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April 7, 2023

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Filing Center
P.O. Box 1088
201 High Street S.E., Suite 100
Salem, OR 97308-1088

Re: Docket No. PCN 5 – In the Matter of Idaho Power Company's Petition for Certificate of Public Convenience and Necessity.

Attention Filing Center:

Attached for filing in the above-referenced docket is Idaho Power Company's Surrebuttal Testimony of Jared Ellsworth (Idaho Power/1700).

Please contact this office with any questions.

Thank you,

Suzanne Prinsen
Legal Assistant

Attachment

DOCKET PCN 5 - CERTIFICATE OF SERVICE

I hereby certify that on April 7, 2023 Idaho Power Company's Surrebuttal Testimony of Jared Ellsworth was served by USPS First Class Mail and Copy Center to said person(s) at his or her last-known address(es) as indicated below:

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DATED: April 7, 2023

/s/ Suzanne Prinsen
Suzanne Prinsen
Legal Assistant

Idaho Power/1700
Witness: Jared Ellsworth

BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

DOCKET PCN 5

In the Matter of	)
	)
IDAHO POWER COMPANY'S	)
	)
PETITION FOR A CERTIFICATE OF	)
PUBLIC CONVENIENCE AND	)
NECESSITY.	)
	)

IDAHO POWER COMPANY

SURREBUTTAL TESTIMONY

OF

JARED ELLSWORTH

APRIL 7, 2023

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Q. Please state your name and business address.

A. My name is Jared Ellsworth. My business address is 1221 West Idaho Street, Boise, Idaho 83702.

Q. Are you the same Jared Ellsworth that previously filed Reply Testimony in this matter?[1]

A. Yes.

Q. What is the scope and purpose of your Surrebuttal Testimony?

A. In this testimony, I will respond to the testimony of the Staff of the Public Utility Commission of Oregon ("Commission") regarding the necessity of the Boardman to Hemingway Transmission Line Project ("B2H" or the "Project") to maintain electric service reliability to Idaho Power's customers and to the Stop B2H Coalition's ("STOP B2H") concerns regarding the modeling of the Project in the 2021 Integrated Resource Plan ("IRP") and their assertions regarding the need for B2H and its reliance on the Mid-Columbia ("Mid-C") market.

Q. Have you previously testified on the topic of the need for B2H?

A. Yes. Both my Direct Testimony and Reply Testimony provide extensive discussion on the need and justification for B2H.

Q. Please summarize your testimony.

A. In my Reply Testimony, I described how the Project is necessary for the reliability of Idaho Power's transmission supply. In this Surrebuttal Testimony, I respond to the Rebuttal Testimony of Staff and STOP B2H. Staff witness Sudeshna Pal agrees Idaho Power has met the requirements of OAR 860-025-0035(1)(a)-(e) and that the Commission should issue a certificate of public convenience and necessity ("CPCN"). Staff's witness Yassir Rashid however indicates the Company still has not demonstrated that the Project is

[1] Idaho Power/500-507 (Feb. 21, 2023).

necessary to maintain electric service reliability to its customers. In their Rebuttal Testimony, STOP B2H identifies a number of concerns regarding the Company's modeling in the 2021 IRP and makes additional assertions regarding the need for B2H in 2026 and its reliance on the Mid-C market. I respond by providing the additional support Staff requested, which consists of analyses to demonstrate the need for B2H for system reliability purposes. I also respond to STOP B2H's assertions regarding components of the 2021 IRP modeling and results, including support for the Mid-C market as a proven adequate source for meeting the Company's needs. Finally, I discuss Idaho Power's analysis of the U.S. Environmental Protection Agency's ("EPA") "Ozone Transport Rule" in response to PacifiCorp's Rebuttal Testimony.

I. RESPONSE TO REBUTTAL TESTIMONY OF STAFF

Q. Please summarize Staff's testimony on the necessity of the Project.

A. Staff witness Ms. Pal concludes that "Idaho Power has demonstrated that the B2H project meets the criteria of necessity, safety, practicability, and justification and is in the public interest as described in OAR 860-025-0035(1)(a)-(e)."[2] However, Staff witness Mr. Rashid responds to my previous testimony in which I explained that the Project is necessary to maintain electric service reliability to the Company's Oregon customers, and he states his opinion that Idaho Power has not provided new evidence to change his conclusion. Staff witness Mr. Rashid believes that to assess the need for the Project under OAR 860-025-0035(1), "the Company must perform an objective engineering analysis where it identifies those risks and examines the status of the grid in the area of study under different contingency scenarios."[3] Staff agrees the Project provides needed additional transmission capacity to continue to provide adequate and reliable electricity service, but

[2] Staff's Rebuttal Testimony and Exhibits of Sudeshna Pal (Staff/400, Pal/4-5) (Mar. 20, 2023).
[3] Staff's Rebuttal Testimony and Exhibits of Yassir Rashid (Staff/500, Rashid/3) (Mar. 20, 2023).

is not convinced that the Project provides improved reliability that enables the Company to continue to provide adequate and reliable electricity service, which is a slightly different nuance.

Q. Did Idaho Power perform objective engineering analyses to demonstrate the need for the Project for system reliability?

