BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER COMPANY'S APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO ACQUIRE RESOURCES TO BE ONLINE BY 2023 TO SECURE ADEQUATE AND RELIABLE SERVICE TO ITS CUSTOMERS.	)	CASE NO. IPC-E-22-13

IDAHO POWER COMPANY

DIRECT TESTIMONY

OF

JARED L. ELLSWORTH

Q. Please state your name, business address, and present position with Idaho Power Company ("Idaho Power" or "Company").

A. My name is Jared L. Ellsworth and my business address is 1221 West Idaho Street, Boise, Idaho 83702. I am employed by Idaho Power as the Transmission, Distribution & Resource Planning Director for the Planning, Engineering & Construction Department.

Q. Please describe your educational background.

A. I graduated in 2004 and 2010 from the University of Idaho in Moscow, Idaho, receiving a Bachelor of Science Degree and Master of Engineering Degree in Electrical Engineering, respectively. I am a licensed professional engineer in the State of Idaho.

Q. Please describe your work experience with Idaho Power.

A. In 2004, I was hired as a Distribution Planning engineer in the Company's Delivery Planning department. In 2007, I moved into the System Planning department, where my principal responsibilities included planning for bulk high-voltage transmission and substation projects, generation interconnection projects, and North American Electric Reliability Corporation's ("NERC") reliability compliance standards. I transitioned into the Transmission Policy & Development group with a similar

role, and in 2013, I spent a year cross-training with the Company's Load Serving Operations group. In 2014, I was promoted to Engineering Leader of the Transmission Policy & Development department and assumed leadership of the System Planning group in 2018. In early 2020, I was promoted into my current role as the Transmission, Distribution and Resource Planning Director. I am currently responsible for the planning of the Company's wires and resources to continue to provide customers with cost-effective and reliable electrical service.

Q. What is the purpose of your testimony in this case?

A. The purpose of my testimony is to present the load and resource balance utilized in the Integrated Resource Plan ("IRP") development and the identification of Idaho Power's 2023 capacity deficit. I will describe the evaluation of potential solutions for meeting the capacity deficiency. Finally, I will provide support for the acquisition of new resources to address identified near-term peak capacity needs.

I. BACKGROUND

Q. What is the goal of the IRP?

A. The goal of the IRP is to ensure: (1) Idaho Power's system has sufficient resources to reliably serve customer demand and flexible capacity needs over a 20-year

planning period, (2) the selected resource portfolio balances cost, risk, and environmental concerns, (3) balanced treatment is given to both supply-side resources and demand-side measures, and (4) the public is involved in the planning process in a meaningful way. Historically, the Company developed resource portfolios to eliminate resource deficiencies identified in a 20-year load and resource balance.

Q. Please explain the "load and resource balance."

A. The load and resource balance is the Company's tabulated plan that identifies resource deficiencies during the 20-year IRP planning horizon. It incorporates the expected availability of Idaho Power's existing resources, comparing the total output to the Company's forecasted load, and illustrates the resulting surplus or deficit by month. This will identify the Company's first resource need date, or the point at which Idaho Power's reliability requirements may not be met. The availability of existing resources, including Public Utility Regulatory Policies Act ("PURPA") projects, power purchase agreements, hydro, coal, gas, demand response, and market purchases, is determined using a number of factors such as expected stream flows, plant run times, forced outages, and transmission availability, among other considerations.

Q. What is the purpose of the load and resource balance?

A. The load and resource balance helps ensure Idaho Power has sufficient resources to meet projected customer demand plus a margin to account for extreme conditions, reserves, and resource outages. It is critical when comparing future resource portfolios that each plan achieve at least a base reliability threshold.

