



risk analyses. The IRPAC played an integral role this year in discussing matters related to the Environmental Protection Agency Clean Power Plan (CPP), promulgated pursuant to the Clean Air Act, Section 111(d) (Section 111(d)), as well as distributed energy resource integration. Staff appreciated the open and involved stakeholder process that Idaho Power dedicates time and energy into in order to fulfill the public input component of the Company's IRP process.

Staff discusses the comments by the parties and the Company, referencing the near-term action plan, long-term planning aspects of the preferred portfolio, and other IRP issues. The original IRP action plan is set forth in Attachment A to this memo.

### **General Description of the IRP**

Idaho Power's IRP presents an analysis that considers costs, risks, and uncertainties of various resource portfolios designed to sufficiently satisfy system load, reliability, and flexibility needs over the next 20 years. Idaho Power analyzed 23 resource portfolios under seven different CPP scenarios as well as three variables in a stochastic analysis.<sup>2</sup> Not only was this a significant increase in the number of portfolios provided with previous IRPs, but the diversity of resource considerations within those portfolios increased as well.

Of critical importance in the 2015 IRP are the fates of Idaho Power's two remaining coal-fired generating plants, North Valmy located in Nevada and Jim Bridger located in Wyoming. Because Idaho Power's 2015 IRP was published at the time of only the draft Section 111(d) rules, Idaho Power's analysis reflects the Company's best assumption of what the final Section 111(d) rule may be. Staff addresses final Section 111(d) considerations later in this report.

With a peak-hour capacity deficit first occurring in 2025 under the Company's preferred portfolio, the 2015 IRP action plan features no additional planned generation. Beyond the ongoing processes related to the Boardman-to-Hemingway (B2H) and Gateway West transmission lines, the only significant actions in the 2015 IRP Action Plan relate to completion and consideration of emissions technology on Jim Bridger units and an upgrade of the Shoshone Falls generation station.

### **Compliance with Commission IRP Guidelines**

In its Final Comments, Staff asserted that Idaho Power was not compliant with IRP Guidelines 1 and 12 due to aspects of the Company's residential and commercial solar photovoltaic (PV) resource consideration and calculation. Staff believed that Idaho

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<sup>2</sup> These three variables were natural gas prices, customer load, and hydroelectric variability.

Power's inclusion of the fixed costs of a customer-owned and financed resource in the Company's supply-side resource stack was inconsistent with Guideline 1. Guideline 1, part 1, states that "all resources must be evaluated on a consistent and comparable basis." Staff found that since the fixed costs of a residential or commercial solar PV system are not directly borne by the Company unlike other supply-side resources, the results "are inherently inconsistent and incomparable and do not reflect the realities of customer-owned resources."<sup>3</sup> Because of this inconsistency in fixed costs burden, Staff concluded that Idaho Power did not comply with Guideline 12, which states that "electric utilities should evaluate distributed generation technologies on par with other supply-side resources...." Staff further concluded in its Final Comments that it "does not want to punish but rather create an opportunity to determine a more realistic analysis of this new class of supply-side resource."<sup>4</sup>

In its Final Comments, the Company disagreed with Staff's assertions, building on its response made in its Reply Comments. There, Idaho Power argued that "the inclusion of capital costs associated with resource construction is consistent with the treatment for other resources considered in the IRP, thus allowing meaningful cost comparisons between resources."<sup>5</sup> Additionally, Idaho Power stated that excluding a supply-side resource's fixed costs would "lead to uneconomic resource procurement and inefficient deployment of capital on the part of Idaho Power and its customers."<sup>6</sup>

Idaho Power expanded on these points in its Final Comments. There the Company explained that its methodology is predicated on the flow of both costs and benefits to all customers. Idaho Power believes this approach to be reasonable, in part because, though the Company does not directly incur the fixed costs, the customer who owns the PV system will eventually recover its fixed cost investment. Furthermore, the analysis of distributed solar PV's total resource cost, which the Company utilizes for all resources including energy efficiency, enables reasonable comparisons of resources' respective values. Therefore, the Company's approach is consistent with the treatment of other resources.

