

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER COMPANY'S 2017 INTEGRATED RESOURCE PLAN))))	CASE NO. IPC-E-17-11 ORDER NO. 33983
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On June 30, 2017, Idaho Power Company (Idaho Power or Company) filed its 2017 Integrated Resource Plan (IRP). The IRP outlines and analyzes the Company's strategy for meeting its customers' projected energy needs over the next 20 years. The Company files an IRP every two years, and uses it to guide resource acquisitions. On July 31, 2017, the Commission issued a Notice of Filing and Notice of Intervention Deadline. *See* Order No. 33827. The following parties intervened: (1) Idaho Irrigation Pumpers Association, Inc.; (2) the Idaho Hydroelectric Power Producers Trust (Idahydro); (3) Industrial Customers of Idaho Power; (4) Micron Technology, Inc.; (5) Sierra Club (Sierra); (6) STOP B2H (STOP); and (7) Renewable Energy Coalition (REC). REC, Sierra, STOP, Staff filed timely written comments, and the Company timely replied. Six members of the public, including the Idaho Conservation League (ICL), also provided written comments. Having reviewed the record, we find that the Company's 2017 IRP adequately addresses the subjects required by the Commission's prior orders, and we acknowledge it.

THE IRP PROCESS

An IRP is a status report on the utility's ongoing, changing plans to adequately and reliably serve its customers at the lowest system cost and least-risk over the next 20 years. The report informs the Commission and the public about the utility's plans, and is similar to an accounting balance sheet, e.g., it is a "freeze frame" look at the utility's fluid, resource planning process. *See* Order No. 22299. The IRP is meant to demonstrate to the public that the Company has prepared for, and considered, many scenarios through a reasonable planning process. The Commission thus expects a utility to have vigorously tested the IRP's assumptions to ensure the IRP accurately reflects changing markets and customer demand.

The Company must update its IRP every two years and allow the public to participate in its development. *See id.* and Order No. 25260. The final biennial IRP must include the subjects required by the Commission's prior orders, including Order Nos. 22299 and 25260. In summary, the final IRP should explain the Company's present load/resource position, expected

responses to possible future events, and the role of conservation in those responses. It also should discuss

any flexibilities and analyses considered during comprehensive resource planning, such as: (1) examination of load forecast uncertainties; (2) effects of known or potential changes to existing resources; (3) consideration of demand- and supply-side resource options; and (4) contingencies for upgrading, optioning and acquiring resources at optimum times (considering cost, availability, lead time, reliability, risk, etc.) as future events unfold.

Order No. 22299. The IRP should separately address the Company's:

- "Existing resource stack," by identifying all existing power supply resources;
- "Load forecast," by discussing expected 20-year load growth scenarios for retail markets and for the federal wholesale market including "requirements" customers, firm sales, and economy (spot) sales. This section should be a synopsis of the utility's present load condition, expectations, and level of confidence; and
- "Additional resource menu," by describing the utility's plan for meeting all potential jurisdictional load over the 20-year planning period, referring to expected costs, reliability, and risks inherent in credible future scenarios.

Id.

If the Commission finds the IRP discusses these required subjects, then it will enter an Order acknowledging that the Company filed the IRP. By acknowledging the IRP, the Commission is acknowledging the Company's ongoing planning process, not the conclusions or results reached through that process.

THE COMPANY'S 2017 IRP

A. Overview

Idaho Power's 2017 IRP guides its resource strategy over the next two years, and provides insight into preferred, least-cost, least-risk resource procurements through 2036. Generally, the Company's IRP addresses supply-side and demand-side resource options, planning period load forecasts, potential resource portfolios, a risk analysis, and an action plan that details how the Company intends to implement the 2017 IRP. The Company claimed its 2017 IRP informed its analysis of the continued viability of the Boardman to Hemingway (B2H) transmission line resource, and the required selective catalytic reduction (SCR) investments at Units 1 and 2 of the Jim Bridger coal-fired plant. The initial IRP filing consisted of four

documents: (1) the 2017 IRP; (2) Appendix A – Sales and Load Forecast; (3) Appendix B – Demand-Side Management 2014 Annual Report; and (4) Appendix C – Technical Appendix.¹

B. Stakeholder Involvement

The Company stated that it incorporated stakeholder and public input into its 2017 IRP by working with its Integrated Resource Plan Advisory Council (IRPAC). IRP Application at 2. The Company stated that it held eight IRPAC meetings while developing the 2017 IRP, including a workshop designed to explore the potential for distributed generation to defer grid investment. *Id.*

C. IRP Goals and Assumptions

With the 2017 IRP, the Company attempted to: (1) identify sufficient resources to reliably serve growing energy demands over the 20-year planning period (2017-2036); (2) ensure the Company’s preferred portfolio of resources balances cost, risk, and environmental concerns; (3) give balanced treatment to supply-side resources and demand-side measures; and (4) involve the public in the planning process. IRP at 1.