A. Yes. Idaho Power performed two separate and distinct engineering analyses to demonstrate the need for the Project for system reliability purposes, including most recently the NorthernGrid Regional Transmission Plan for the 2020-2021 NorthernGrid Planning Cycle[4] ("2020-2021 RTP") and the 2021 IRP. The 2020-2021 RTP was developed under the regional transmission planning process, in accordance with each Enrolled Party's Open Access Transmission Tariff ("OATT") Attachment K.[5] The objective of the planning process is to identify the transmission projects that either cost-effectively or efficiently meet the needs of the NorthernGrid members[6] in a 10-year future. Additionally, the IRP process ensures that Idaho Power's system has sufficient resources to reliably serve customer demand and flexible capacity needs over a 20-year planning period.[7] Commission Order Nos. 07-002[8] and 07-047[9] issued in Docket UM 1056 detail guidelines that govern the IRP process, including Guideline 1(b) which requires the consideration of risk and uncertainty as part of the IRP and Guideline 11, which requires

[4] See Attachment 8 to the Company's Response to Standard Data Request No. 5 (Idaho Power/203, Barretto/862).

[5] Idaho Power/203, Barretto/862.

[6] 2020-2021 RTP members included Avista, Bonneville Power Administration, Chelan Public Utility District ("PUD"), Grant County PUD, Idaho Power, BHE U.S. Transmission as the owner of the Montana Alberta Tie Line, NorthWestern Energy, PacifiCorp East and West, Portland General Electric, Puget Sound Energy, Seattle City Light, Snohomish PUD, and Tacoma Power. Idaho Power/203, Barretto/870.

[7] *In re Public Utility Commission of Oregon, Investigation Into Integrated Resource Planning*, Docket UM 1056, Order No. 07-047, Appendix A at 2 (Feb. 9, 2007).

[8] Docket UM 1056, Order No. 07-002 (Jan. 8, 2007).

[9] Order No. 07-047.

the utility to analyze reliability within the risk modeling of the actual portfolios being considered.[10]

Q. Staff witness Mr. Rashid suggests B2H was analyzed as a redundant transmission line.[11] Is his suggestion correct?

A. No. B2H has never been considered a redundant transmission line. As indicated in the IRP process guidelines approved by the Commission, Guideline 4 requires that, at a minimum, electric utilities must include in the plan a determination of the levels of peaking capacity and energy capability expected for each year of the plan given existing resources, identification of capacity and energy needed to bridge the gap between expected loads and resources, and modeling of all existing transmission rights, as well as future transmission additions associated with the resource portfolios tested.[12] B2H is a future transmission addition that has been evaluated in each of Idaho Power's IRPs since 2009 and has proven to be a cost-effective resource, providing increased access to reliable, low-cost market energy purchases from the Pacific Northwest year-round, including energy when demand from the Company's customers is at its highest.

Q. What is the process for developing the 2020-2021 RTP?

A. The process starts with a data submittal of needs from each of the NorthernGrid members.[13] For a 10-year future, each member submitted their forecasted load, expected resource additions or retirements, public policy requirements, and expected transmission topology. All this information was then assimilated into the 2030 Western Electricity Coordinating Council ("WECC") Anchor Data Set. From that base case, a production cost model analysis was performed to identify the stress conditions of interest for the NorthernGrid footprint. The stress conditions were selected to represent typical or

[10] Order No. 07-047, Appendix A at 1, 7.
[11] Staff/500, Rashid/3.
[12] Order No. 07-047, Appendix A at 4.
[13] Idaho Power/203, Barretto/8.