Q. Have previous load and resource balance results indicated Idaho Power will be resource sufficient in the near-term?

A. Yes. The Company has been generally resource-sufficient since the addition of the Langley Gulch natural-gas fired power plant almost a decade ago. The load and resource balance from the Second Amended 2019 IRP did not show a capacity deficiency occurring until the summer of 2028. However, Idaho Power has rapidly moved from an expected resource-sufficient position through 2028, to a near-term capacity deficiency starting in 2023, resulting in the need to rapidly acquire resources as discussed in the Company's request in this case.

II. LOAD AND RESOURECE BALANCE MODIFICATIONS

Q. When did Idaho Power identify that there was a resource deficiency starting in 2023?

A. The Company first identified a 2023 resource deficiency in the spring of 2021 while refreshing the load and resource balance during development of a Valmy Unit 2 exit analysis, as directed by the Commission in Order No. 34349, Idaho Power's request to update rates to reflect the accelerated depreciation associated with an early exit from coal-fired operations at Valmy, Case No. IPC-E-19-08.

The Company filed this request on June 27, 2019; however, during processing of the case, Idaho Power determined that further review of the 2019 IRP modeling, which was used to develop the Valmy Unit 2 exit analysis, was necessary and the case schedule was suspended while the review was performed. The Company completed its review of the 2019 IRP modeling and filed its Second Amended 2019 IRP in October 2020. Following the filing of the Second Amended 2019 IRP, in the first quarter of 2021, Idaho Power began preparing the required Valmy Unit 2 exit analysis, which included an evaluation of system reliability. This analysis was performed simultaneously with preparation of the 2021 IRP, and the refreshed load and resource balance was further refined through the remainder of the development of the 2021 IRP.

Q. Did Idaho Power make any adjustments to the load and resource balance used in the Second Amended 2019

IRP as a result of the review performed as part of the Valmy Unit 2 exit analysis?

A. Yes. The load and resource balance was updated to include modifications to existing resource availability, as is standard when developing the load and resource balance as part of the IRP process.

Q. Please describe the modifications to the existing resource availability.

A. First, the Company identified changes to its market purchase assumptions. Additionally, the existing resource availability was revised to include updated thermal capacity and reduced demand response capacity determined through the refinement of its reliability evaluation. The net change between the Second Amended 2019 IRP and the updated load and resource balance used for the Valmy Unit 2 exit analysis was a reduction of approximately 480 MW - 500 MW in available capacity each July during the 2022 through 2025 time period.

Market Purchase Assumptions

Q. What market purchase assumptions were used to develop the load and resource balance used for the Second Amended 2019 IRP?

A. To explain the market purchase assumptions, it is necessary to first describe the regional transmission market in general. Transmission lines connect Idaho Power

to wholesale energy markets and help economically and reliably mitigate variability of intermittent resources through the transfer of electricity between utilities, not only to serve load, but also to share operating reserves. The Company experiences its peak load at different times of the year compared to most Pacific Northwest utilities. As a result, Idaho Power can purchase energy from Mid-C during its peak and sell excess energy to the Pacific Northwest utilities during their peak. Although energy is plentiful at the Mid-C market, imports from Mid-C are frequently limited by transmission availability. The proposed Boardman to Hemingway ("B2H") project would greatly increase this transmission capacity, but the Company does not anticipate the B2H project being in-service earlier than 2026.

Q. What transmission paths are available to Idaho Power to bring in energy?

A. The Company typically imports energy from Mid-C during the summer months from the west on the Idaho to Northwest transmission path. A portion of this transmission capacity is reserved by BPA to serve its southern Idaho customers. Energy can be brought in from Mid-C via Montana on the Idaho to Montana path as well, which consists of two lines connecting Montana to the Northeast of the Company's system. South of Idaho are the

Mead, Palo Verde, and Four Corners market hubs, collectively referred to as the Southern Hubs.