The Company stated that its 2017 IRP makes numerous assumptions about what will occur during the 20-year planning period. IRP Application at 3. Specifically, it assumes that the Company will continue to acquire resources sufficient to serve its retail customers in Idaho and Oregon and to operate as a vertically integrated utility. *Id.* It expects to add about 222,000 customers, and that its average energy demand will increase by 0.9% per year its peak-hour demand will increase by 1.4% per year. *Id.* It continues to assume 70th percentile water conditions and 70th percentile average load for energy planning. *Id.* For peak-hour capacity planning, the Company uses 90th percentile water conditions and 95th percentile peak-hour load. *Id.* The Company plans to meet increased demand by combining demand-side measures with additional Company-owned resources. *Id.*

D. IRP Methodology

The Company stated that it forecasted demand in its 2017 IRP by combining existing generation resources, demand-side resources, and transmission import capacity with forecasted customer demand to create a load and resource balance for energy and capacity over the planning

¹ Along with its Reply Comments, the Company included 2017 IRP Appendix D: B2H Supplement, which was prepared as a filing in its IRP acknowledgment case before the Public Utility Commission of Oregon. The Company explained this document “provides context and details that support evaluating [B2H] as a supply-side resource, explores (qualitatively and quantitatively) many of the ancillary benefits offered by the transmission line, and considers the risks and benefits of owning a transmission line connected to a market hub in contrast to direct ownership of a traditional generation resource.” 2017 IRP Appendix D at 3.

period. *Id.* It then analyzed energy-efficiency programs and demand-side management (DSM) programs to revise energy and capacity deficits. *Id.*

The Company evaluated the costs and benefits of each resource type while developing its 2017 IRP. *Id.* at 4. This analysis assumed the Company's preferred resource portfolio would continue to include the B2H project. *Id.*

E. Preferred Resource Portfolio

The Company stated its goal with the 2017 IRP was to identify a preferred resource portfolio that will enable the Company to reliably serve its customers over the 20-year planning horizon. *Id.* at 5. The Company explained that the IRP's preferred resource portfolio assumes: (1) the acquisition of the B2H transmission line, and (2) the early retirement of the Jim Bridger Plant Unit 2 in 2028 and Unit 1 in 2032. *Id.* The portfolio contains no other resources actions through the end of the 2020s, but adds 36-megawatt (MW) reciprocating engine resources in 2031 and in 2032, a 300 MW combined-cycle combustion turbine in 2033, and 54 MW reciprocating engine resources in 2035 and 2036. *Id.*

F. Action Plan

The Company stated its action plan for the next two to four years includes: (1) planning to enter the western Energy Imbalance Market in April 2018; (2) exiting coal-fired operations of North Valmy Unit 1 by year-end 2019 and Unit 2 by 2025, and Jim Bridger Unit 2 by 2028 and Unit 1 by 2032; (3) continuing to permit and build B2H; (4) permitting and planning associated with Gateway West; and (5) monitoring and assessing how Clean Air Act (CAA) Section 111(d) litigation affects the preferred portfolio. *Id.* at 6-7.

The Company also stated it plans to investigate how solar photovoltaic (PV) contributes to peak and loss-load probability analysis, pursue cost-effective energy efficiency, and coordinate with Portland General Electric Company to cease coal-fired operations at Boardman by the end of 2020. *Id.* at 7.

G. Response to Order No. 33441

The Commission's Final Order in the Company's 2015 IRP case directed the Company "to continue to use the IRPAC meetings and other outreach opportunities to further explore issues raised in this [2015 IRP] case." *See* Order No. 33441. The Commission encouraged the Company to explore issues related to closing North Valmy, and incorporating more energy efficiency into the IRP. *Id.*

In response, the Company's 2017 IRP stated that many risks of closing North Valmy, which led the Company's 2015 IRP to include a higher-cost portfolio, have now largely diminished. IRP Application at 9. As a result, the Company's updated quantitative analysis showed the Company would save significant costs if North Valmy Unit 1 closes in 2019. *Id.* This analysis led to a settlement in which North Valmy's co-owner, NV Energy, agreed to stop burning coal at Unit 1 by December 31, 2019, and Unit 2 by December 31, 2025. The Commission approved the settlement in Order No. 33771. *Id.* at 9-10.

Order No. 33441 also directed the Company to more effectively incorporate energy efficiency into its IRP model. *Id.* at 10. In its 2017 IRP, the Company and its regional counterparts discussed energy-efficiency modeling approaches. *Id.* The Company, its DSM consultant, and its IRPAC also discussed energy-efficiency approaches, including that used in the National Action Plan for Energy Efficiency (NAPEE) Guide for Conducting Energy Efficiency Potential Studies. *Id.* at 10. The Company stated that the 2017 IRP's resource portfolios treat energy efficiency under the NAPEE Guide as a committed resource, and include energy efficiency before supply-side resources. *Id.* at 10. The Company maintained that its IRP energy-efficiency target is not a ceiling, because cost-effectiveness measures (e.g., natural gas price) are dynamic, and the Company and Energy Efficiency Advisory Group's efforts to implement them may cause energy efficiency to exceed the IRP target. *Id.* at 11.

