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March 11, 2014

Attention: Filing Center
Public Utility Commission of Oregon
3930 Fairview Industrial Drive SE
P.O. Box 1088
Salem, OR 97308-1088

Re: *In the Matter of IDAHO POWER COMPANY, 2013 Integrated Resource Plan*
OPUC Docket No.: LC 58
DOJ File No.: 860115-GB0194-14

Filing Center:

Enclosed for filing are an original and one copy of the PROPOSED ORDER in the above-captioned docket for filing with the Commission today.

Sincerely,

Stephanie S. Andrus
Senior Assistant Attorney General
Business Activities Section

Enclosures
SSA:jrs/#5065025
(Electronic copies only)
c: LC 58 service list

ORDER NO.

ENTERED

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
LC 58**

In the Matter of
IDAHO POWER COMPANY'S
2013 Integrated Resource Plan

PROPOSED ORDER

**DISPOSITION: PLAN ACKNOWLEDGED WITH ONE EXCEPTION;
ACTION PLAN ACKNOWLEDGED IN PART AND AS
REVISED**

I. INTRODUCTION

Idaho Power Company (Idaho Power or Company) is a public utility operating in Oregon and is subject to the Commission's jurisdiction and requirements regarding integrated resource planning. Public utilities are required to file an IRP every two years. An IRP must comply with the Commission's Guidelines, which among other things, require the utility to: (1) evaluate resources on a consistent and comparable basis; (2) consider risk and uncertainty; (3) aim to select a portfolio of resources with the best combination of expected costs and associated risks and uncertainties for the utility and its customers; and (4) create a plan that is consistent with the long-run public interest as expressed in Oregon and federal energy policies.¹

The Commission acknowledges resource plans that satisfy the Commission's procedural and substantive requirements and that are deemed reasonable at the time of acknowledgment.² Acknowledgement is not a determination of the prudence of any resource acquisition or other expenditures made by the utility pursuant to the plan.³

We conclude Idaho Power satisfied all the Commission's procedural guidelines and all but one of the substantive guidelines. Idaho Power did not comply with the Commission's Guideline

¹ OPUC Order No. 07-002.

² *Id.*

³ *Id.*

regarding flexible capacity adopted in Order No 12-013. However, this failure did not affect the overall reasonableness of the plan.

We acknowledge only the short-term action items in Idaho Power's Action Plan, plus two additional action items proposed by Staff. We do not acknowledge the remaining action items.

II. IDAHO POWER'S IRP

Idaho Power expects that the number of customers that it serves will increase by about 8,400 customers each year of the 20-year planning period, from approximately 500,000 in 2012 to 670,000 in 2032. Idaho Power's expected-case load forecast predicts that summer-peaking hour load requirements will grow at about 55 MW per year, and that the average-energy requirements will grow at 21 aMW per year. Idaho Power's load and resource balance analysis, which accounts for forecast load growth and generation from all of the company's existing resources and planned purchases, shows no energy deficits through the planning period. Idaho Power's analysis shows a capacity deficit starting in 2016 and monthly peak-hour deficit positions growing steadily in magnitude and the number of months affected. By July 2032, the capacity deficits are approximately 870 MW.

Boardman to Hemingway transmission line (B2H) with market purchases is the major resource addition identified in Idaho Power's preferred resource portfolio. The preferred portfolio also includes demand response, continued operations at the Jim Bridger and North Valmy coal facilities after investment in emission-control technology, and the continued operation of Idaho Power's other existing supply-side resources.

Guideline 4(n) requires the utility to include an action plan with resource activities the utility intends to undertake over the next two to four years. Idaho Power includes the following activities in its Action Plan:

Year	Resource - Action
2013- 2018	Boardman to Hemingway – Ongoing permitting, planning studies, and regulatory filings
2013	Gateway West – Ongoing permitting, planning studies and regulatory filings
2013	North Valmy Unit 1 – Commit to installation of dry sorbent injection emission-control technology
2013	Jim Bridger Units 3&4 – Commit to installation of selective catalytic reduction emission-control technology
2016-2017	Demand response – Have demand response capacity available to satisfy deficiencies up to approximately 150 MW

2018	Boardman to Hemingway – Transmission line complete and in service
2019	Shoshone Falls – Upgrade complete and in service
2019	Jim Bridger Unit 2 – Commit to installation of selective catalytic reduction emission-control technology
2020	Jim Bridger Unit 1 – Commit to installation of selective catalytic reduction emission-control technology
2020	Boardman – Coal-fired operations at the Boardman plant are scheduled to end by year-end 2020
2024-2032	Demand response – Have demand response capacity available to satisfy deficiencies in 50 MW increments up to approximately 370 MW

III. DISCUSSION

In this order, we first address Idaho Power’s Action Plan, discussing the comments filed by parties⁴ and specific IRP Guidelines as appropriate. We then address issues raised by parties or that we identify related to Idaho Power’s compliance with the Guidelines and our order regarding Idaho Power’s 2011 IRP that are not discussed in connection with our review of the Action Plan.