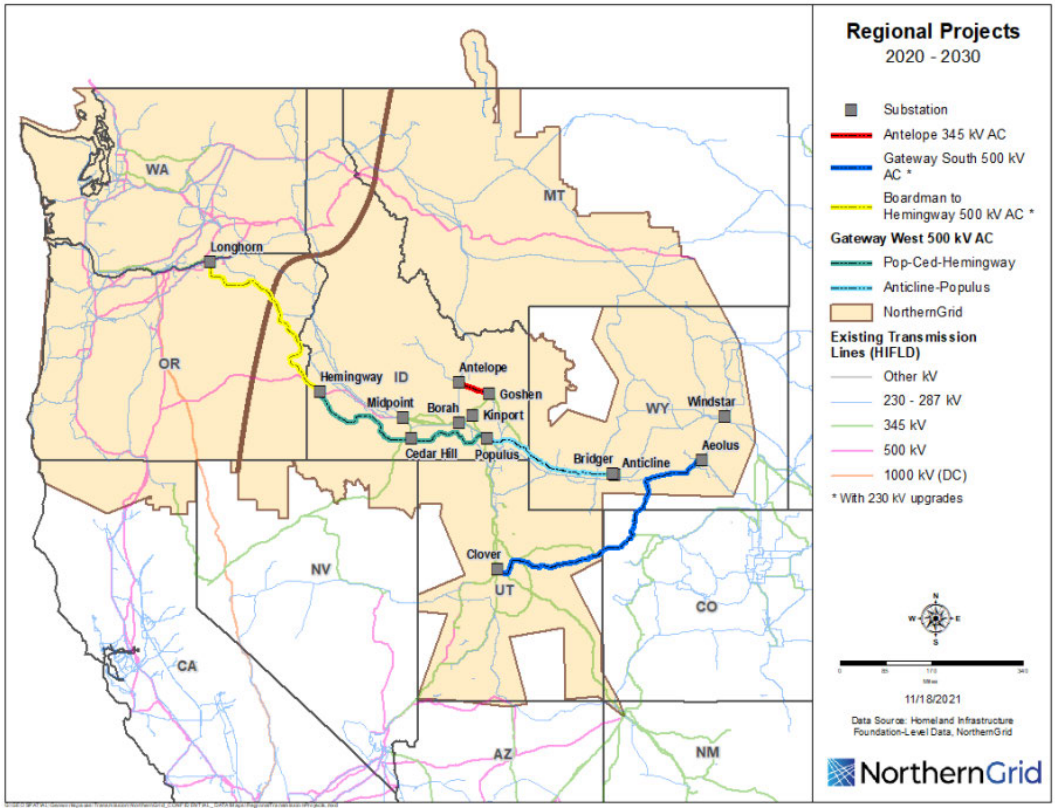
expected operating conditions for the NorthernGrid footprint. Weather conditions have a large impact on system load. More megawatts are consumed on a hot summer day than on a cool autumn day due to factors like industrial cooling loads. Similarly, more megawatts are consumed on a cold winter day than on a warm spring day due to the need to keep homes and businesses warm. Both summer and winter loading conditions were selected to capture these seasonal loading conditions. There is enough proposed wind generation in Wyoming to have a potential impact on the reliability of the NorthernGrid footprint; because of this, an hour representing high output from Wyoming wind resources was selected. Needs were also identified across southern Idaho, so a high Idaho to Northwest Path (west to east) case and Borah West (east to west) case were developed. Altogether, eight stress conditions for the NorthernGrid footprint were identified.[14]

The results of the contingency analyses from those eight respective base cases formed the foundation for the selection of projects in the 2020-2021 RTP.[15] Contingencies were submitted by the members and focused on 230-kilovolt ("kV") and greater electrical facilities because outage of facilities 100-kV and below do not significantly impact the reliability of the NorthernGrid transmission system. The NorthernGrid footprint, along with adjacent neighboring regions, were monitored. The base cases contained all planned regional member transmission projects, including B2H.[16] To identify the set of projects for the 2020-2021 RTP, portions of the planned regional projects were removed from the base cases to ascertain if a subset of the proposed regional projects would meet the needs of the transmission system more cost-effectively or efficiently than the entire set. Consideration was also given to the interregional and non-incumbent regional projects that were submitted.[17] The following map provides a simplified depiction of the regional

[14] Idaho Power/203, Barretto/866.
[15] Idaho Power/203, Barretto/866.
[16] Idaho Power/203, Barretto/866.
[17] Idaho Power/203, Barretto/867.

projects that were selected for the 2020-2021 RTP. As can be seen, B2H was determined to be an efficient transmission project solution to the NorthernGrid region and was required for reliability purposes.

Figure 1. Regional Projects in 2020-21 RTP



Q. Staff witness Mr. Rashid indicates Idaho Power uses the Loss of Load Expectation ("LOLE") method for assessing resource sufficiency in the IRP process.[18] Is Mr. Rashid correct on this point?

A. Yes, however the LOLE is not the only method used in the IRP process for assessing resource sufficiency; rather it is the process through which Idaho Power ensures a resource portfolio meets reliability standards. The LOLE is a statistical measure of a system's resource adequacy, describing the expected number of days per year that a system would be unable to meet demand.[19] In the 2021 IRP, the Company planned to

[18] Staff/500, Rashid/4.
[19] *See* Staff/500, Rashid/4.

meet a reliability threshold of 0.05 event-days per year, or better, which represents one resource adequacy related outage event-day, or less, in 20 years.[20] The calculation of a system LOLE is complex, and forecasting modeling software often does not take an LOLE value as a direct input; therefore, the Company developed an internal tool that utilizes the LOLE methodology to produce outputs that can be converted and applied to a tabulated load and resource balance for the purposes of long-term planning.

Q. Mr. Rashid was critical of the Company's use of 0.05 event-days per year indicating it was a deviation from industry accepted practice and exaggerates the conclusion of the model.[21] Do you agree?

A. While I agree a common industry practice is to plan the power system such that it has no more than one loss of load event per 10 years, or a LOLE of 0.1 event-days per year, I do not agree that Idaho Power's utilization of a .05 event-days per year threshold exaggerates the results of the analysis. In the 2021 IRP, given feedback from the IRP Advisory Council and the increased frequency of extreme events, including extreme water conditions, among other variables, the Company ultimately aligned with the Northwest Power and Conservation Council standard of no more than one loss of load event-day per 20 years, or a LOLE of 0.05 event-days per year.[22] However, following Idaho Public Utilities Commission Staff's recommendation in Case No. IPC-E-21-43,[23] the 2021 IRP case, and as suggested by Mr. Rashid, the Company is adjusting the LOLE threshold to 0.1 event-days per year as part of the development of the 2023 IRP. It is important to note that, while a change to one loss of load event per 10 years, or 0.1 event-days per year, would decrease the previously identified load and resource balance deficiency, the difference

[20] *In re Idaho Power Company, 2021 IRP*, Docket LC 78, IRP at 116 , 28-29 (Dec. 30, 2021) (available at https://edocs.puc.state.or.us/efdocs/HAA/lc78haa103337.pdf) [hereinafter "2021 IRP"].
[21] Staff/500, Rashid/4-5.
[22] 2021 IRP at 116-117.
[23] *In re Idaho Power Company's 2021 Integrated Resource Plan*, Idaho Public Utilities Commission Case No. IPC-E-21-43, Order No. 35603 at 4 (Nov. 18, 2022).

would not be significant enough to change the outcome of the resource portfolios related to B2H.