Q. Does Idaho Power purchase energy from the Southern Hubs?

A. Yes, but less frequently since the southern utilities are also summer peaking. Simultaneous demand increases in the intermountain region can create unfavorable pricing. In addition, a purchase from the Southern Hubs will often require multiple transmission wheels that can be difficult to obtain due to transmission availability constraints. The Idaho to Sierra path, the path that energy from the Valmy 345 kV line connects to, and the Idaho to Utah path, which has more line interconnections, also run to the south of Idaho Power's transmission system. However, currently there is no firm transmission capacity available across NV Energy's transmission system, and other than an existing 50 MW Idaho Power reservation across the PacifiCorp East system, there is limited availability through Utah.

Q. Were market purchase assumptions updated during the development of the Valmy study load and resource balance compared to the market purchase assumptions used in the Second Amended 2019 IRP?

A. Yes. Market conditions changed dramatically in the south due to ripple effects from the energy

emergency event in California in August 2020 ("August 2020 event"), requiring an update to the market purchase assumptions used for the load and resource balance in the Second Amended 2019 IRP.

Q. What happened during the August 2020 event?

A. During August 2020, the west experienced a heat wave, increasing the demand for energy and causing several balancing authorities across the Western Interconnection to declare energy emergencies. Generation was not able to meet demand in California and transmission capacity was strained, limiting California's ability to import energy. As a result, the California Independent System Operator was required to curtail customer demand to maintain reliability and the security of the bulk power system.

Understanding the importance of transmission availability during times of high electricity demand, entities began reserving transmission capacity across the west, including just outside the Company's border, significantly limiting Idaho Power's access to market hubs. Idaho Power's own transmission service queue was flooded with multi-year requests with third-party marketing firms looking to move energy from Mid-C across Idaho Power's transmission system to the south. The transmission service

requests have added to an already constrained transmission market limiting the Company's access to Mid-C.

Q. What market purchase assumptions used in the load and resource balance for the Second Amended 2019 IRP did the Company update in the load and resource balance used for the Valmy Unit 2 exit analysis?

A. A key assumption used to develop the load and resource balance for the Second Amended 2019 IRP was that Idaho Power's exit from coal-fired operations at Valmy would free up transmission capacity for imports to Idaho from the Southern Hubs. To reflect the recent market changes, the Company eliminated this key assumption, and assumed Idaho Power could only rely on access to the Southern Hubs to provide 50 MW of capacity in the summer months.

Q. Did Idaho Power test the possibility of a market import to help meet reliability requirements?

A. Yes. The Company issued an RFP on April 26, 2021, for the delivery to Idaho of firm capacity and energy during the summer months through 2025 to help determine whether transmission availability exists to import from the market to maintain reliability and at a price that is economical. However, Idaho Power received no bids, indicative of evolving market conditions.

Q. What was the net reduction in transmission capacity availability incorporated into the updated load and resource balance for the analysis review period?

A. For the years 2022 through 2025, Idaho Power reduced the transmission availability within the load and resource balance by approximately 140 MW to 277 MW during the peak load month of July.

Planning Margin Assumptions

Q. What is Idaho Power's planning margin?

A. The Company's planning margin is intended to provide a sufficient generation resource reliability margin to prevent the need to curtail customer demand. The planning margin is intended to cover (1) Idaho Power's contingency reserve obligation, (2) severe weather events, both extreme heat and extreme cold, (3) poor water conditions, and (4) planned and unplanned resource and transmission outages.

Q. How did the Company compute the planning margin in the Second Amended 2019 IRP?

A. In the Second Amended 2019 IRP, Idaho Power established a 15 percent planning margin. Planning margin was calculated as 15 percent of the Company's average (50^{th} percentile) peak demand forecast for each month. For example, if Idaho Power had a peak-hour-load of 3,500 MW,

the Company would add the planning margin and target 4,025 MW of resource capacity (3,500 multiplied by 1.15).

Q. Did Idaho Power consider any enhancements to the planning margin utilized in the Second Amended 2019 IRP to meet reliability requirements as part of the Valmy Unit 2 exit analysis?