A. Short-term action items

2013-2018	Boardman to Hemingway – Ongoing permitting, planning studies, and regulatory filings
2018	Boardman to Hemingway – Transmission line complete and in service

Currently, B2H is envisioned as a single-circuit 500 kV transmission line approximately 300 miles long between northeast Oregon and southwest Idaho. Idaho Power states that it has entered into a Joint Funding Agreement with PacifiCorp and the Bonneville Power

⁴ The Renewable Northwest Project (RNP), the Citizen’s Utility Board of Oregon (CUB), the Oregon Department of Energy (ODOE), and Staff of the Public Utility Commission (Staff) filed opening and reply comments regarding Idaho Power’s IRP, and Idaho Power filed two rounds of comments in response. In addition, a resident of Idaho, John Weber, forwarded comments to Staff, which Staff forwarded to the Administrative Hearings Division for inclusion in the record.

Administration to pursue permitting the project, under which Idaho Power is the permitting project manager.

RNP supports investment in B2H because B2H would provide Idaho Power “with transmission to a liquid market enabling Idaho Power to access low-cost resources to meet capacity and energy needs and generate revenue by selling energy to other regional utilities[.]” provide environmental benefits by enabling Idaho Power to reach renewable energy resource zones, thereby facilitating renewable energy resources; and provide the region with reliability benefits.

Staff recommends acknowledgement of ongoing permitting, planning studies, and regulatory filings for B2H. Staff notes that B2H is included in five of the nine portfolios modeled in the 2013 IRP. The preferred portfolio and the next lowest “total costs portfolios” include B2H. Staff finds that the IRP analysis regarding B2H supports acknowledgment of ongoing permitting, planning studies, and regulatory filings.

Staff recommends that the Commission decline to acknowledge B2H “Transmission line complete and in-service” in 2018. Staff reports that the estimated in-service date for B2H has moved from 2018 (the year noted in Idaho Power’s IRP) to 2020 (the year reported in the Company’s reply comments). Because this action item is well beyond the two-to-four year period prescribed in the IRP Guidelines, Staff recommends the Commission decline to acknowledge it.

With respect to Idaho Power’s activities that occur between the Commission’s order in this docket and Idaho Power’s 2015 IRP, Staff asks to be apprised of any (1) updated project plan incorporating changes related to Bureau of Land Management delays and Energy Facilities Siting Council developments; (2) final agreement regarding allocation of construction costs between project participants; and (3) significant regulatory decisions that impact the project schedule or costs. Staff also asks that the Company to further explore whether B2H would significantly impact wind generation curtailment during periods of low demand as well as the impact of B2H on resource integration costs in general.

In its first round of comments, Idaho Power asserts that Staff’s recommendation to acknowledge only the permitting activities of B2H and not the construction phase of the project is inconsistent with the Commission’s past acknowledgment of B2H and is unnecessary to ensure continued analysis of this project. In its final comments, Idaho Power states that it is only requesting acknowledgment of specific action items scheduled to occur within the next four years (which excludes the construction of B2H), but does ask that the Commission acknowledge the 2013 IRP in its entirety, which includes B2H in its preferred portfolio.

Commission Resolution:

We acknowledge ongoing permitting, planning studies, and regulatory filings for B2H. As Staff notes, the analysis in the IRP supports these planned near-term activities. We anticipate

additional analysis regarding B2H in Idaho Power's 2015 IRP before acknowledging other actions related to B2H.

We decline to acknowledge completion of B2H in 2018 because it is well beyond the two-to-four year period for action plans specified by the IRP Guidelines. Further, we disagree with any suggestion that declining to acknowledge the construction of B2H is inconsistent with our previous acknowledgment of certain activities (e.g., permitting) related to this resource or inconsistent with previous orders acknowledging IRPs based on a preferred portfolio that includes B2H. Our acknowledgment of an IRP is based on our conclusion that it complies with our guidelines and our conclusion the IRP seems reasonable based on information known at the time. Our acknowledgment of the IRP is not a specific acknowledgment of every resource identified in the preferred portfolio over the 20-year planning period.

2013 Gateway West – Ongoing permitting, planning studies and regulatory filings

Gateway West is a multi-segment, multi-year joint transmission project of Idaho Power and PacifiCorp/ Rocky Mountain Power to build and operate approximately 1000 miles of new transmission lines from Wyoming to the Hemingway Substation near Melba, Idaho. The project timeline indicates line segments in service between 2019 and 2023. Idaho Power has a one-third interest in some, but not all, of the segments to be located in Idaho and sole interest in one segment.

Idaho Power reports that the Gateway West and B2H projects are complementary and will provide an upgraded transmission path from the Pacific Northwest across Idaho and into eastern Wyoming with an additional transmission connection to a population center in Utah. Idaho Power states that Gateway West will benefit customers by (1) relieving transmission constraints on certain transmission paths allowing Idaho Power to move additional energy between the east and west sides of the system; (2) providing the option to locate future generation resources east of the Treasure Valley load center; and (3) providing future load service to the Magic Valley from the Cedar Hill Substation. Idaho Power does not request acknowledgment of Gateway West as a supply side resource. Instead, the Company asserts that Gateway West is reasonable to address transmission system constraints and provide for future least cost resource development.

RNP supports investment in Gateway West because it will provide the same benefits RNP believes B2H will provide; access to low-cost resources; access to regions where renewable resources could be sited; and reliability.

CUB recommends that the Commission not acknowledge Idaho Power's action item related to Gateway West. CUB notes that Gateway West is a large project composed of a number of segments that can be analyzed individually. CUB asserts that Idaho Power should "narrow its request related to Gateway West and seek acknowledgment only of the segments of Gateway West that it can demonstrate are cost effective for Idaho Power's customers."