Q. What other method is used for assessing resource sufficiency as part of the IRP process?

A. Once the Company has performed the LOLE methodology and identified the resulting resource deficiencies in the 20-year planning horizon, Idaho Power must determine what combination of resources is necessary to meet that deficiency with the primary objective of minimizing costs and risks to customers. Due to the complexity involved in an analysis that includes a 20-year forecast for energy demand, fuel prices, resource costs and more, the Company uses modeling software to generate and optimize resources selected in portfolios. For the 2021 IRP, Idaho Power utilized Energy Exemplar's AURORA model Long-Term Capacity Expansion ("LTCE") platform to generate resource portfolios that are simultaneously optimized for the Company's service area and the western interconnection.[24] Resources are selected from a variety of supply- and demand-side resource options to develop portfolios that are least-cost for the given alternative future scenarios with the objective of meeting the planning margin and regulating reserve requirements associated with balancing load, wind, and solar-plant output.

Once the portfolios are created using the LTCE model, Idaho Power uses the AURORA electric market model as the primary tool for modeling resource operations and determining operating costs for the 20-year planning horizon.[25] AURORA modeling results provide detailed estimates of wholesale market energy pricing and resource operation and emissions data. The AURORA software applies economic principles and dispatch simulations to model the relationships between generation, transmission, and demand to forecast market prices. The operation of existing and future resources is based on

[24] 2021 IRP at 1-2.
[25] 2021 IRP at 129.

forecasts of key fundamental elements, such as demand, fuel prices, hydroelectric conditions, and operating characteristics of new resources. Various mathematical algorithms are used in unit dispatch, unit commitment, and regional pool-pricing logic. The algorithms simulate the regional electrical system to determine how utility generation and transmission resources operate to serve load. The results provide a total portfolio cost for each portfolio developed through the LTCE modeling and each different portfolio and the portfolios' associated costs are compared as potential options for a preferred portfolio. As I mentioned earlier, B2H has been a cost-effective resource identified in each of Idaho Power's IRPs since 2009 and continues to be the cornerstone of Idaho Power's 2021 IRP Preferred Portfolio.[26]

Q. How does the Company ensure the portfolios produced by the AURORA LTCE model meet Idaho Power's reliability requirements?

A. To ensure the resulting AURORA LTCE modeling portfolio meet the Company's reliability requirements, Idaho Power measures each portfolio's reliability by calculating a portfolio LOLE.[27] For those portfolios that did not achieve the minimum reliability threshold, an additional reliability cost is added to the portfolio cost. This additional cost was derived from the fixed cost of a gas resource and places portfolios on a comparable reliability basis. With the additional resource adjustment, all portfolios meet the reliability threshold. Between the 2020-2021 RTP and the 2021 IRP processes, multiple engineering analyses were performed to demonstrate the need for the Project for system reliability purposes.

Q. Are there any additional engineering analyses performed to demonstrate the need for B2H for system reliability?

A. To the extent that Staff is asking for transmission studies where the Company performs an N-1 and N-2 contingency analysis, those studies were performed as part of the WECC

[26] 2021 IRP at 153.
[27] 2021 IRP at 12.

Path Rating Process, the results of which were provided in the Project Review Group Phase II Rating Report included as Attachment 15 to the Petition.[28] However, while the studies determined the maximum rating across B2H under various stresses and system flow conditions on the bulk power system, I do not believe the studies reflect the reliability value the Project provides.

Q. How would the reliability of the Company's Eastern Oregon system be impacted if B2H was not constructed?

A. B2H provides system-wide benefits to the greater Idaho Power grid, including all of the Company's Oregon customers. Through the proposed B2H plan of service, the Project will reduce the Company's total grid (both Oregon and Idaho) LOLE and the risk of resource insufficiency. A resource insufficiency occurs when there is a lack of resources necessary for the Company to serve all its customers in its Balancing Authority Area. In such a situation, as could be the circumstances without B2H, the Company would need to implement rotating outages across its service territory, including Eastern Oregon.

Q. Has Idaho Power ever had to rotate outages due to a resource insufficiency?

A. Yes, although it was nearly 20 years ago. During the summer of 2004, the Company experienced outages on two separate major transmission lines between the Idaho Power system and the Pacific Northwest. The outages were caused by disparate issues. The Company was importing power from the Pacific Northwest during peak summer conditions, and the unplanned outages resulted in Idaho Power having insufficient resources to meet its needs. The Company rotated outages across its service territory. A line equivalent to B2H would have prevented this event. Idaho Power, in fact, has experienced major unplanned transmission and resource outages over the years. The most challenging outages to recover from are transmission outages because those

[28] Idaho Power's Petition for CPCN, Attachment 15 (B2H Phase 2 Study Report – WECC Rating Process) at 10.

outages impact the foundation of the grid, and the ability to accept or provide assistance to neighbors.