THE COMMENTS

Staff, REC, Sierra, STOP, and six members of the public, including the ICL, provided substantial commentary on Idaho Power's 2017 IRP. Some commenters lauded portions of the 2017 IRP. But many criticized it and suggested potential improvements for future IRPs.

More specifically, Staff recommended the Commission acknowledge the IRP, but suggested improvements for future IRPs. Staff Comments at 14. REC did not recommend whether the Commission should acknowledge the IRP, but argued the Commission should not allow the Company to proceed under the IRP's natural gas price assumptions and forecasts. REC Comments at 10-11. Sierra, on the other hand, stated the Commission should not acknowledge the IRP, but should instead investigate and reassess the IRP's flawed analytical structure related to the retirement of the Bridger units. Sierra Comments at 2-3. STOP also urged the Commission not to acknowledge the 2017 IRP for several reasons, including the Company's analysis and planning related to B2H. *See e.g.* STOP Comments at 21, 29, and 33.

Other parties, including the Idaho Irrigation Pumpers Association, Idahohydro, Industrial Customers of Idaho Power, and Micron Technology, did not file comments.

In reply, Idaho Power reiterated that the Commission should acknowledge the 2017 IRP because “the Company’s portfolio design, modeling, and assumptions are reasonable and produce a preferred portfolio that is least-cost and least-risk.” Idaho Power Reply Comments at 4. The Company maintained that it “intends to use the acknowledgment of B2H in the 2017 IRP to support its application before Oregon’s Energy Facility Siting Council (‘EFSC’).” *Id.* at 2. While the Company recognized that parties had criticized B2H as the least-cost, least-risk resource, the Company said it expects to begin preliminary construction activities before it files the 2019 IRP, and that the 2017 IRP case will be the last one to address the B2H project before preliminary construction activities begin. *Id.*

The parties’ and customers’ specific comments on these issues, along with Idaho Power’s replies, are summarized by issue below.

A. Portfolio Design and Selection

Public comments about portfolio design argued that the Company had not sufficiently analyzed its additional, potential resources. The commenters were concerned the Company had not explained how it arrived at single point estimates from a range of resource costs or how and why it used a hand-selected set of alternate portfolios dominated by natural gas.

Staff argued that the portfolio modeling in the Company’s 2017 IRP is less robust than that in the 2015 IRP, because it assumed natural gas-fired generation, transmission, and utility-scale solar to be least-cost. Staff Comments at 3. Staff maintained that portfolio design should forecast a host of specific future scenarios around customer load, gas, hydroelectric, and carbon variations and then strategically select portfolios that mitigate the largest and most likely risks associated with each scenario. *Id.* at 12. Staff thought the Company’s portfolio was insufficiently diverse, especially regarding natural gas pricing. *Id.* at 13.

ICL criticized the Company’s resource modeling portfolio and argued that the Company should have used “portfolio optimization” instead of manual selection. ICL Comments at 13. Similarly, Sierra argued the Company’s portfolio design is flawed because it did not model capacity expansion. *Id.* at 3-4.

In response, Idaho Power agreed to model capacity expansion and select a more diverse portfolio in its 2019 IRP, while continuing to maintain it had selected an appropriate portfolio for the 2017 IRP because “it allowed for levelized, dollar-per-megawatt-hour (‘MWh’)

comparison of the most cost-competitive resources, while fulfilling the projected capacity deficiencies.” *Id.* at 5.

Sierra and ICL next argued that the Company’s preferred portfolio (among others) would violate the federal CAA because it did not include SCR installation. ICL Comments at 14; Sierra Club Comments at 7-8. In addition, Staff expressed concern about how much SCR would cost ratepayers if it were built before replacement resources for Jim Bridger Units 1 and 2 came online. Staff Comments at 12.

Idaho Power replied that the parties have a “difference of opinion concerning regulatory behavior” since it believes that it can negotiate alternative compliance settlement(s) with the proper state and federal regulatory authorities that would allow continued operation without the installation of SCR. Idaho Power Reply Comments at 12.

Staff and public commentary related to the Company’s resource cost projection assumptions prompted the Company to prepare a supplemental resource cost tipping analysis—including analysis of solar and lithium-ion batteries—in its Reply Comments. *Id.* at 7-10. This analysis led the Company to reconfirm its belief that B2H is the low-cost source of on-peak capacity, even with potential steep declines in solar and storage cost. Nevertheless, the Company said it “recognizes that the parties value greater diversity in the evaluation of portfolios, and will continue to enhance its portfolio analysis in future IRPs.” *Id.* at 10.

B. Supply-Side Resources

Public commenters suggested the Company had overestimated the costs of distributed energy resources (DER) while underestimating those resources’ benefits. For example, commenters argued that, while solar costs are expected to decrease rapidly, Idaho Power has projected the opposite to create a bias toward building B2H. Commenters argued that by increasing DER, the Company would decrease its centralized capital expenditures and the need to maintain and upgrade its transmission and distribution system. They further noted that lower location based source-to-load loss was not valued and priced for wind and solar, meaning that DER and targeted efficiency measures could not be properly evaluated. One commenter also noted that decentralized DER would enhance the grid and decrease risk if an attack on energy infrastructure should occur.