In its final comments, Staff also recommended that the Commission not acknowledge Idaho Power's action item related to Gateway West because Idaho Power had not provided a sufficient analysis of quantifiable benefits for the project or included Gateway West in its portfolio analysis. In its public meeting memorandum, however, Staff changed its recommendation, noting that the addition of this transmission capacity within Idaho Power's system would likely not be reflected in the economics of the different portfolios in Idaho Power's IRP analysis. Staff concludes that though there is insufficient information to support acknowledgment of the construction of the project, there is sufficient information in this IRP to support acknowledgment of the permitting-related activities that must occur prior to construction.

For purposes of Idaho Power's next IRP, however, Staff recommends that the Company include an analysis of the historical and projected power flows for the portions of the Gateway West project in which Idaho Power has an interest in order to demonstrate the need and specific constraint-related benefits.

In response to Staff's assertion that it has not done an analysis of the quantifiable costs and benefits, Idaho Power describes the benefits of the project and asserts that the permitting costs associated with Gateway West are sufficiently lower than the permitting costs associated with the independent development of a non-Gateway West alternative.

Commission Resolution:

We acknowledge ongoing permitting, planning studies and regulatory filings for Gateway West. However, as CUB notes, the project is composed of multiple segments that can and should be analyzed individually. Moreover, the Company has an ownership interest in relatively few of the segments and must demonstrate the need and specific constraint-related benefits for each segment in which it holds an interest before we will consider acknowledgment.

2013 North Valmy Unit 1 – Commit to installation of dry sorbent injection emission-control technology

2013 Jim Bridger Units 3&4 – Commit to installation of selective catalytic reduction emission-control technology

North Valmy is a coal-fired plant consisting of two generating units located in Nevada. Idaho Power is a 50 percent owner of North Valmy. After adjusting for routine scheduled maintenance and estimated forced outages, the annual energy generating capability of Idaho Power's share of the plant is approximately 220 aMW. Idaho Power plans on the continued operation of North Valmy Unit 1 throughout the 20-year planning period of the 2013 IRP and both units of North Valmy are included in Idaho Power's preferred portfolio. Idaho Power's Action Plan includes the installation of dry sorbent injection (DSI) at North Valmy Unit 1 by December 31, 2014 to comply with federal Mercury Air Toxics Standards (MATS).

Jim Bridger is a coal-fired plant consisting of four generating units located in Wyoming. Idaho Power owns one-third of the plant, or 771 MW. After adjusting for routine maintenance and estimated forced outages, the annual generating capability of Idaho Power's share is approximately 625 aMW. The Environmental Protection Agency (EPA) submitted a final rule on January 10, 2014, requiring the installation of selective catalytic reduction emission-control technology (SCR) at Bridger Units 3 and 4 by December 31, 2015 and December 31, 2016, respectively. Idaho Power's Action Plan includes installation of the SCR at the units in 2015 and 2016. Idaho Power's application to the Idaho Public Utilities Commission (IPUC) for a Certificate of Public Convenience and Necessity states that Idaho Power's cost before AFUDC is estimated to be approximately \$118 million.

Idaho Power's analysis of coal resources

IRP Guideline 8, as modified by Order No. 08-339, contains four requirements related to environmental costs. Under this guideline, the utility must model a base case scenario to reflect what it considers to be the most likely regulatory compliance future for carbon dioxide (CO₂), nitrogen oxides, sulfur oxides, and mercury emissions. The utility must also develop several compliance scenarios ranging from the present CO₂ level to the upper reaches of credible proposals by governing entities. Then, the utility must estimate, under each of the compliance scenarios, the present value of revenue requirement (PVRR) cost and risk measures its preferred portfolio and alternate portfolios. Guideline 8 directs the utility to identify the CO₂ emission cost adder level that triggers the selection of a portfolio that is substantially different from the preferred portfolio. In addition, Guideline 8 requires utilities develop a portfolio to achieve voluntary carbon emission reduction targets set forth in Oregon law.⁵

RNP asserts that Idaho Power has failed to justify pollution control investments in coal resources because the Company did not (1) model natural gas conversions of the Jim Bridger Units 3 and 4 boilers; (2) model a range of pollution control costs; and (3) account for recent direction from the Obama Administration that may reduce the cost competitiveness of existing coal resources. RNP asserts that investing in coal units is generally not reasonable under scenarios with low natural gas costs or stringent CO₂ regulation or both.

Idaho Power responds that its modeling complies with the Guidelines. Idaho Power notes that it modeled three levels of carbon adders to evaluate the potential impact of carbon emissions regulations in its coal study and in the IRP. And, Idaho Power created an alternate portfolio in which North Valmy is converted to a gas-fired plant and Jim Bridger Units 3 and 4 are replaced with combined cycle combustion turbines (CCCTs). Idaho Power points out that President Obama's announcement regarding CO₂ regulation was issued the same month Idaho Power filed its IRP and that Idaho Power could not account for the announcement without delaying the filing

⁵ OPUC Order No. 10-066.

of the 2013 IRP. And, Idaho Power asserts the Presidential Memorandum concerned regulations for new power plants and none are included in the IRP.

RNP disagrees with Idaho Power's assertion regarding the applicability of the June 13 Presidential Memorandum, contending that it directs federal agencies to regulate carbon emissions from existing resources and also noting that EPA has been ordered to finalize greenhouse gas emissions sometime after the end of the year 2014.