Q. Staff witness Mr. Rashid contends the local energy producers in Eastern Oregon will not benefit from B2H because the line is designed to transfer electricity between two substations that lie outside Idaho Power's Oregon service territory.[29] Does the Project need to directly connect into an Oregon substation to provide reliability benefits to eastern Oregon?

A. No. Likening the Project to an "expressway through an area with no on or off ramps"[30] is an unfortunate and common misperception with transmission. Maintaining the analogy, consider a scenario in which a small highway runs from Point A to B to C, and then an expressway is built from Point A directly to Point C; Point B will still see reliability benefits. Perhaps the small highway from Point A to Point B closes due to mudslides – if the expressway is in place, a person still has a route from Point A to Point B, it is just a longer route.

B2H is similar. A great deal of power is transmitted from the Pacific Northwest, equivalent to Point A in my example, to the Idaho Power system, or Point C. If a line goes out of service, let's assume McNary (Point A) to Pendleton (Roundup substation – Point B) for example, this outage reduces the amount of power that can be transmitted between the Pacific Northwest and Idaho Power. Additionally, the town of Pendleton, which was being served from the Pacific Northwest (Point A to Point B), now must try to gain delivery of the power it needs through a more constrained Point A to Point C path to bring it back to Point B. In addition to being a cost-effective resource for Idaho Power, B2H reinforces and adds capacity to the Pacific Northwest to Idaho Power path – providing a benefit to

[29] Staff/500, Rashid/5-6.
[30] Staff/500, Rashid/6.

Pendleton – plus the Project will transverse much of Eastern Oregon, and there is no reason why a future "offramp" couldn't be installed if needed.

Q. Do you believe it is appropriate to evaluate the reliability benefits specific to only Eastern Oregon as Staff suggests?[31]

A. No. The best approach to considering reliability is to look at the LOLE benefits and consider that all customers share in loss-of-load risk. The Project is a major 500-kV transmission line. Major transmission lines are built for the bulk-grid to provide system-wide benefits, so isolating those benefits to a specific location such as Eastern Oregon, as Staff suggests, is not appropriate. The Pendleton example discussed earlier, however, is a good example of a local benefit that B2H will enable. This same benefit would apply to La Grande as well.

Q. Staff witness Mr. Rashid suggests more substations along the B2H route need to be added to enable potential energy producers to interconnect.[32] Can Oregon energy producers connect to B2H absent additional substations added now?

A. Yes. The process for generators to interconnect to any transmission facility is a tariff-based offering the Company is required by the Federal Energy Regulatory Commission ("FERC") to provide under its OATT. FERC requires all transmission to be open access, therefore B2H is available for any Oregon resource to interconnect. To the extent a substation in Oregon would help facilitate new Oregon resource interconnections, the Project includes a plan to build the Midline Series Capacitor station, likely located between La Grande and Durkee, which could potentially be expanded to accommodate an

[31] Staff/500, Rashid/5-6.
[32] Staff/500, Rashid/6.

interconnection.[33] As Staff indicates, interconnecting to a 500-kV line may be fairly high-cost,[34] but there are options for generators to interconnect.

II. RESPONSE TO REBUTTAL TESTIMONY OF STOP B2H

Q. STOP B2H raises a number of concerns regarding the modeling of the Project in the 2021 IRP, including lack of transparency of Idaho Power's assessment of Gateway West and its costs as an alternative to B2H.[35] Were both the B2H and Gateway West projects modeled in the 2021 IRP?

A. Yes, however the two projects offer very different potential solutions to meeting Idaho Power's resource needs. B2H will act as a standalone resource by providing Idaho Power additional access to the Mid-C market hub.[36] Gateway West would not serve as a standalone resource, but rather enable new resources to be integrated onto the Company's system by relieving transmission constraints to the east of the Treasure Valley where these new resources would be located.[37] Therefore, directly comparing the standalone cost of Gateway West to the standalone cost of B2H does not provide a valid comparison of expected costs to meet future resource needs. A valid comparison would be the full portfolio analysis the Company performed in its 2021 IRP, which clearly demonstrated that the Preferred Portfolio, the Base with B2H portfolio, outperformed portfolios that did not include B2H but did include the construction of Gateway West to facilitate the addition of new resources east of the Treasure Valley load center.[38]

Q. Was Gateway West selected as part of the 2021 IRP Preferred Portfolio?

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[33] *In re Idaho Power Company, 2021 IRP*, Docket LC 78, IRP Appendix D at 9 (Feb. 2022) (available at https://edocs.puc.state.or.us/efdocs/HAQ/lc78haq15183.pdf) (last visited Apr. 7, 2023).

[34] Staff/500, Rashid/6.

[35] Stop B2H Coalition's Rebuttal Testimony and Exhibits of Jim Kreider (STOP B2H/200, Kreider/5) (Mar. 20, 2023).

[36] 2021 IRP, Appendix D at 40.

[37] 2021 IRP at 86.

[38] 2021 IRP at 87.