Similarly, STOP argued that Idaho Power did not reasonably analyze the valuation of battery storage, ancillary services, solar and Combined Heat and Power (CHP), or other potential sources of distributed generation in its 2017 IRP. STOP Comments at 27. STOP also argued

that the Company continues to ignore benefits accruing under the Public Utility Regulatory Policies Act (PURPA), and discourages energy-efficiency measures through cancelled power purchase agreements and attempts to alter its net metering program. *Id.*

STOP asked the Commission to direct Idaho Power to: (1) analyze the costs and benefits of *all* DER; (2) partner with residential and industrial customers before building new expensive infrastructure; and (3) reconsider its “out-dated [sic] centralized grid planning at ratepayer expense.” *Id.* at 33. In response, Idaho Power stated that STOP’s position is inconsistent, that, instead, economies of scale require utility-scale investment that protects customers from inflated rates. Idaho Power Reply Comments at 23. The Company also maintained its preferred portfolio is least-cost and least-risk, despite lacking DER, because solar and DER presently are not “cost-effective.” *Id.* STOP also recommended the Company analyze CHP, which, it claims, is cheaper than standalone generation. STOP Comments at 27. Idaho Power responded that it is “greatly interested” in CHP, but that “substantial logistical and administration difficulties” have proven challenging. Idaho Power Reply Comments at 24.

Sierra and Staff expressed concerns related to retiring Jim Bridger Units 1 and 2. Sierra Comments at 30; Staff Comments at 12. Sierra believes earlier retirement dates are possible, including almost immediate shutdown. Sierra Comments at 30. Staff is concerned that the Bridger units may operate for 7-10 years after the mandated SCR compliance schedule has run. Staff Comments at 13. The Company responded that it is not the only party that controls Bridger’s fate. The Company noted that PacifiCorp owns 67 percent, and that the Company reasonably paralleled the Bridger analysis from PacifiCorp’s 2017 IRP. Idaho Power Reply Comments at 14. Further, the Company said it did not consider SCR investments because the most likely outcome is a transition away from coal-fired capacity over the next 20 years. *Id.* at 15.

Sierra also argued that the Bridger units are uneconomic, and will remain so, because the Company failed to account for costs beyond 2034 and that costs will decrease rapidly before 2034. Sierra Comments at 13-14. The Company refuted this argument by stating that “[e]valuating scenarios that contemplate varying operating lives of existing resources requires a different modeling approach,” which it then described. Idaho Power Reply Comments at 16. However, the Company stated that even with Sierra’s imputed assumptions, SCR investment looked even less attractive. *Id.*

Sierra further suggested that the Company relied on incorrect assumptions related to coal costs and market prices in its 2017 IRP, which biased maintenance of the Bridger units as capacity resources. Sierra Club Comments at 15. Idaho Power countered by stating that it relies on coal forecast data to appropriately reflect future outcomes, and that its fuel planning process and modeling did not skew market prices toward Bridger. Idaho Power Reply Comments at 17-18.

Sierra and some public comments, as noted above, argued that the Company incorrectly modeled increasing solar expenses. Sierra Comments at 21-22. Specifically, Sierra noted that the cost of utility-scale solar has declined by 85 percent over the past seven years. *Id.* Commenters thus argued Idaho Power is unreasonable in its downward trending levelized capital cost of solar forecast. *Id.* The Company disagreed with these criticisms, insisting it relied on Lazard reports alongside its tracking of power purchase agreements. Idaho Power Reply Comments at 19. While it agreed that solar is becoming increasingly cost-effective, it argued that the comments ignored solar's on-peak capacity credit, unpredictability, and variability. *Id.* Based on its solar integration studies and IRP tipping point analysis, the Company argued that solar would need to decrease by more than 35 percent to compete with natural gas resources, and more than 90 percent to compete with B2H. *Id.* at 19-20.

Sierra stated solar will continue to develop despite a decreased investment tax credit. Sierra Comments at 21. The Company countered that between the present and 2023, it has no need for additional resources, and, therefore, additional resources would not be prudently incurred, without further evaluation of future cost decreases. Idaho Power Reply Comments at 20.

Sierra next argued that the Company did not sufficiently assess and model the decreasing price of energy storage. Sierra Comments at 22. ICL commented that the Company did not sufficiently quantify how energy storage technology might affect grid services. ICL Comments at 9. The Company countered that there are two barriers to aggressive storage implementation, and, therefore, ostensibly higher capital costs and uncertain lifetime cycles for long-term planning. Idaho Power Reply Comments at 21.

Sierra also argued that Idaho Power unreasonably assumed that some PURPA wind contracts would be renewed while others would not because wind facilities have negligible ongoing operating costs. Sierra Comments at 12. Idaho Power countered that wind facilities

differ from other types of renewable resources, in that repowering is too uncertain to plan on. Idaho Power Reply Comments at 22.