CUB proposes an analytical blue print—a Boardman-style phase-out that allows potential pollution controls under different scenarios; compares the broader range of pollution control scenarios to alternative investments, such as repowering with natural gas, building a CCCT, or relying on front office transactions; investigates whether there is a plausible scenario for a phase-out that is at a lower cost than either of the two options; and analyzes whether committing to close a plant at the end of its depreciable life would reduce pollution control costs.

Staff voices a concern similar to CUB's regarding Idaho Power's failure to consider a range of early shutdown scenarios. Staff notes that Idaho Power compared the cost of early shutdown and no controls against other alternatives, but did not model a range of early shut-down scenarios, e.g., smaller pollution control investment in exchange for shutdowns at different points in time, which Staff expected would be done. Staff recommends that future coal analysis consider alternative dates for pollution control equipment, shut down, or other alternatives such as gas conversion.

Staff concludes that Idaho Power's analysis is sufficient to comply with IRP guidelines and also, with the Commission's 2012 direction to evaluate whether there is flexibility in the emerging environmental regulations that would allow the Company to avoid early compliance costs by offering to shut down individual units prior to the end of their useful lives.

Commission resolution (Guideline 8):

The Commission concludes that Idaho Power's IRP substantially complies with IRP Guideline 8. Guideline 8 does not require Idaho Power to model every feasible alternative scenario, but requires the Company to determine the PVR costs and risk measures of a "set of reasonable alternative portfolios" assuming a range of different compliance scenarios. Although Idaho Power did not model a scenario in which both North Valmy units and Bridger Units 3 and 4 were converted to natural gas facilities, as RNP believes should have been done, Idaho Power did model a scenario in which North Valmy is converted to natural gas and Bridger Units 3 and 4 are replaced with CCCTs (portfolio 6). And, though Idaho Power did not build a compliance scenario that specifically accounts for the June 2013 Presidential Memorandum, Idaho Power did test its portfolios against a range of carbon compliance futures including a carbon adder in the planning case of \$14.64 per ton beginning in 2018 and escalating three percent annually, and a carbon adder in the high case of \$35 per ton beginning in 2018 and escalating nine percent annually. The carbon adder was modeled at three levels: low (\$0), planning, and high. Idaho

Power did not model a distribution of values, as was done with gas prices, load, and hydro in the stochastic analysis. Instead, one-third of the simulations were drawn from each carbon adder level. The Company's analysis showed the preferred portfolio 2 and the non-coal portfolio 6 would switch places at a carbon adder of \$45 in 2018. We find the alternative portfolios selected by Idaho Power and the range of compliance futures sufficient to satisfy the requirements of Guideline 8.

We share CUB's and Staff's concern regarding the limited nature of Idaho Power's early retirement scenarios analysis. Even though Idaho Power may have technically complied with the action item from Order No. 12-177, the Commission expected that Idaho Power would model a broader range of early shutdown scenarios. We expect Idaho Power to engage fully with Staff and stakeholders in a timely manner to design coal investment analyses for future IRPs to ensure more robust consideration of early shutdown as a compliance option.

Also, we direct Idaho Power to work with stakeholders to explore options for how it plans to model and perform analysis in the 2015 IRP in order to comply with the applicable emissions requirements of section 111(d).

Bridger Units 3 and 4

CUB recommends that the Commission not acknowledge pollution control investments at Jim Bridger Units 3 and 4, contending additional analysis is needed. Specifically, CUB asserts that Idaho Power should analyze the effect that different early retirement dates would have on the need for pollution controls at Bridger Units 3 and 4 to inform whether the currently planned investment is cost-effective. CUB notes that a shorter life may reduce the controls needed (and therefore costs), making early retirement of coal plants more cost-effective than other options. CUB recommends Idaho Power use its "blue print" for coal analysis (described above).

RNP also recommends that the Commission not acknowledge investment in SCR at Bridger Units 3 and 4, explaining that Idaho Power did not adequately analyze conversion to natural gas or a sufficient range of future CO₂ compliance costs. Also, RNP believes that investing in coal units is generally not reasonable under scenarios with low natural gas costs or stringent CO₂ regulation or both.

Idaho Power disagrees with RNP's and CUB's conclusions regarding its analysis for Bridger Units 3 and 4, noting that it examined a range of options including early shutdown and conversion to natural gas, and that its analysis that installation of SCR at Bridger Units 3 and 4 is the least cost option for the majority of the alternate carbon and natural gas scenarios it modeled.

Staff recommends that the Commission acknowledge installation of SCR at Bridger Units 3 and 4. Staff concludes that Idaho Power's confidential coal study demonstrates that the SCR investments are the lowest cost compared to the alternatives analyzed under planning case assumptions and in the majority of the carbon and gas sensitivities. In addition to reviewing the

coal study, Staff constructed an independent spreadsheet analysis of the impact of a range of gas and carbon prices on the economics of the SCR investments, which confirmed the coal study results.

Commission resolution (Bridger 3 and 4):

We acknowledge Idaho Power's Action Item related to Bridger Units 3 and 4. We do not think the concerns raised by parties or that we note ourselves undermine Idaho Power's IRP analysis to a point that a Commission decision to not acknowledge the emission control investments is warranted. Further, our decision to acknowledge the emission control investments at Bridger Units 3 and 4 is supported by Staff's independent sensitivity analysis.