A. No. Gateway West will likely serve as a valuable addition in the future, but portfolios including only Gateway West, and exclusive of B2H, were lower-performing. While the ability of Gateway West to facilitate the addition of resources east of the Treasure Valley was evaluated in the 2021 IRP, ultimately the least-cost, least-risk portfolio did not include this project. The 2021 IRP Preferred Portfolio includes 700 MW of new wind resources and 1,405 MW of new solar resources that are assumed to be added on Idaho Power's transmission system east of the Treasure Valley,[39] as well as standalone battery resources assumed to be sited near the Treasure Valley load center, or collocated with the new wind and solar resources. However, the addition of these resources in combination with the net approximate 400 MW of capacity gained by two internal east-to-west system upgrades associated with B2H and the exits of the North Valmy power plant and the Jim Bridger power plant ("Bridger") did not require a Gateway West segment.

Q. Were the costs associated with the two internal east-to-west system upgrades modeled as part of the B2H project costs?

A. Yes. The costs associated with the Midpoint – Kinport 345-kV series capacitor addition ("Kinport Series Capacitor") and the Midpoint 500/345-kV second transformer addition ("Midpoint Transformer") were modeled as part of the B2H project costs.[40] However, because Idaho Power anticipates investing in both the Kinport Series Capacitor and the Midpoint Transformer independent of the B2H project, the Company treated the cost and capacity of the two projects differently in portfolios inclusive of B2H, compared to portfolios exclusive of B2H. In B2H-inclusive portfolios, Idaho Power plans to include these assets as part of a larger asset exchange arrangement with PacifiCorp.[41] In portfolios exclusive of B2H, the Company would not transact on an asset exchange with PacifiCorp, and

[39] 2021 IRP at 192.
[40] 2021 IRP, Appendix D at 40.
[41] 2021 IRP, Appendix D at 8.

therefore assumed that Idaho Power and PacifiCorp would both participate in the upgrades, per the parties' current Joint Ownership and Operating Agreement, at their respective ownership shares.[42] Thus, STOP B2H's suggestion that the costs of the Kinport Series Capacitor and the Midpoint Transformer included in the modeling of the 2021 IRP varied is accurate.[43] Their assertion about the uncertainty regarding the total cost,[44] however, is not accurate.

Q. What were the total costs of the Midpoint Transformer and Kinport Series Capacitor projects under the two scenarios, inclusive of B2H and exclusive of B2H?

A. The following table presents the total cost of the Midpoint Transformer and Kinport Series Capacitor projects depending on whether the portfolio includes B2H or excludes B2H, as identified in Table 3 of Idaho Power/500, Ellsworth 24-25:

Project Description	Total Cost	Levelized Cost	In-Service Year	Updated Portfolio NPV Cost	2021 IRP Portfolio NPV Cost
Midpoint Transformer & Kinport Series Capacitor	$47M	$3.8M	2026 (Preferred Portfolio)	$25.8M	$25.8M
Midpoint Transformer & Kinport Series Capacitor (No PacifiCorp exchange)	$16.2M	$1.3M	2027 (Non-B2H Portfolio)	$8.2M	$8.2M

The first row presents the upgrade costs included in the Preferred Portfolio, or inclusive of B2H, $47 million. The second row presents the upgrade costs under the least cost non-B2H portfolio, $16.2 million. While the Company's share of the costs of the transmission upgrades varies under the two scenarios, there is no uncertainty surrounding the total cost of upgrades. In fact, Idaho Power took a conservative approach and assumed funding at 100 percent of the costs when modeling B2H-inclusive portfolios as part of the 2021 IRP

[42] 2021 IRP, Appendix D at 9.
[43] STOP B2H/200, Kreider/8.
[44] STOP B2H/200, Kreider/ 8.

even though the Company does not anticipate funding 100 percent of the costs of the Midpoint Transformer and Kinport Series Capacitor projects.[45]

Q. STOP B2H claims the Gateway West project "is the lowest cost of the major transmission components out performing the" Project.[46] Is the Gateway West project a lower cost resource addition as compared to B2H?

A. No. STOP B2H's conclusion is based on a comparison of the levelized cost and portfolio net present value ("NPV") costs of the major transmission components modeled as part of the 2021 IRP, and the updated values presented in Idaho Power/500, Ellsworth/24-25. The intent of the major transmission components costs presented in Table 3 of my Reply Testimony is to show that, while B2H project costs increased, the other transmission project costs have increased as well. Because transmission costs modeled in the 2021 IRP are a bolt-on portfolio cost, Idaho Power can factor in the cost increase by removing the prior transmission cost estimates and layering the new estimates to identify the impact on the NPV portfolio costs. While the total cost of the Gateway West project is lower cost than B2H, STOP B2H fails to recognize the Gateway West project was not selected as part of the 2021 IRP Preferred Portfolio and therefore was not identified as a component of the most cost-effective and least risk portfolio. As stated previously, comparing the standalone cost of B2H to the standalone cost of Gateway West is incomplete, as Gateway West would facilitate the addition of new resources rather than serve as a standalone resource. Table 3 on Idaho Power/500, Ellsworth/24-25 is not reflective of *total* portfolio costs, rather that table reflects the portion of the total portfolio costs attributable to the major transmission components that are identified.