C. Demand-Side Resources

Some public commenters expressed that the Company consistently underestimated energy efficiency in its IRP planning process. These commenters pressured the Company to more fairly evaluate energy efficiency in its 2019 IRP. On the other hand, one customer stated that the IRP relied too much on energy efficiency and the purchase of low-cost power from the wholesale electric market. This commenter noted that the wholesale electric market will not necessarily remain a viable low-cost alternative to additional electricity generation, and that coal-fired plants should remain in the Company's portfolio until new generation facilities are available.

Idaho Power and Staff agreed that "the benefits of energy efficiency extend beyond the value of the energy saved and the avoidance of generating capacity; energy efficiency also has the potential to defer other investment in grid infrastructure." Idaho Power Reply Comments at 24; Staff Comments at 10. However, Staff and the Company disagreed how to treat demand-side resources. Staff maintained that the Company favored supply-side resources, while Idaho Power countered that it preferred demand-side resources, as indicated by their inclusion in each resource portfolio, regardless of need. Idaho Power Reply Comments at 25.

Idaho Power, Staff and other parties and commenters provided distinct viewpoints on how the Company should determine the level of energy efficiency in this and future IRPs. Staff maintained the Company should, like other regional utilities, use modeling software to select demand- and supply-side resource portfolios. Staff Comments at 9. While Idaho Power acknowledged that other regional utilities use modeling software, the Company views software modeling as only a potential alternative to its current methodology. Idaho Power Reply Comments at 27. The Company maintained its methodology is sufficient because there is little evidence the outcome would change if the Company used models to select portfolios. Further, the Company explained it analyzes energy efficiency from the first year and not at the time of a resource deficit. The Company stressed it used a well-qualified, nationally recognized consultant, which found energy efficiency in line with recommendations made by Northwest Energy Efficiency Council. *Id.* at 27-28. Last, the Company noted the IRP's energy-efficiency analysis does not represent a static ceiling but a collaborative, evolving analysis. *Id.* at 29.

Sierra and STOP characterized the Company's conservation and energy-efficiency efforts as "tepid," and noted the Company assumes future savings that are much lower than the savings its cost-effective programs currently achieve. Sierra Comments at 3; STOP Comments at 21. Sierra also stated that the Company should model savings declines, given evolving lighting standards. Idaho Power replied that, "when savings are lost from Idaho Power's program portfolio due to manufacturing standards or code changes, the savings then become part of the load forecast econometric process, which incorporates data and trends related to codes and standards into the forecast." Sierra Comments at 11; Idaho Power Reply Comments at 29.

STOP complained that the Company has added only two new energy-efficiency programs since 2009. STOP Comments at 18. The Company countered that it continually adds to its 23 energy-efficiency programs, which include over 275 energy-efficiency measures. Idaho Power Reply Comments at 30. It argued that it has actually added three programs and expanded others, and is engaged in regional energy-efficiency planning and analysis. *Id.* at 30-31.

Idaho Power countered STOP's argument that it achieved less energy efficiency than nearby regional utilities by citing a statistic showing Idaho (where the Company provides 95% of its service) is one of the most improved states under the 2017 State Energy Efficiency Scorecard. However, the Company acknowledged the scorecard was based on the entire State of Idaho and not just Idaho Power. *See* STOP Comments at 18; The 2017 State Energy Efficiency Scorecard, American Council for an Energy-Efficiency Economy, September 2027 Report U1710, page viiii; and Idaho Power Reply Comments at 31.

In terms of transmission and distribution infrastructure (T&D), the Company maintained that its methodology is defensible, and it has worked with regional utilities to determine proper and consistent methodologies for developing future energy efficiency T&D deferral benefit studies. *Id.* at 32.

STOP criticized the Company's demand response (DR) programs. STOP Comments at 22-24. However, the Company responded that its three DR programs follow the Northwest Power and Conservation Council's 7th Power Plan² and settlement agreements and orders that stipulate how each program will be utilized, marketed or expanded. Idaho Power Reply Comments at 34.

² Northwest Power and Conservation Council's 7th Power Plan, Chapter 14 Demand Response, page 14-2. Available at https://www.nwcouncil.org/media/7149925/Tthplanfinal_chap14_dr.pdf.

STOP also complained about the Company's Advanced Metering Infrastructure build-out, as it related to digitally mediated customer-based DR. *Id.*; STOP Comments at 22. The Company countered that it continually upgrades and expands its Advanced Metering Infrastructure capability and believes the Advanced Metering Infrastructure system is efficient and effective given the variability of the Company's service area. Idaho Power Reply Comments at 34.

D. Forecasting

Public comments expressed concern about the Company's forecasting inputs. For example, one commenter argued the Company should use the same area of Lazard's cost spectrum for both solar and natural gas. The commenters stated that prices reflected in the 2017 IRP should reflect real world costs, including costs related to solar. Thematically, comments focused on the perception that the Company skewed its price forecasts to unfairly favor natural gas.