North Valmy

CUB is concerned because Idaho Power's preferred portfolio includes North Valmy with an end-of-life date that CUB fears is too far in the future. CUB notes that the end-of-life date for North Valmy is at or beyond the end of the 20-year planning period in Idaho Power's preferred portfolio but that the co-owner of North Valmy, Nevada Energy, has announced plans to close the plant in 2025.

Idaho Power responds that it modeled North Valmy consistently with its current expectation of the end-of-life date. Idaho Power asserts that Nevada Energy cannot close the plant early without Idaho Power's consent, which it has not given. Also, Idaho Power modeled two portfolios that included a shortened end-of-life date for North Valmy and replacement of lost energy with other resources. These portfolios were higher cost than the preferred portfolio.

Staff recommends acknowledgment of DSI installation. Staff finds that because the cost of the investment is so small, there is no tipping point in the modeled scenarios at which it is more cost-effective to shut down North Valmy rather than invest in DSI.

Commission Resolution (North Valmy Unit 1):

We acknowledge installation of DSI at North Valmy Unit 1. We find as Staff did that the relatively low cost of the investment leads to the conclusion that the DSI investment and continued operation of North Valmy is the least cost/least risk alternative given the information that is currently available. We do not share CUB's concern regarding how Idaho Power included North Valmy in its preferred portfolio. First, shortening the life of North Valmy would not change the result of Idaho Power's analysis; installing DSI would still be the least cost/least risk alternative. Second, future events may lead to a shortened operating life for North Valmy, but whether they will is not certain. Idaho Power reasonably relied on the results of modeling based on the assumption North Valmy will operate as Idaho Power currently expects, rather than an assumption based on events that may, or may not, transpire.

2016-2017 Have demand response capacity available to satisfy deficiencies up to approximately 150 MW

Staff states that both the Oregon and Idaho Commissions recently issued orders approving stipulations regarding the redesign of Idaho Power's demand response programs for 2014 and beyond. Those stipulations provide that the annual value of demand response is equal to the levelized annual cost of the minimum size deferred resource, or 170 MW. Therefore Staff recommends changing Idaho Power's near term action related to demand response to the following:

2014-2017 Have demand response capacity available to satisfy deficiencies up to approximately 170 MW beginning in 2014, and increasing as needed through 2017

Staff also recommends that the Company update its assessment of demand response availability based on summer 2014 program participation and other relevant factors by the end of 2014. Staff also recommends that the Energy Efficiency Advisory Group (EEAG) review any revisions to the resource assessment, along with other relevant factors.

RNP supports Idaho Power's continuation of its demand response program to meet the Company's capacity needs.

Commission resolution:

We agree that revising the near-term demand response action item as recommended by Staff is appropriate in light of recently concluded dockets in Oregon and Idaho regarding demand response. We acknowledge the action item as revised by Staff. We also expect that Idaho Power will follow Staff's recommendation regarding updating its assessment of demand response availability in 2014.

b. Long-term action items

As Staff and CUB note and Idaho Power acknowledges, Idaho Power's Action Plan includes long-term action items in addition to the short-term action items typically presented in an IRP action plan. Both CUB and Staff recommend that the Commission not acknowledge action items occurring beyond a two-to-four year period. In response, Idaho Power states that it does not seek acknowledgment of the long-term items. Because the long-term Action Plan items are not withdrawn and remain in Idaho Power's IRP, we believe it is necessary to specifically address them.

2019 Jim Bridger Unit 2 – Commit to the installation of selective catalytic reduction emission-control technology

2020	Jim Bridger Unit 1 – Commit to the installation of selective catalytic reduction emission-control technology
2019	Shoshone Falls – Upgrade complete and in service
2020	Boardman – Coal-fired operations at the Boardman plant are scheduled to end by year-end
2031	Demand Response – Have demand response capacity available to satisfy deficiencies in 50 MW increments up to approximately 370 MW

Commission resolution:

We do not acknowledge the action items listed above. The purpose of an action plan is to identify specific near-term actions that the company plans to take to meet its resource needs.⁶ We generally do not acknowledge action items planned to occur more than four years in the future.⁷

c. Analysis of IRP

Wind Integration Study

RNP asserts that Idaho Power's 2012 Wind Integration Study and 2013 IRP underestimate the capacity factor of modern wind turbines, overestimate wind's capital costs, and include an unsupported and unreasonably high wind integration rate. RNP states that Idaho Power's cost estimates are significantly higher than the cost assumptions in the source materials on which Idaho Power's estimates are based, the National Renewable Energy Laboratory (NREL) February 2012 Report, *Cost and Performance Data for Power Generation Technologies*. With respect to the capacity factor, RNP asserts that advancements in technology allow for higher capacity factors for wind resources than what Idaho Power assumed. RNP notes that the NREL report suggests using 33-37 percent capacity factors for class 3 and class 4 resources, whereas Idaho Power used 26 percent. RNP acknowledges Idaho Power's assertion that Idaho Power's estimates are for class 2 and class 3 resources rather than class 3 and 4, but asserts that Idaho Power's decision to use a percentage so far below the range suggested for class 3 resources is still unsupported.

RNP also states that Idaho Power's Wind Integration Study is based on unrealistically high balancing reserve requirements that have the effect of increasing the cost of integration. RNP

⁶ See OPUC Order No. 12-177.