A. Yes. Following the development of the Second Amended 2019 IRP, the Company looked to refine its planning margin to ensure consideration of issues specific to Idaho Power's system. A simple 15 percent planning margin was utilized in the Second Amended 2019 IRP. Individual utilities experience varying frequencies of demand extremes, forced outage rates among resources, and resource size compared to load size, all of which should be considered when determining the planning margin. Rather than continue to utilize the 15 percent planning margin, the Company used more sophisticated probabilistic methods in the Valmy Unit 2 exit analysis to determine system needs to ensure reliability for all hours of the day on the Company's system, referred to as the Loss of Load Expectation ("LOLE") method.

Q. What is the LOLE approach for determining the planning margin to meet reliability requirements?

A. The LOLE approach allows for a comparison of load to generation on an hourly basis over a specified

period. 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 an LOLE of 0.1 days per year[1]. The Company used a 0.1 days per year LOLE in the Valmy Study. 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 per 20 years, or an LOLE of 0.05 days per year. An LOLE of 0.05 days per year yields a planning margin of approximately 15.5 percent. Idaho Power believes the LOLE method's hourly approach fully considers the reliability value of renewable resources over time compared to the previous method.

Q. Aside from taking a more granular hourly approach, are there other components of the LOLE method that impacted the Company's determination of resource needs?

A. Yes. The LOLE method also evaluates the ability of existing resources to meet peak demand through the determination of Effective Load Carrying Capability ("ELCC").

[1] The Southwest Power Pool, PJM Interconnection, and the Midcontinent Independent System Operator are among those that use this probabilistic approach.

Q. Did the use of the ELCC result in any changes to the peak-serving capability of Idaho Power's existing resources?

A. Yes. When analyzing Idaho Power's system on an hour-by-hour basis, the results indicated the ability of its existing demand response programs to meet peak load under the changing dynamics of Idaho Power's system was significantly lower than previously assumed. This is primarily the result of increased solar resources on the Company's system pushing net peak load hours outside the longstanding demand response program dispatch window of 1 PM to 9 PM.

Q. Did the Company use the LOLE approach when determining reliability requirements for the 2021 IRP?

A. Yes, the LOLE approach was also used for meeting reliability requirements over the 20-year planning horizon in development of the 2021 IRP. For purposes of the Valmy Unit 2 exit analysis, Idaho Power performed the LOLE analysis for the years 2023 and 2025.

Q. What capacity deficit was identified as a result of the LOLE study performed for 2023?

A. Utilizing the new ELCC values and the updated transmission assumptions, the load and resource balance showed a deficit of 381 MW in July 2023 assuming the early exit of Valmy Unit 2 and one unit at the Jim Bridger Power

Plant ("Bridger") at year-end 2022, and the addition of Jackpot Solar in 2023.

Other Assumptions

Q. Were any additional assumptions modified as part of the development of the load and resource balance for the Valmy Unit 2 exit analysis?

A. Yes. The peak load forecast was updated with the latest expectations for 2023 through 2025. Although relatively immaterial, the 2023 through 2025 peak load expectations were approximately 8 MW greater than anticipated in prior years for a total capacity deficit of 389 MW in July 2023.[2]

Q. Based on the results of load and resource balance due to the revised assumptions, what was Idaho Power's conclusion?

A. After refining the load and resource balance, it is clear that Idaho Power is unable to meet reliability requirements if participation in coal-fired operations of both Valmy Unit 2 and a Bridger unit cease in 2022 without an alternate source of peak capacity. The Company determined it needed to keep both Valmy Unit 2 and all Bridger units through 2023.

[2] Assuming the early exit of Valmy Unit 2 and one unit at Bridger at year-end 2022, and the addition of Jackpot Solar in 2023.

Q. What was the final capacity deficiency identified for 2023 as a result of the previously discussed analyses?

A. The load and resource balance utilized in the development of the Valmy Unit 2 exit analysis identified a 78 MW capacity deficit in 2023.