Q. According to STOP B2H, Idaho Power performed a branching evaluation as part of the 2021 IRP that included the "PacifiCorp Bridger Alignment," but detailed

[45] 2021 IRP, Appendix D at 9.
[46] STOP B2H/200, Kreider/9.

information on that component of the analysis was hard to find.[47] What was the purpose of the branching evaluation?

A. Idaho Power performed the branching scenario analysis to ensure the six portfolios selected as part of the LTCE modeling in the 2021 IRP reasonably identified an optimal solution specific to its own customers, given multiple B2H and Gateway West transmission configurations.[48] The LTCE process identifies portfolios with a combination of resources that will cost-effectively supply electricity to customers over the 20-year planning period, including the evaluation of two scenarios that align Bridger unit operations with PacifiCorp.

Q. What assumptions are included in the PacifiCorp Bridger Alignment portfolio?

A. The PacifiCorp Bridger Alignment portfolio includes those assumptions for which PacifiCorp is currently operating Bridger, as STOP B2H has presumed,[49] including the conversion of Units 1 and 2 to gas and coal-fired operations of Units 3 and 4 until 2034. The portfolio details may be found on Page 71 of the 2021 IRP Technical Appendix.[50]

Q. How does the PacifiCorp Bridger Alignment scenario differ from the 2021 IRP Preferred Portfolio, or the Base with the B2H project scenario, with respect to the Bridger units?

A. The Base with the B2H project scenario assumes the same Unit 1 and Unit 2 gas conversion but includes earlier exits of coal-fired operations of Units 3 and 4, 2025 and 2028, respectively. The components of the various IRP portfolios are detailed in the 2021 IRP Technical Appendix starting on Page 66.

Q. STOP B2H indicates the cost information associated with the PacifiCorp Bridger

[47] STOP B2H/200, Kreider/9-10.
[48] 2021 IRP at 119.
[49] STOP B2H/200, Kreider/10.
[50] 2021 IRP, Appendix C (Dec. 2021) (available at https://docs.idahopower.com/pdfs/AboutUs/PlanningforFuture/irp/2021/2021_IRP_AppC_Technical%20Report_WEB.pdf) (last visited Apr. 7, 2023).

Alignment scenarios cannot be found.[51] Was the cost information included in the 2021 IRP?

A. Yes. However, the PacifiCorp Bridger Alignment assumption was just one component of the two PacifiCorp Bridger Alignment portfolios that were fully optimized through the AURORA LTCE modeling process. For comparison purposes, total portfolio costs must be evaluated to ensure the impact of the combination of all resources that were cost-effectively selected in the portfolio are analyzed. The portfolio costs are detailed in Chapter 10 of the 2021 IRP,[52] with Table 10.3 summarizing the NPV of the total portfolio cost of the six scenarios under the varying AURORA hourly simulations.[53]

Q. STOP B2H makes some additional assertions regarding the need for B2H in 2026 and its reliance on the Mid-C market.[54] Is B2H needed by 2026?

A. Yes. STOP B2H's conclusion that there is no urgency for the Project is based on their assertion that Idaho Power performed "a paper exercise" relating to changes in its reserve margins between the 2019 IRP and the 2021 IRP.[55] STOP B2H's assertion lacks basis. Recall, the 2021 IRP was presented by the Company in Docket LC 78, defended through multiple rounds of comments, including multiple public meetings, and was acknowledged by the Commission in Order No. 23-004. The IRP process is always forward looking, and constantly incorporating new information. Since filing and acknowledgement of the 2021 IRP, Idaho Power's needs have only continued to grow. One of the major drivers for this is major industrial customers siting in the Company's service area. The difference in forecast demand between 2025 and 2026, as presented in the 2021 IRP, was 112 MW.[56]

[51] STOP B2H/200, Kreider/10.
[52] 2021 IRP at 129-150.
[53] 2021 IRP at 130. The results presented in Table 10.3 of the 2021 IRP were also included as Table 1 of Idaho Power/100, Ellsworth/26.
[54] STOP B2H/200, Kreider/13-14.
[55] STOP B2H/200, Kreider/31 n.54.
[56] 2021 IRP at 142 (comparing July 2025 to July 2026 including the planning reserve margin).

Currently, Idaho Power is well into the development of its 2023 IRP, and the difference in forecast demand for the same period between 2025 and 2026 has grown to over 250 MW.

Q. How do you respond to STOP B2H's statement that the Company will be able to provide "ample electricity to its customers and the grid will not collapse" without B2H?[57]

A. I agree the grid will not collapse but disagree that there is ample electricity. As STOP B2H is aware through attendance in the Company's IRP Advisory Council meetings, the Company requires incremental resources to meet the previously discussed incremental demand. B2H is the least-cost, least-risk resource, and to the extent it is delayed the Company must acquire an alternative resource to meet customer needs. Idaho Power's drive to move forward is based on its reliability mandate and the Company's desire to meet customers' future needs with a least-cost, least-risk portfolio. With a 2026 in-service date for the Project, the additional access to both the Pacific Northwest market via B2H and the Desert Southwest market via the asset exchange with PacifiCorp will address multiple winter needs in that year, which have been identified as a result of the previously discussed large industrial loads. Further, B2H is necessary for both cost and reliability reasons for the Bonneville Power Administration and PacifiCorp as well, as evidenced by the $720 million and $1,713 million in benefits the Project will provide, respectively.[58] It is for these reasons, coupled with the processing time necessary in this docket, that Idaho Power must be "relentless with their pressure" for a 2026 in-service date, as suggested by STOP B2H.[59] STOP B2H's suggestion that the Company has self-created a smokescreen,[60] however, is false.