⁷ *Id.*

explains that in Idaho Power's 2007 Wind Integration Study, Idaho Power based its estimates of balancing reserve requirements on the difference between the hour-ahead forecast and the actual generation. However, in the 2013 Wind Integration Study, Idaho Power based the size of the required balancing reserve on the difference between the day-ahead forecast and actual generation. Because day-ahead forecasts are much less accurate than hour-ahead forecasts, the practical result of using day-ahead forecasts is to increase the assumed balancing reserves, which increases costs. RNP notes that the Technical Review Committee (TRC) required by the Commission in Order No. 12-177 flagged this methodological assumption as a significant concern.

Staff notes that it anticipated more involvement of the TRC and recommends that Idaho Power engage with the TRC for future IRPs. In its Staff report, Staff noted that it shares RNP's concern regarding Idaho Power's estimation of balancing reserve requirements based on day-ahead forecast error in its Wind Integration Study, and has reservations about using the study results in future filings.

In response to RNP's concern regarding overstated costs, Idaho Power notes the cost difference between the NREL Report and its costs comes from the conversion of 2009 dollars to 2013 dollars, the common base for the IRP's comparison of resource costs. In response to RNP's concern regarding the size of the balancing reserves, Idaho Power states that it chose to base the assumption on the day-ahead forecast because balancing reserves based on the hour-ahead forecast "would too often translate to a risky reliance on the wholesale energy market."

In response to RNP's concern regarding the average capacity factor, Idaho Power asserts that the NREL reports that class 3 resources have an average capacity factor of 33 percent; a percentage Idaho Power adjusted downward to account for lower capacity factors of class 2 resources. Idaho Power also asserts that its actual observations support the 26 percent average capacity factor used in the Wind Integration Study and IRP.

In response to Staff's concern that the TRC was not used to the extent Staff anticipated and to RNP's concern regarding Idaho Power's decision to not address the red flag the TRC raised regarding the balancing reserves, Idaho Power notes that the Commission directed Idaho Power to form the committee in February 2012, nearly a year after the Company had begun work on the WIS. Idaho Power announced the formation of the committee at an April 2012 workshop, but by this time the study was complete and the Company was presenting preliminary study results.

Commission resolution:

In Order No. 12-177 we recommended that Idaho Power,

Form a wind integration study technical review committee as soon as possible.
The committee is recommended to be fully engaged to review and offer suggestions for improvement of the Company's proposals for analytical methods

and data used in the study. In addition, establish as soon as possible, a schedule for workshops providing full opportunity for stakeholder involvement and progress reviews. Finally, in the Company's next wind integration study look for ways in which diversity and flexible balancing resources could lower its cost of integrating intermittent resources.

We appreciate that Idaho Power responded quickly to our recommendation but are disappointed the committee did not prove to be an effective mechanism for stakeholders to engage with Idaho Power regarding the analytical methodology of the Wind Integration Study. Using the TRC to review and provide comments on the analytical methodology and results is not what we envisioned when making our 2012 recommendation. But, we recognize that our recommendation came late in Idaho Power's process, limiting the opportunity for TRC input.

We continue to recommend use of a TRC in connection with Wind Integration Studies. The TRC could be an effective mechanism for stakeholders to engage with the Company to regarding the analytical methodology underlying the study and expect Idaho Power to engage with the TRC at the outset of any Wind Integration Study.

Regarding RNP's specific complaints regarding the WIS, we note that RNP does not urge the Commission to disregard the WIS for the purpose of judging the reasonableness of Idaho Power's IRP, but cautions the Commission against using the WIS to determine avoided cost prices in a future proceeding. Our acknowledgment of Idaho Power's IRP has no effect on the validity of the WIS during any proceeding to establish avoided cost prices for variable wind resources. We do note, however, that effective engagement between stakeholders and utilities regarding the study methodology and inputs would likely lessen disagreements in any proceeding in which the accuracy of the study is at issue.

Capacity contribution of solar and other resources

ODOE recommends that the Commission direct Idaho Power to conduct a stochastic assessment of the appropriate capacity credits for solar, wind, and hydro resources, with different credits for each resource and potentially different by location, that fully uses 8,700 hours of data per year and provides consistent levels of reliability, as measured by unserved energy, across portfolios. ODOE asserts that Idaho Power is not considering the capacity credit (contribution) for certain resources, which is the share of the nameplate capacity of a resource that can be statistically relied on. ODOE notes that this measurement is particularly relevant in determining the relative reliability of different resources.

ODOE also notes that Idaho Power assumed a due-south orientation for all flat-plate PV systems and did not include SSW or SW orientations and that using these orientations or single-axis tracking systems would have yielded larger capacity contributions. ODOE recommends that the Commission "direct IPC for its next IRP to conduct an analysis of all flat-plate PV systems with

SW and SSW orientations in addition to due-south orientation” and also “direct IPC to conduct a full analysis of a single-axis tracking system for a utility-scale solar PV system.”

Idaho Power disagrees with ODOE’s recommendation regarding the capacity contribution. Idaho Power states that it bases the capacity contribution of all types of resources using a 90-percent exceedence method. Idaho Power asserts that this methodology allows it to calculate the capacity contribution for renewable resources as it does for non-renewable resources, which is required by the IRP Guidelines.