Q. Were any changes made to the load and resource balance used for the 2021 IRP process?

A. Yes. Subsequent to the completion of the Valmy Unit 2 exit analysis in May 2021, the Company continued to update its load and resource balance through the 2021 IRP, resulting in an increase to the expected 2023 capacity deficit from 78 MW to 101 MW. A number of factors drove this increase including, but not limited to: (1) greater load growth projections, (2) revisions to the aforementioned LOLE from 0.1 days per year to 0.05 days per year, (3) updates to expected capacity of the Company's demand response programs, (4) further refinement of the ELCC's of variable resources, and (5) limiting "market purchases" to only transmission secured across third-party transmission providers to a market hub, among other items.

III. MEETING THE CAPACITY DEFICIENCY

Q. Has the Company taken actions to acquire resources to meet the 2023 capacity deficit?

A. Yes. Under Idaho law, Idaho Power has an obligation to provide adequate, efficient, just, and reasonable service on a nondiscriminatory basis to all those that request it within its certificated service area.[3] In order to meet its obligations to reliably serve customer load, and given the extremely short turn-around to construct a resource to meet a summer 2023 deficit, particularly in the midst of supply chain disruption, ongoing COVID-19 impacts, and constraints in the industry and in ancillary industries, on June 30, 2021 the Company conducted a competitive solicitation through a Request for Proposals ("RFP") seeking to acquire up to 80 MW of peak capacity resources to meet the 2023 capacity deficit - seeking projects to be online by June of 2023.

Company witness Eric Hackett will discuss in greater detail the development of the RFP, the issuance of the RFP, and the evaluation of the RFP responses, as well as the investigation into potential Company-owned and constructed battery storage opportunities in his testimony.

Q. Did Idaho Power evaluate any alternative solutions for meeting the 2023 capacity deficiency to avoid building a new resource?

A. Yes. Idaho Power investigated several alternative options for meeting the identified capacity

[3] Idaho Code §§ 61-302, 61-315, 61-507.

deficits, including possible modifications to existing demand response programs, expansion of the existing pricing programs, and the potential for other short-term market solutions. None of those alternative options proved to be viable at this time.

Q. What was the result of Idaho Power's investigation into potential modifications to the existing demand response programs?

A. As I mentioned earlier, when analyzing Idaho Power's system on an hour-by-hour basis, the results indicated that under current program parameters, the ELCC of the existing 380 MW demand response portfolio is estimated to be approximately 17 percent. That is, of the total 380 MW demand response portfolio capacity, only 65 MW can be relied upon to meet the highest-risk Loss-of-Load Probability ("LOLP") hours, or the statistical likelihood of the system demand exceeding the available generating capacity during a given time period, typically an hour. The existing demand response programs, as structured, were not effective at meeting system needs over the planning horizon.

Q. Did the Company evaluate what modifications could be made to the demand response program parameters to more effectively meet future high-risk LOLP hours?

A. Yes. Idaho Power evaluated potential modifications to program parameters in an attempt to better align the resource with system needs. The Company conducted several sensitivity analyses to determine the parameter adjustments needed to more effectively meet the high-risk LOLP hours. The Company identified several program criteria, including events per week, events per season, time available, length of program season, and total hours dispatched per week, and then evaluated the impact to the ELCC of the demand response portfolio. The sensitivity analyses concluded that the dispatch times available and the length of the program season had the highest impact on the ELCC of demand response.

Q. Did Idaho Power file a request with the Commission to modify its demand response programs based on these evaluations?

A. Yes. On October 1, 2021, following completion of the evaluation, the Company filed a request in Case No. IPC-E-21-32 to modify several demand response programs to address the changes in system need and operations. On March 4, 2022, the Commission issued Order No. 35336, approving Idaho Power's proposed modifications to the demand response programs, and tariff revisions, to be effective prior to the 2022 demand response season that begins June 15, 2022.