Staff recommended that the Company improve peak-load forecasting by incorporating class-specific forecasts in its analyses. Staff Comments at 3-6. The Company supported Staff's recommendation to add more information about peak forecasting methodologies in future IRPs. *Id.* at 35. However, the Company maintained its current system peak modeling is best used to forecast long-term planning decisions. *Id.* While Staff suggested hourly class observation, the Company argued that hourly doesn't represent sufficient history and, therefore, represents insufficient "empirical evidence to suggest that the assumptions required to leverage limited data for customer class level peak models behave in a more stable and accurate manner than system data for long-term capacity planning." *Id.* at 35-36.

ICL argued that the Company's load forecasting did not include the: (1) impact of historic settlement agreements between Idaho water users; (2) impact of historical weather patterns; and (3) insufficient consideration of changing weather trends. ICL Comments at 4; Idaho Power Reply Comments at 36. The Company countered that it analyzed the historical water user agreements and climatology trends by studying whether to include different weather variables in its residential class outside the 30-year normal. *Id.*

Next, Sierra argued that the Company failed to model load stochastically, creating uncertainty through year-to-year variation and systemic variation. Sierra Comments at 32. The Company admitted that they may use a more varied load stochastic for the 2019 IRP, but maintained that using different starting points to perform stochastic modeling is important in

determining load environment level on portfolio performance. Idaho Power Reply Comments at 37.

Prior to its 2013 IRP, the Company used its own proprietary natural gas forecast and in the 2013 and 2015 IRPs it utilized the Energy Information Administration's (EIA) price forecast, "to increase transparency." *Id.* Previously, it used the EIA's Reference Case, but now seeks acknowledgment of its use of the "High Oil and Gas Resource and Technology" case. *Id.* The Company claimed it changed to the High Oil and Gas Resource Technology because: (1) actual natural gas prices have been lower than the Idaho Power IRP Planning Case EIA forecasts under previous IRPs; and (2) the Company's analysis of Intercontinental Exchange (ICE) settled forward contracts most closely aligned with it. Idaho Power Reply Comments at 37.

Staff, REC, Sierra and ICL strongly disagreed with this decision because: (1) The IRPAC stakeholders unanimously opposed the move, including the Company's own oil and gas industry advisor; (2) the EIA Reference Case already includes forecasts of market price declines and ICE futures options (for near-term price forecasting); (3) ICE futures options do not reflect actual future spot market pricing or inflation; (4) the use of very low natural gas price forecasting contradicts how the Company plans for water conditions, average load, and peak-hour capacity; (5) the skewed forecasting makes natural gas variables appear less costly than other resources, leaving the risk of potential future variable price increases from capital investment(s) to the customer; (6) the Company's continued reliance on low natural gas prices will cause under investment in conservation and inaccurate avoided costs rates; and (7) the Company incorrectly assumed that levelized costs of resources will increase at the rate of inflation despite evidence of declining costs in technology such as battery storage and solar. These parties believe the EIA Reference Case, as used by the Company in its 2013 and 2015 IRPs, is preferable as forecast indicator of natural gas pricing. Where the EIA's analysis covers the long-term planning period, the Company's analysis mostly looks backward because ICE futures only predict a short time into the future.

Idaho Power replied to these concerns by stating that Staff incorrectly described ICE futures as options instead of what Idaho Power considers to be a fix for floating swaps, where exiting the transaction would require an offsetting transaction. *Id.* at 39. The Company countered arguments that the switch would decrease conservation planning by noting that, although the Company will now use the IRP and High Oil and Gas Resource Technology for

DSM cost-effectiveness, the Company will generally continue to pursue cost-effective achievable energy efficiency on all fronts. *Id.* at 41.

Sierra further recommended the Company include coal prices in its stochastic analysis. Sierra Comments at 33. The Company replied by stating: “[B]y varying the natural gas prices relative to the coal price and limiting the new resource technologies to B2H, solar, and natural gas in the portfolio design, the Company’s analysis has effectively tested the viability of coal to economically compete in the future.” *Id.* at 41-42.

Finally, ICL criticized the Company’s hydroelectric forecast for not analyzing future impacts to the backbone of the Company’s generation fleet. ICL Comments at 7; Idaho Power Reply Comments at 42. The Company responded, stating it does not “make predictions specific to changes in the scale and timing of hydrologic effects or any other aspect of the Company due to future climate variability.” *Id.* at 42. However, it also stated that it tracks the latest climate impact science, participates in the River Management Joint Operating Committee, and coordinates with Idaho university researchers related to climate variability and hydrologic modeling. *Id.*

E. B2H

The Company asked that the Commission acknowledge the B2H transmission line under the 2017 Idaho IRP to bolster the Company’s standing before the Oregon PUC and the Oregon EFSC, where the Company has a pending construction plan. *Id.* at 44. The Company stated that it must show a “need” for B2H under the EFSC’s least-cost plan rule or system reliability rule. *Id.* at 43-44. It is adamant it “does not request that the Commission review, approve, or acknowledge the specific routing of the line nor the ratemaking treatment of the line” at this time. *Id.* at 43. Instead, it reiterates that the line is a transmission resource that will operate under shared ownership with PacifiCorp and BPA, that the Commission should consider regional need and broader benefits of increase transmission in the Northwest. *Id.* Further, the Company maintained that, based on its analysis of capacity costs, energy costs, energy efficiency, CCCT, since 2009, B2H represents the lowest overall cost to the Company and its customers. *Id.* at 49-52.