[57] STOP B2H/200, Kreider/31.
[58] Idaho Power/502, Ellsworth/13 (Updated BPA Letter to the Region re: B2H and Southeast Idaho Load Service); PacifiCorp's Reply Testimony and Exhibits of Rick T. Link (PAC/200, Link/32) (Mar. 20, 2023).
[59] STOP B2H/200, Kreider/30.
[60] STOP B2H/200, Kreider/31.

Q. Will B2H "drain the Mid-C's resources during a resource inadequacy" as STOP B2H claims?[61]

A. No. STOP B2H implies that putting a big pipe, or B2H, into the Mid-C market will allow the Company to pull resources out of the Mid-C region purely at the discretion of Idaho Power. This is a misconception. For Idaho Power to acquire any energy from the Mid-C, there must be a willing seller of energy.

The Mid-C is a market hub. The area around the Mid-C region is made up of multiple Balancing Authorities ("BA"), including utilities serving load and merchant power providers. Additionally, as a major market hub, entities not physically located at the Mid-C will both buy and sell energy at the hub as well. Idaho Power is also an independent BA. For reliability purposes, all BAs are responsible for balancing load and resources and meeting their real-time needs in compliance with numerous North American Electric Reliability Corporation standards. If a BA has insufficient resources, it must take action to balance the area over which it has responsibility (e.g. acquire more resources, reduce load, etc). The BA has a number of options, depending on the situation. But importantly, an insufficient BA has to take action, and operational standards are established to ensure an insufficient BA does not impact the broad interconnection (i.e., other BAs). Therefore, stating that Idaho Power will drain the Mid-C, thereby causing resource adequacy issues, is false. The Company will only acquire energy from willing sellers, and the Company, just like all other BAs, has a responsibility to meet its own obligations.

The Mid-C market has been proven to be an adequate source for meeting the Company's needs – Idaho Power's IRP is focused on opportunities to purchase power in the summer around its peak load timeframe in late-June / early-July,[62] and the Mid-C market has surplus energy at that time. The highest risk of resource inadequacy for entities

[61] STOP B2H/200, Kreider/16.
[62] 2021 IRP at 146.

around the Mid-C region continues to be in the winter.

III. RESPONSE TO REBUTTAL TESTIMONY OF PACIFICORP

Q. In their Rebuttal Testimony, PacifiCorp describes key changes that have occurred since the 2021 IRP which increase the net benefit associated with B2H, including the proposed EPA Ozone Transport Rule.[63] Did Idaho Power evaluate EPA's proposed rule and any resulting Idaho Power-specific benefits of B2H?

A. No. On April 6, 2022, the EPA issued a proposed rule under the Clean Air Act called the Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 National Ambient Air Quality Standards, or Good Neighbor Plan ("Ozone Transport Rule"). The Company evaluated potential impacts of the proposed rule to Bridger and Valmy, and Idaho Power submitted comments to the EPA regarding the proposed rule in June 2022. The final rule, released on March 15, 2023, which restricts nitrous oxide ("NOx") emissions ,includes the state of Nevada (Valmy), but does not include Wyoming (Bridger), which will be addressed at a later date. The Company did not incorporate specific economic implications from the Ozone Transport Rule into the 2021 IRP analysis because the Ozone Transport Rule had not yet been proposed at the time the 2021 IRP was developed. Idaho Power did, however, assess a range of potential carbon dioxide cost forecasts in the 2021 IRP, providing a robust analysis of the Project under various emission policy scenarios.[64] The Company will continue to assess the potential impacts of the recently issued Ozone Transport Rule as part of the 2023 IRP.

[63] PAC/200, Link/3.
[64] 2021 IRP at 126-127.

IV. CONCLUSION

Q. Please provide a summary of your testimony.

A. In this docket, intervenors have raised concerns regarding the analysis of B2H, its need for reliability as well as potential alternatives to the Project. B2H is a future transmission addition that has been evaluated in each of Idaho Power's IRPs since 2009 and has proven to be a cost-effective resource, providing increased access to reliable, low-cost market energy purchases from the Pacific Northwest year-round, including energy when demand from the Company's customers is at its highest. In addition, the Project has consistently been identified as a transmission project that cost-effectively and efficiently meets the needs of the region through the regional transmission planning process. Both processes include extensive engineering analyses that indicate B2H is necessary to maintain electric service reliability to Idaho Power's customers. As a major 500-kV transmission line, the Project will be built for the bulk-grid to provide system-wide benefits, while also providing local benefits as well. The Company continues to experience continued growth in forecast demand, requiring incremental resources to meet that increased demand. A delay in B2H would require Idaho Power to acquire alternative, more costly resources to meet customer needs.

Q. Does this conclude your testimony?

A. Yes, it does.