Q. What resource potential does demand response provide?

A. As part of the rigorous examination of the potential for expanded demand response, the Company utilized a Northwest Power and Conservation Council ("NWPCC") assessment of demand response potential in the Northwest. Based on this assessment Idaho Power estimated 584 MW of demand response potential within the Company's service area. With the assumed reduction in participation beginning in 2022 as a result of the demand response program modifications approved with Order No. 35336, the 380 MW nameplate capacity was adjusted to 300 MW for 2022.

Q. What is the ELCC of the 300 MW demand response portfolio using the parameters with the modifications?

A. The Company estimates the approximate ELCC of a demand response portfolio with the modifications to be 58.5 percent, or approximately 176 MW, a 170 percent improvement in effectiveness from current program parameters. However, clarity on program subscription and the resulting ELCC will not occur until mid-May 2022 providing some uncertainty around contribution to peak load during the upcoming program seasons.

Q. How was demand response included in Idaho Power's 2021 IRP modeling?

A. The 2021 IRP modeling process included the total 584 MW of demand response potential, with an estimate of 300 MW of capacity from existing resources, and the 280 MW of additional demand response available for selection in the AURORA long-term capacity expansion modeling. This additional demand response capacity was divided into 20-MW bundles per year for selection by the model up to the threshold.

Q. Were any of these bundles selected in the Preferred Portfolio of the 2021 IRP as a solution for meeting the 2023 capacity deficit?

A. Yes. The 2021 IRP Preferred Portfolio included an additional 100 MW of demand response that comes in 20 MW bundles, in varying years: 20 MW in 2023, 20 MW in 2025, and the remaining 60 MW beyond 2037. However, it is important to note that Idaho Power first identified the 2023 capacity deficit of 78 MW in March 2021, when the 2021 IRP was still in development, prior to finalizing the demand response program evaluation and the filing with the Commission of proposed changes. Recognizing the urgency of the capacity deficit, the Company began work to develop and process an RFP for 2023 peak capacity resources while the 2021 IRP was in development. So, while the results of the 2021 IRP indicate 20 MW of demand response is a cost-effective resource addition in 2023, it is insufficient

without other resources to ensure Idaho Power can provide reliable and adequate electric service to customers.

Q. Did the evaluation of existing and potential pricing programs identify any potential resource solutions?

A. No. The NWPCC assessment of demand response also included the potential associated with pricing programs, notably time-of-use ("TOU") and critical peak pricing ("CPP"), for possible peak shifting. The Company currently has existing TOU offerings in both its Idaho and Oregon jurisdictions, with 1,000 customers enrolled in the Idaho offering and less than five customers enrolled in the Oregon pilot program. With the level of customer participation data, the sample used to develop a comprehensive and reliable assessment of residential peak shifting would be outside an acceptable margin of error tolerance limit at approximately +/- 60 percent. As such, circumstantial behavioral changes could misrepresent peak shifting impacts when expanded to the full residential customer class. Without comprehensive historical data from a larger sample population, Idaho Power believes it is premature to modify existing, or implement new pricing programs as a potential resource solution to the 2023 capacity deficiency.

Q. Will Idaho Power continue to evaluate the TOU program performance for possible peak shifting in the future?

A. Yes. The Company continues to assess the TOU programs and any potential modifications that could encourage customer participation. In addition, Idaho Power is actively evaluating the potential for a CPP offering. At the direction of the Public Utility Commission of Oregon, the Company will report the TOU pilot performance and potential changes to the offering as well as the potential for a CPP offering as part of its annual Distribution System Planning report, beginning in the summer 2022 report.

Q. What other potential short-term market solutions did the Company pursue?

A. During preparation of the Valmy Unit 2 exit analysis and identification of transmission constraints requiring changes to load and resource balance assumptions, the Company issued an RFP on April 26, 2021, for the delivery of firm capacity and energy during the summer months beginning 2023. The intent was to test the transmission deliverability and resource market availability of a replacement resource for Valmy Unit 2. Idaho Power received no bids, indicative of the evolving market conditions leading to the Company's reduced

transmission import assumption in the load and resource balance.