Idaho Power notes, however, that solar comes with more options than other resources and agrees that analysis exploring solar as an energy alternative must address numerous considerations such as tracking systems, resource orientation, and materials. Idaho Power states it “seeks to attribute the proper capacity credit to distributed solar PV” and has initiated an IRP Advisory Counsel distributed solar PV workgroup to address the cost and capacity credit of distributed solar PV in the 2015 IRP. Idaho Power states that it anticipates the workgroup will address topics such as panel orientation and tracking systems.

Idaho Power also states that it is analyzing integration of large-scale solar PV projects and working on this topic with members of its Solar Integration Study Technical Review Committee.

Commission resolution:

We appreciate Idaho Power’s willingness to work on the issues identified by ODOE for its next IRP. We hope Idaho Power will work directly with ODOE. In any event, we expect to see results of Idaho Power’s work in its 2015 IRP.

Load Forecasts

In our order regarding Idaho Power’s 2011 IRP, we recommended that Idaho Power base the 2011 IRP Update and the 2013 IRP on an updated load forecast that, as accurately as possible, reflects current conditions.⁸ Idaho Power’s 2013 IRP reflects Idaho Power’s efforts to do so. Idaho Power reports that its 2013 IRP average system load forecast is lower than the 2011 IRP average system load forecast in all years of the forecast period, noting that the expected recovery in the economic forecast used for the 2011 IRP was too optimistic, particularly in the near term. Staff noted in initial comments that it was examining the robustness of the base model and the load scenarios noted. The Staff report states that the load forecast is one of several issues that should be reviewed as a matter of course in the 2015 IRP.

Commission comments:

We expect Staff to review the accuracy of Idaho Power’s load forecasts in the 2015 IRP.

⁸ Order No. 12-177.

Gas price forecasts

Staff comments on three aspects of Idaho Power's natural gas price forecasts used in the IRP. Staff expresses concerns regarding the symmetric adjustments to the base case forecast, the escalation of the Energy Information Administration (EIA) reference case gas price forecast, and the high correlation between natural gas prices and wholesale electricity prices in the Company's modeling. The Company responds that its stochastic inputs are reasonable and that it will consider alternatives to deriving high and low gas price scenarios for future IRPs. The Staff report includes gas price forecasts as an issue to be analyzed during the development of the 2015 IRP.

Commission comments:

We anticipate that these analytical issues will be raised by Staff and addressed during the planning process for the 2015 IRP.

Flexibility Guideline

The most recently-adopted IRP Guideline requires utilities to incorporate planning for flexible capacity in IRPs.⁹ The Guideline requires utilities to forecast the balancing reserves needed at different time intervals to respond to variation in load and intermittent renewable generation over the 20-year planning period and to forecast the availability of balancing reserves at different time intervals. The Guideline also requires that in planning to fill any gap between the demand and supply of flexible capacity, utilities must evaluate all resource options on a consistent and comparable basis.

RNP asserts that Idaho Power's IRP does not comply with the Commission IRP Guideline regarding flexibility because the IRP does not forecast the demand for and supply of flexible capacity or evaluate flexible resources on a consistent and comparable basis. RNP suggests that future IRPs should quantify the existing supply of flexible resources across multiple time scales, quantify the amount of reserves associated with each supply-side resource and expand types of demand for flexible resources, e.g., need to meet hourly ramps of load and other variable resources.

Idaho Power responds that the IRP did in fact include much of the flexibility analysis that RNP asserts is lacking. Idaho Power notes that a pumped storage hydro project was modeled as a Resource Alternative and as a tool to assist in the integration of wind resources. Idaho Power asserts that this modeling captured the flexibility and peaking capacity of the pumped storage hydro project and helped to integrate the variable wind generation into the system, and captured market arbitrage opportunities.

⁹ Order No. 12-013 at 16-18.

Staff recognizes that the Company provided qualitative analysis that shows it is unlikely Idaho Power will need additional flexible capacity over the 20-year planning horizon, but agrees with RNP that the guideline asks for quantitative analysis of the size and timing of the flexible capacity resource balance. Staff recommends that Idaho Power substantially expand its analysis in the 2015 IRP. Staff is willing to work with Idaho Power and other stakeholders to help develop the quantitative analysis.

Commission resolution:

We find that Idaho Power's IRP does not comply with the Flexible Resources Guideline. Idaho Power did not submit the required analysis of demand and supply of balancing reserves disaggregated across multiple timescales, as is required by the Guideline. We expect the Company to use the recommendations of both RNP and Staff to provide a compliant and more robust analysis regarding flexible resources in its 2015 IRP.

Conservation Voltage Reduction

The Commission's order regarding IPCo's last IRP included the following action item:

The next IRP filed by Idaho Power will include an assessment of the available cost-effective conservation voltage reduction (CVR) resource potential in its service area. The Company will propose an action item in its 2013 IRP related to this resource. The planned energy savings and reduced peak demand will be incorporated into Idaho Power's load-resource balance forecasts.

Staff notes that Idaho Power's 2013 IRP does not include an assessment of the available cost-effective CVR in its service area and thus, the Idaho Power did not comply with the action item.

Commission resolution:

In the Company's 2013 Annual Smart grid Report, we directed Staff "to perform an independent analysis of the utility pilot programs, related research, and conclusions drawn regarding Conservation Reduction and Volt/Var Ampere Reactive control programs to determine what is possible and what is not, and what is economic and what's not."¹⁰ In this order, we direct Staff to conduct the independent analysis within the next six months and report the results of the analysis to the Commission in a public meeting.