The Company noted that STOP is the only *party* that opposed the Company’s proposed B2H transmission project, although there was additional public commentary. *Id.* Public comment relayed concern that the Company may have selected its portfolio to justify building B2H, and not truly studied all reasonable portfolio possibilities. Generally, public

comments criticized the 2017 IRP B2H analysis for: (1) overestimating future solar cost; (2) undervaluing storage costs; (3) ignoring the potential to defer T&D system upgrades; (4) ignoring reduced transmission loss from locating storage closer to the load being served; and (5) not using an optimization modeling tool to find the best resource. Most commenters considered Idaho Power's plan to buy a great deal of power to cover future capacity shortfalls to be overly risky.

STOP provided an array of arguments against the Company's inclusion of B2H in the 2017 IRP. STOP argued the Company mischaracterized B2H as a supply-side resource and that the Company had not sufficiently analyzed B2H in terms of its underlying power resource: short-term forward capacity purchases. STOP Comments at 6. Idaho Power countered that STOP misunderstands its modeling and is factually incorrect, because both Idaho and Oregon recognize transmission resources as resource options to be analyzed according to defined criteria.³

The Company further stated that its retirement scenarios lend toward inclusion of 500 MW of capacity provided by B2H in IRP planning. Idaho Power Reply Comments at 46. The Company's modeling purported to show that "the Northwest will continue to have sufficient resources available for Idaho Power to purchase and deliver to Idaho Power customers across the B2H line." *Id.* at 55. The Company thus argued B2H should be acknowledged and constructed, even if supplies decrease and prices increase, because B2H remains least-cost "for all natural gas/market price sensitivities except the sensitivity that assumes a 400 percent natural gas increase over the Planning Case." *Id.* at 56-58.

However, STOP argued that B2H is now moot because the Company has acquired additional, sufficient assets from a recent exchange with PacifiCorp. STOP Comments at 8. The Company countered by arguing that the recent asset exchange allowed increased system utilization and efficiency through reduced wheeling costs, not increased capacity. Idaho Power Reply Comments at 47. In addition, Idaho Power stated that the Idaho and Oregon Commissions approved the asset exchange. *Id.* at 47-48. Simultaneously, the Company maintained there is no additional transmission capacity—rather there exists capacity constraint—for imports in the Northwest, because Idaho Power is a summer peaking utility, in contrast to Northwest utilities that peak in winter. *Id.* Therefore, the Company argued that B2H is actually integral to regional transmission planning. *Id.* at 49.

³ See Idaho Order No. 22299 at 7; Oregon Order No. 07-002 at 13.

STOP also argued that the Company did not sufficiently analyze cost overruns associated with building out transmission, based on evidence from what it considered similar construction projects undertaken by other utilities. STOP Comments at 16. The Company countered that it included a 20 percent contingency built in to its transmission line construction estimate, which included permitting, litigation and unexpected cost increases and that the utility project comparisons STOP provided are not analogous to constructing B2H. Idaho Power Reply Comments at 53.

STOP next argued that Idaho Power understated B2H's costs by limiting its analysis to the 20-year IRP planning horizon. STOP Comments at 16; Idaho Power Reply Comments at 53. The Company responded by stating that a mismatch would occur if STOP's proposed 55 year planning horizon was used in an IRP analysis, and that the Company's modeling follows Commission orders and generally accepted financial accounting practices for comparing projects with unequal lives. *Id.*

STOP next argued that the Company did not account for how daily natural gas prices relate to the daily market price of power in the Pacific Northwest. STOP Comments at 11. STOP also argued that the Company did not sufficiently analyze the effect of retired coal capacity on spot market prices. *Id.* at 10-11. STOP claimed the Company penalized portfolios without B2H based on the inclusion of high gas price sensitivities, but not B2H portfolios that rely on relatively future higher-cost market purchases. *Id.* at 13. The Company refuted these arguments by stating that it used "extensive natural gas price sensitivities" to determine how B2H portfolios compared in dramatically different forecasted market prices. The Company stated that B2H outperformed in even the extreme scenarios. Idaho Power Reply Comments at 60. Further, Idaho Power argued that gas-fired resources and import market prices on B2H properly and fairly correlate in the Company's analyses. *Id.* at 61.

STOP expressed doubt about the existence of third-party transmission wheeling revenue as a "hardwired" revenue input into the Company's modeling. STOP Comments at 14. The Company stated that additional transmission revenue was actually calculated separately from the Company's modeling, and then included in the B2H portfolios and that its modeling chooses to first purchase power from the lowest cost zone, and accounts for wheeling costs and transmission line losses, concluding that "[u]sing regional resources achieves the lowest cost power supply, which, in turn, lowers costs to customers...." *Id.* at 62-63.

Finally, the Company attempted to further bolster the inclusion of B2H as least-cost, least-risk by stating that B2H is necessary for it to enter into additional bilateral market transactions and that its planning and modeling related to B2H economically uses regional resources to achieve the lowest cost power supply for its customers. *Id.* at 62.