Q. Based on the lack of viable alternatives to meet the near-term capacity deficits identified by the IRP planning process, what actions has the Company taken to ensure continued, safe, and reliable operations?

A. As detailed in Company witness Mr. Hackett's testimony, the RFP process resulted in the selection of a 40 MW solar PV plus 40 MW energy storage project, consisting of a 20-year PPA associated with a 40 MW solar PV facility that supplies energy to the Company's system combined with an Idaho Power-owned 40 MW battery storage facility. In addition, the Company's parallel investigation into different configurations of grid-charged battery energy storage systems identified a second capacity resource: an Idaho Power-owned 80 MW battery storage facility. The combined 120 MW of battery storage will adequately address near-term capacity deficits and ensure the Company is able to provide safe, reliable service to its customers.

Q. Since the completion of the 2021 IRP, has the Company continued to monitor other factors that could influence the load and resource balance, and by extension, Idaho Power's resource need?

A. Yes. While the load and resource balance prepared for an IRP is the primary source of information used to inform resource procurement decisions, the Company also recognizes that during the near-term resource decision-making phase, the capacity deficit period can be very fluid. As a result, it is important that the IRP load and resource balance continue to be evaluated to also consider near-term known changes, operational enhancements, limitations, or constraints on the existing system, if any, to adequately inform resource needs today.

Q. As part of this near-term evaluation, did the Company identify any near-term known changes having the potential to impact the need for new resources?

A. Yes. First, Idaho Power's service area continues to experience very high load growth. Based on recent economic activity, the 2023 load forecast has increased by 33 MW, or 38 MW after applying the 15.5 percent planning margin, when compared to the load forecast used for the 2021 IRP. Also, in late 2021, an opportunity arose for the Company to purchase 76 MW of energy delivered to its border. On December 16, 2021, Idaho Power executed an agreement for the delivery of 76 MW to Idaho Power's border, for the months June through September 2022 through 2024, seven days a week during heavy load hours.

Q. Does this short-term market purchase of 76 MW have the potential to help address the deficit identified in 2023?

A. Yes. The 76 MW market purchase will reduce the projected capacity deficit identified in the load and resource balance for 2023. However, because the 76 MW purchase is for 2022 through 2024, this short-term purchase only has the effect of deferring, not eliminating, the growing resource need.

Q. Is Idaho Power aware of any factors that contribute to operational enhancements, limitations, or constraints on the Company's system that would impact the capacity deficit in 2023?

A. Yes. Idaho Power has identified some incremental resource opportunities and constraints. The Company plans to install a number of battery storage systems at various distribution substations as a cost-effective resource, allowing the deferral of transformer upgrades, and providing an additional 11 MW of four-hour duration storage capacity. In addition, the Company has identified cost-effective upgrades at two gas plants and expects to gain approximately 20 MW of capacity. Finally, a planned refurbishment of one hydro unit at the American Falls facility will reduce the overall resource availability by 30 MW during the summer of 2023. Similar

outages are planned at American Falls through the summer of 2025.

In addition to the known impacts to the 2023 capacity deficiency, there are three more factors that could potentially impact the continued safe, reliable operations of Idaho Power's existing resources during the summer of 2023. First, uncertainty exists around Bridger Unit 2 operations beginning May 2022 and Bridger Unit 1 operations beginning January 1, 2023, and their ability to help meet peak capacity needs until a resolution for meeting Regional Haze compliance has been achieved. The uncertainty at Bridger is further amplified by the Environmental Protection Agency's proposed expansion of its Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 National Ambient Air Quality Standards (CSAPR) to include the state of Wyoming, which will establish NOx emissions budgets requiring fossil fuel-fired power plants such as Bridger to participate in an allowance-based ozone season trading program beginning in 2023.