In addition, we include the same CVR action item in this order for the 2015 IRP.

¹⁰ OPUC Order No. 13-481 at 1-2.

Energy Efficiency

The Company's IRP contains specific energy efficiency targets in the text of Chapter 4 of its plan, but those amounts are not included in the Action Plan. Staff proposes two action items to address energy efficiency:

2013-2017 Energy Efficiency The forecast reduction for 2013 to 2017 programs will be 69 aMW

2013-2017 Energy Efficiency The incremental energy efficiency savings for 2013 to 2017 will reduce energy loads by 38 aMW

Staff explains that the 69 MW of energy efficiency demand reductions referred to in the first action item are attributed to current programs and are subtracted from the load forecast. The incremental savings, 38 aMW, are those that are not captured in the load forecast.

Commission resolution:

We adopt Staff's proposed additions to the Action Plan.

NEEA

Idaho Power plans to curtail funding to the Northwest Energy Efficiency Alliance (NEEA) in the next five-year funding cycle. Idaho Power explains that it has asked NEEA to operate under an alternative funding model that would allow Idaho Power's funds to be directed toward the costs of activities that Idaho Power believes are most valuable to Idaho Power customers. Because NEEA has not acquiesced, Idaho Power is limiting the amount of funds provided to NEEA.

CUB and Staff are concerned with Idaho Power's proposal to curtail funding. Staff believes that NEEA is one of Idaho Power's most cost effective energy investments. Staff notes that NEEA is a compact between over 100 Northwest utilities and efficiency organizations that creates value for its supporters by broad market intervention and energy efficiency market development. NEEA's activities have resulted in the development of an energy efficiency products and practices pipeline to the region that benefits Idaho Power's and the region's ratepayers.

Commission resolution:

We are dismayed by Idaho Power's plan to curtail support of NEEA. We agree with Staff's observations of the importance of NEEA. We expect that Idaho Power will continue funding NEEA with no curtailment.

IV. RECOMMENDATIONS FOR 2015 IRP

In Order No. 12-177, we recommended that in future IRPs, Idaho Power include an Action Plan with resource activities the utility plans to undertake over the next two to four years to acquire the identified resources, as required by IRP Guideline (4)(n). We also recommended that the future IRPs include a “concise listing of action items for all resources and resource related activities, with each action item numbered.”

Idaho Power did include an action plan with resource activities Idaho Power plans to take in the next two to four years, but this plan also includes longer-term activities. Accordingly, we repeat our recommendation from the 2012 Order, but specify we recommend the utility include an Action Plan limited to activities in the next two to four years. The Company may compile other lists of action items planned for an extended period, as it has done in this IRP, but we recommend the Company create and identify the Action Plan activities for which it requests specific acknowledgment. And, as we did in 2012, we recommend that the Company number each of these action items to facilitate our review.

VII. IRP UPDATES

Staff has sought delays in this proceeding to facilitate our review of resource action items presented for acknowledgment in both PacifiCorp’s IRP and Idaho Power’s IRP. Accordingly, Idaho Power’s annual update to the IRP, which is due no later than 12 months after acknowledgment of this IRP, will be due in April 2015. However, Idaho Power must file its 2015 IRP with the IPUC no later than June 2015. Rather than preparing a separate IRP for filing in Oregon in April 2016, Idaho Power intends to file an IRP in Oregon at the same time it files in Idaho.

Given that Idaho Power will file its next IRP in June 2015, we waive the requirement that Idaho Power file an annual update to this IRP. We do not waive the requirement that Idaho Power file an IRP Update if it anticipates a significant deviation from its acknowledged 2013 IRP in the manner required by IRP Guideline 3.f.

V. ORDER

Made, entered and effective _____.

Susan K. Ackerman
Chair

John Savage
Commissioner

Stephen M. Bloom
Commissioner

Appendix A

Acknowledged Action Plan items

Year	Resource - Action
2013- 2018	Boardman to Hemingway – Ongoing permitting, planning studies, and regulatory filings
2013	Gateway West – Ongoing permitting, planning studies and regulatory filings
2013	North Valmy Unit 1 – Commit to installation of dry sorbent injection emission-control technology
2013	Jim Bridger Units 3&4 – Commit to installation of selective catalytic reduction emission-control technology
2016-2017	Demand response – Have demand response capacity available to satisfy deficiencies up to approximately 150 MW (2016-2017)
2013-2017	Energy efficiency – The forecast reduction for 2013 to 2017 programs will be 69 aMW
2013-2017	The incremental energy efficiency savings for 2013-2017 will reduce energy loads by 38 aMW.
2013-2015	CVR – Include an assessment of the available cost-effective conservation voltage reduction (CVR) resource potential in service area and an action item related to this resource in the next IRP. Incorporate the planned energy savings and reduced peak demand into load-resource balance forecasts.

CERTIFICATE OF SERVICE

I hearby certify that on March 11, 2014, I served the foregoing PROPOSED ORDER upon all parties of record in this proceeding by electronic mail only as all parties have waived paper service.

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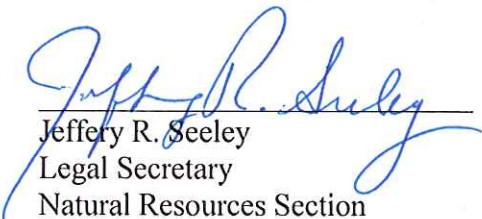
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