Staff appreciates Idaho Power's effort in addressing its concerns regarding the consideration of distributed solar PV systems. Idaho Power indicates it is open to exploring the possibility of modeling refinements in its 2017 IRP.<sup>7</sup> Staff appreciates this because additional opportunities for incorporating distributed PV solar system benefits exist. Staff believes that once the resource value of solar is established in

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<sup>3</sup> Staff's Final Comments, at page 1, Docket No. LC 63, January 22, 2016.

<sup>4</sup> Ibid., at page 2.

<sup>5</sup> Idaho Power's Reply Comments, at page 19, Docket No. LC 63, December 30, 2015.

<sup>6</sup> Ibid.

<sup>7</sup> Idaho Power's Final Comments, at page 7, Docket No. LC 63, February 19, 2016.

Docket No. UM 1716, the conversation regarding different approaches to modeling distributed solar PV resources at the IRPAC will be appropriate.

Staff also asserted in its Final Comments that Idaho Power was noncompliant with Guideline 4, part I, which states that a utility's IRP must select "a portfolio that represents the best combination of cost and risk for the utility and its customers."<sup>8</sup> Idaho Power's selection of preferred portfolio P6(b) is neither least-cost nor least-risk. However, the Company states that consideration of qualitative risks results in the Company selecting P6(b) as the preferred portfolio.

As Staff discusses later in this memo, without a comprehensive and balanced assessment of every portfolio's qualitative risks, Staff cannot make an informed determination on whether a particular portfolio is least-cost, least-risk when qualitative risks are a deciding factor. Though Idaho Power is correct in pointing out that the Commission only acknowledges a utility's Action Plan, Staff notes that a short-term Action Plan is ultimately derived from a resource plan that achieves long-run cost-risk optimality.<sup>9</sup> Therefore, concerns regarding mid-term and long-term action items should not be dismissed.

Staff is satisfied that the Company has adequately met the IRP guidelines.

### **Compliance with Previous IRP Order No. 14-253**

In issuing Order No. 14-253, the Commission accepted Idaho Power's 2013 IRP with several directives and recommendations. These are listed below along with Staff's conclusions about Idaho Power's respective compliance.

#### **Pollution Control Investments in Coal Resources**

The Commission directed 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 §111(d) of the Clean Air Act."<sup>10</sup> Staff finds that Idaho Power satisfied the first component of this directive by holding an inclusive and engaging stakeholder process (i.e. the IRP Advisory Council). Idaho Power presented the considerations and analyses of the Company's Coal Study Working Group at the

<sup>8</sup> Commission Order No. 07-002, Appendix A, at page 5, Docket No. UM 10, January 8, 2007.

<sup>9</sup> Commission Order No. 14-253, at page 12, Docket No. LC 58, July 8, 2014.

<sup>10</sup> Ibid., at page 8.

September 2014 IRPAC meeting. Additionally, Idaho Power welcomed and incorporated coal plant retirement date suggestions from IRPAC members.

Staff also finds that Idaho Power satisfied the second component of this directive. To address uncertainty surrounding Section 111(d) and the joint ownership of Idaho Power's coal plants, Idaho Power analyzed 23 portfolios that contain various retirement dates for those facilities. Additionally, Idaho Power conducted a Section 111(d) sensitivity on the 23 resource portfolios that consisted of seven different scenarios split into mass-based or rate-based. However, these analyses were conducted prior to the finalization of Section 111(d) rules. Due to this temporal issue, Staff will recommend additional analyses in Idaho Power's 2015 IRP update.

### Gas Price Forecasts

Though not an explicit directive, Staff mentions the Commission's expectation that Idaho Power would address stakeholders' concerns regarding three aspects of the Company's natural gas price forecast.<sup>11</sup> Staff finds that Idaho Power sufficiently addressed the concerns by utilizing Energy Information Administration data for high and low cases as well as the nominal forecast prices. The Company also verified that the implied heat rate, which verifies the relationship between natural gas prices and wholesale electricity prices, aligns with the historical correlation.<sup>12</sup>

### Conservation Voltage Reduction (CVR)

Idaho Power was directed to include a CVR assessment in the 2015 IRP after failing to do so in the 2013 IRP. CVR efforts currently progressing at Idaho Power under the "CVR Enhancements Project" should be completed by 2016. Through its *2014 and 2015 Smart Grid Reports*, the Company has kept Staff and the Commission abreast of the renewed evaluation and possible integration of CVR into distribution system operations.

Idaho Power did not include a CVR assessment due to the ongoing nature of the project, but did include a description of the current project on page 48 of the IRP. Staff recommends the Commission delay action on CVR until Staff has been able to review the Company's analysis in the CVR Enhancements Project report to be filed September 1, 2016.

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<sup>11</sup> The three issues were " the symmetric adjustments to the base case forecast, the escalation of the Energy Information Administration's reference case gas price forecast, and the high correlation between natural gas prices and wholesale electricity prices in the company's modeling. "See Commission Order No. 14-253, at page 14, Docket No. LC 58, July 8, 2014.

<sup>12</sup> Idaho Power's 2015 IRP, Appendix C, at page 215, Docket No. LC 63, June 30, 2015.

### Action Plan Limits

The Commission stated that Idaho Power should limit its Action Plan to activities it plans to undertake in the next two to four years as well as enumerate them for ease of analysis. Idaho Power has done so.

Staff is satisfied that the Company has adequately addressed all of the Commission's directives set forth in Order 14-253.

### Action Item Discussion

The Company offered the following Action Items for the time period 2015-2019.

#### Action Item #1 – B2H Transmission Line

*Idaho Power will continue the ongoing permitting, planning studies and regulatory filings.*

Mr. Carbiener expressed concerns about the increasing costs of the B2H line as well as the Company's presentation of the viability of portfolios that do not contain B2H. Additionally, Mr. Carbiener discussed how a tipping point analysis of the costs of B2H would be helpful in considering alternative resources.

Staff notes that the Commission acknowledged the same actions for B2H in Order No. 14-253.<sup>13</sup>

The only major development to occur since the 2014 IRP is the Bureau of Land Management's (BLM) issuance of the draft Environmental Impact Statement (EIS), which includes the agency's initial analysis on the proposed and alternate routes of the B2H line.<sup>14</sup> Idaho Power expects the BLM to issue a final EIS in 2016.

Staff recommends acknowledgment of Action Item #1.

<sup>13</sup> Ibid., at page 5.

<sup>14</sup> BLM's Draft Environmental Impact Statement and Land Use Plan Amendments for the Boardman to Hemingway Transmission Line Project, DOI-BLM-OR-V000-2012-016-EIS, December 19, 2014.

Action Item #2 – Gateway West Transmission Line

*Idaho Power will continue the ongoing permitting, planning studies and regulatory filings.*

No parties commented on this Action Item.

Staff notes that the Commission acknowledged the same actions for B2H in Order No. 14-253.<sup>15</sup>

Staff recommends acknowledgment of Action Item #2.

Action Item #3 – Energy Efficiency

*Idaho Power will continue the pursuit of cost-effective energy efficiency – the forecast reduction for the 2015-2019 programs is 84 average megawatts (MW) for energy demand and 126 MW for peak demand*

CUB expressed concern that Idaho Power is underestimating the forecasted achievable energy efficiency potential that the Company can acquire. At the core of CUB's concern was Idaho Power's pursuit of achievable, cost-effective energy efficiency, which the Company historically has exceeded annually. CUB believes opportunities exist for Idaho Power to meet more of its projected load growth through energy efficiency, including offering more programs, increasing the Company's energy efficiency marketing, and implementing a "more aggressive (energy efficiency) policy."<sup>16</sup> Staff highlights the fact that Idaho Power's energy efficiency target for the five year period from 2015 to 2019 is 22 percent higher than the five-year window in the 2013 IRP.