Second, one of the three Hells Canyon units, Unit 1 which has a name plate rating of approximately 150 MW, recently experienced an outage unexpectedly due to an internal fault and is now out of service indefinitely. The Company has been unable to inspect the outaged unit due to

maintenance work nearing completion on Unit 3. Internal faults often result in severe damage, and it is uncertain whether Idaho Power will have this unit back online by summer of 2023. Finally, those items, coupled with the lack of clarity around demand response program contribution to peak load discussed earlier in my testimony, contributes to a very fluid capacity deficit period.

Q. Based on your evaluation of the near-term factors having the potential to impact the load and resource balance, what is your estimate of the resulting surplus or deficit?

A. Given the various increments and decrements, including the 120 MW of battery storage, to the load and resource balance, the Company estimates that it will exceed the 0.05 LOLE threshold by approximately 30 MW in 2023, net of current, near-term factors. This slight capacity length will become a capacity deficit if aforementioned uncertainties around Bridger materialize, or Hells Canyon Unit 1 remains out of service. However, if a capacity length exists, Idaho Power will use the 30 MW to reduce power purchases.

Q. Do you believe there is sufficient support for the procurement of the combined 120 MW of battery storage resources?

A. Yes, I do. The 120 MW of battery storage was pursued and procured as a least cost/least risk method of meeting the 2023 capacity deficit identified in the Company's 2021 IRP. The fluidity of the load and resource balance, continued high load growth, and the risks associated with resource availability in the near-term further support this resource procurement.

Q. Will this resource procurement impact Idaho Power's need for additional resources in 2024?

A. The Company is currently evaluating its needs for 2024 based on the various near-term factors, including: (1) an additional year of load growth, (2) 72 MW of PURPA solar contracts for incremental resources in Oregon that have been executed, (3) the possible 30 MW of capacity length in 2023, (4) implications of the Western Resource Adequacy Program (WRAP), (5) greater certainty around demand response program potential in late-spring of 2022, and (6) evaluation of the resource need in 2025 and the potential of spreading the acquisition over multiple years. The Company will continue to monitor these near-term operational factors and their potential impact on Idaho Power's need for additional resources in 2024.

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IV. CONCLUSION

Q. Please summarize your testimony.

A. The load and resource balance was updated as part of the Valmy Unit 2 exit analysis and again as part of development of the 2021 IRP to include modifications to existing resource availability ultimately identifying a capacity need in 2023 of 101 MW. Idaho Power evaluated potential solutions for meeting the capacity deficiency that might avoid the need for a new supply-side resource, but did not ultimately identify any viable options. In the absence of such viable alternatives, the Company has executed an agreement to procure a combined 120 MW of battery storage resources to satisfy the identified capacity need. To further inform its near-term resource procurement decisions, the Company performed a supplemental evaluation of currently known operational enhancements, limitations, and constraints on the system that have the potential to impact resource needs. The results of those evaluations continue to support the near-term need for the acquisition of 120 MW of peak capacity resources.

Q. Does this complete your testimony?

A. Yes, it does.

DECLARATION OF JARED L. ELLSWORTH

I, Jared L. Ellsworth, declare under penalty of perjury under the laws of the state of Idaho:

1. My name is Jared L. Ellsworth. I am employed by Idaho Power Company as the Transmission, Distribution & Resource Planning Director for the Planning, Engineering & Construction Department.

2. On behalf of Idaho Power, I present this pre-filed direct testimony in this matter.

3. To the best of my knowledge, my pre-filed direct testimony is true and accurate.

I hereby declare that the above statement is true to the best of my knowledge and belief, and that I understand it is made for use as evidence before the Idaho Public Utilities Commission and is subject to penalty for perjury.

SIGNED this 29th day of April 2022, at Boise, Idaho.

Signed: