprehensive set of adequacy metrics could serve as a resource for Idaho Power and one that may facilitate greater regional alignment on resource adequacy.

3. RNW supports Idaho Power's WRAP analysis.

Perhaps the most exciting element of Idaho Power's IRP is the Company's analysis of the effect of the Western Resource Adequacy Program on the Company's capacity needs. To the best of our knowledge, Idaho Power is the first utility in the region to present a public-facing analysis of the resource benefits of WRAP participation.

Idaho Power's approach involved identifying a sample of test years, selecting the highest-risk day in each test year, assuming 100 MW of capacity available from WRAP, and then re-assessing the Company's overall capacity need based on this ability to leverage WRAP during high-need hours. The Company found that leveraging WRAP reduces the Company's overall capacity need by 14 MW in 2027. It asks the Commission specifically to acknowledge this reduction in need.

RNW strongly appreciates the Company's groundbreaking work and broadly supports the Company's analysis. However, for the next planning cycle, we suggest that additional discussion of the Company's methodology would be helpful. For example: how did the Company select 100 MW as the volume of capacity available from WRAP? Is that figure based on physical constraints? How did it select its test years? It may well be that improving the inputs to the Company's analysis will produce a more robust reduction in its future capacity needs.

¹⁵ Pacific Northwest Power Supply Adequacy Assessment for 2027
https://www.nwpcouncil.org/fs/18158/2023-1_adequacyassessment.pdf

In September 2023, GridLab released a report discussing considerations in incorporating WRAP into integrated resource planning processes.¹⁶ GridLab and Energy Strategies have also just released a report assessing NorthWestern Energy's avoided capacity need based on its expected participation in WRAP and quantifying that avoided need at approximately 200 MW in 2026.¹⁷ These additional resources from outside technical experts, and particularly a comparison of analytical methods and inputs, may be useful to inform the next iteration of the Company's quantitative analysis of WRAP benefits.

4. RNW agrees that new transmission is needed.

RNW continues to support Idaho Power's efforts to support a thoughtful buildout of needed transmission resources in the west. While new transmission investments are costly, the Company's assessment that the benefits significantly outweigh the costs is consistent with a growing regional consensus that the region needs both to access latent capacity on the existing transmission system and to invest in new transmission resources. RNW generally supports Idaho Power's methodology for assessing the costs and benefits of transmission investments -- greater integration with the region will allow the Company both to access more diverse resources, including developing regional markets, and to sell excess generation, both leading to customer savings.

Additionally, from a regional perspective, Idaho is centrally located and will be key for allowing other utilities in the region to access diverse renewable resources. While RNW appreciates the Company's focus on benefits to its customers and its acknowledgement of emerging regional market tools, we would welcome an analysis from the Company as to how more specifically its transmission investments might benefit the broader region as well, particularly with respect to regional market development.

5. RNW Recommends that Idaho Power Further Analyze Market Purchase Availability.

As the regional picture continues to evolve in the west, with the CAISO Energy Imbalance Market providing significant benefits while bilateral markets tighten and the potential for new day-ahead markets grows, we recommend that Idaho Power begin to provide more public-facing analysis regarding the size and shape of its reliance on market purchases to meet its needs. The Company's IRP notes that market purchases account for roughly 20% of its resource mix. However, given the dynamic market environment noted above as well as the Company's work on developing new transmission resources, its ability to rely on market purchases for energy may change in coming years.

¹⁶ https://gridlab.org/wp-content/uploads/2023/09/GridLab_WRAP-Report.pdf

¹⁷ https://gridlab.org/wp-content/uploads/2024/02/GridLab_Montana-RA-study_Dec-2023.pdf

Additional public-facing analysis about the Company’s projected ability to rely on market purchases not just as a general energy resource but also in high-stress hours or other periods when Idaho Power may have an elevated need based on the profile of its own generating resources, based on likely availability of resources in different markets where the Company is a participant, would help all interested parties better understand the continued reasonableness of the Company’s reliance on market purchases. Because the Company is an early actor on quantifying the benefits of its reliance on WRAP, RNW believes Idaho Power could similarly be a leader in assessing future market dynamics and their effects on its resource portfolio.

III. CONCLUSION

RNW offers appreciation to both the Commission and the Company for their consideration of these comments. As noted above, while we offer some suggestions for improvement of the IRP, overall we applaud Idaho Power’s continued work to identify a least-cost, least-risk path to meeting its customers needs and achieving 100% clean energy by 2045. We look forward to continued participation in this docket and in the Company’s resource planning process.

Respectfully submitted this 7th day of February, 2024,

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