F. Risk Analysis

Public comments complained about the risk imparted in the Company's preferred all-gas portfolio. One commenter believed that the Company had not accounted for the risk of gas fuel being unavailable during the planning period, finding it unacceptable to saddle customers with both fuel unavailability risk and the majority of fuel cost risk. Commenters also expressed concern related to Idaho Power's lack of analysis of the potential effects of climate change over the 20-year planning horizon. ICL stated that the Company's risk assessment remains incomplete without including wholesale market prices as an independent quantitative factor. ICL Public Comments at 17.

Idaho Power countered that while it agreed with ICL that wholesale electric price volatility has increased over recent years, it did not agree that its risk analysis is deficient by not capturing wholesale electric price volatility, because it captured risk to high market conditions instead. Idaho Power Reply Comments at 63-64.

ICL also argued that the Company relied exclusively on historical records when assessing future hydroelectric and customer load conditions. The Company retorted, however, that IRP streamflow forecasting "takes into account trends and changes observed in Snake River Basin streamflows" and produces trends as significant or highly likely water management practices, and therefore, its risk analysis related to hydroelectric and customer load conditions does not rely solely on historical records. ICL Comments at 16; Idaho Power Reply Comments at 64.

STOP argued that the Commission should investigate the "questionable"—meaning incomplete over the life of the project—risks of the Company's reliance on purchasing power to meet firm loads and the secondary transmission revenue credits that have the effect of reducing the cost of B2H to ratepayers. STOP Comments at 15.

DISCUSSION AND FINDINGS

Idaho Power is an electrical corporation and public utility as defined in *Idaho Code* §§ 61-119 and -129, and the Commission has jurisdiction over it and the issues in this case under Title 61 of the Idaho Code, including *Idaho Code* § 61-501.

Having reviewed the record, we find that the Company's 2017 Electric IRP satisfies the requirements in the Commission's prior orders. We thus acknowledge that the Company has filed the 2017 Electric IRP. In doing so, we reiterate that an IRP is a working document that incorporates many assumptions and projections at a specific point in time. It is a plan, not a blueprint, and by issuing this Order we merely acknowledge *the Company's ongoing planning process*, not the conclusions or results reached through that process.

With this Order, the Commission is not approving the IRP or any resource acquisitions referenced in it, endorsing any particular element in it, opining on the Company's prudence in selecting the IRP's preferred resource portfolio, or allowing or approving any form of cost recovery. The appropriate place to determine the prudence of the IRP or the Company's decision to follow or not follow it, and the validation of predicted performance under the IRP, is a general rate case or other proceeding where the issue is noticed.

The Commission sincerely appreciates the active and vigorous participation in the IRP process by the Staff, REC, Sierra Club, STOP B2H, and other stakeholders and customers, and we are confident that their input helps the Company develop a better and more comprehensive IRP. We recognize the participants' valid viewpoints and commentary as they relate to the Company's preferred portfolio decision(s), forecasting, B2H and SCR. We encourage the Company to seriously contemplate the comments in this case as it undertakes its planning for the 2019 IRP.

We again encourage the Company to use its IRPAC meetings and other outreach opportunities to continue to explore issues raised in this case. The Company must maintain transparency and openness in its planning, with an eye toward including all reasonably foreseeable potential resource outcomes. We expect the Company to actively consider the concerns raised in this case as it plans, and to continue evaluating all resource options and the best interests of its customers when developing the 2019 IRP.

Finally, we recognize the inherent difficulty of forecasting and, therefore, expect the Company will continue improving its forecasting methodologies by analyzing a broad and diverse range of measures to avoid disadvantageous or unfair forecasting treatment of certain resources over others.

ORDER

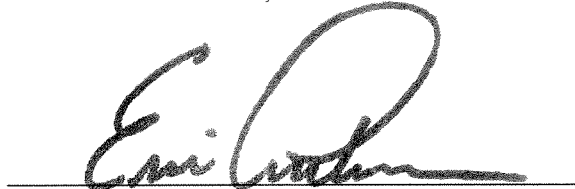
IT IS HEREBY ORDERED that the filing of Idaho Power's 2017 IRP is acknowledged.

THIS IS A FINAL ORDER. Any person interested in this Order may petition for reconsideration within twenty-one (21) days of the service date of this Order. Within seven (7) days after any person has petitioned for reconsideration, any other person may cross-petition for reconsideration. *See Idaho Code § 61-626.*

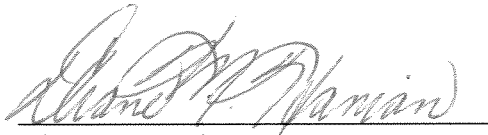
DONE by Order of the Idaho Public Utilities Commission at Boise, Idaho this 9th day of February 2018.


PAUL KJELLANDER, PRESIDENT


KRISTINE RAPER, COMMISSIONER


ERIC ANDERSON, COMMISSIONER

ATTEST:


Diane M. Hanian
Commission Secretary

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