Staff recommends acknowledgment of Action Item #3.

Action Item #4 – Section 111(d)

*Idaho Power will coordinate with government agencies on implementation planning for Section 111(d).*

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<sup>15</sup> Ibid., at page 6.

<sup>16</sup> CUB's Initial Comments, at page 7, Docket No. LC 63, November 25, 2015.

Staff analyzed and discussed the results of Idaho Power's Section 111(d) sensitivity analyses in its Initial and Reply Comments. Because the 2015 IRP was published prior to the release of the final Section 111(d) rules, Staff expects Idaho Power will continue to work with the co-owners of the North Valmy and Jim Bridger Coal-fired generation stations as states develop Section 111(d) compliance plans.

Staff recommends acknowledgment of Action Item #4, and proposes the following additional recommendations:

- Analyze alternative Section 111(d) compliance paths' impacts on Idaho Power's respective liabilities in North Valmy and Jim Bridger generation stations with stochastic analysis for each compliance path.
- Calculate the cost of compliance with these paths for Idaho Power, and the impact of these costs upon Idaho Power's ratepayers.

Action Item #5 – Shoshone Falls License Amendment

*Idaho Power will file to amend the FERC license regarding the 50-MW expansion.*

No parties commented on this action item.

Staff recommends acknowledgment of Action Item #5.

Action Item #6 – Jim Bridger Unit 3

*Idaho Power will complete the installation of selective catalytic reduction (SCR) emission-control technology.*

No parties commented on this action item.

Staff recommends acknowledgment of Action Item #6.

Action Item #7 – Shoshone Falls Upgrades Study

*Idaho Power will study options for smaller upgrades ranging in size up to approximately 4 MW.*

No parties commented on this action item.

Staff recommends acknowledgment of Action Item #7.

Action Item #8 – Jim Bridger Unit 4

*Idaho Power will complete installation of SCR emission-control technology.*

No parties commented on this action item.

Staff recommends acknowledgment of Action Item #8.

Action Item #9 – North Valmy Units 1 and 2

*Idaho Power will continue to work with NV Energy to synchronize depreciation dates and determine if a date can be established to cease coal-fired operations.*

Mr. Carbiener suggested Idaho Power include additional portfolios that mirror Nevada Power's 2013 IRP 2021 modeled shut down date for North Valmy.

Staff raised concerns regarding the forecasted shut down dates of the North Valmy plant in the Company's preferred portfolio compared to other portfolios that have lower cost and risk. However, all shut down dates considered in Idaho Power's resource portfolios occur beyond the four-year window of the 2015 IRP, so Staff discusses this matter further below.

Staff recommends acknowledgment of Action Item #9.

Action Item #10 – Shoshone Falls 2017 Upgrade

*Idaho Power will commence construction of a smaller upgrade.*

Idaho Power in its Final Comments provided clarifying and additional information regarding the planned upgrades and maintenance of the Shoshone Falls facility that

enables Staff to retract its initial recommendation of non-acknowledgement. The upgrade of the Shoshone Falls facility is necessary for continued reliable operations.<sup>17</sup>

Staff recommends acknowledgment of Action Item #10.

Action Item #11 – Jim Bridger Units 1 and 2

*Idaho Power will evaluate the installation of SCR technology for units 1 and 2 at Jim Bridger in the 2017 IRP.*

Staff noted in its Final Comments that when Idaho Power models Section 111(d) compliance paths, it should fully consider Jim Bridger scenarios that are informed by considerations and possible decisions of the co-owner PacifiCorp. Staff addresses matters related to Jim Bridger in recommendations made under Action Item #4.

Staff recommends acknowledgment of Action Item #11.

Action Item # 12 – Shoshone Falls 2019 On-Line Date

*Idaho Power will place the smaller upgrade on-line.*

Similar to Action Item #10, Staff initially recommended non-acknowledgement of this Action Item in its Final Comments. However, Idaho Power provided clarifying information that led Staff to retract that recommendation.

Staff recommends acknowledgment of Action Item #12.

**Other Issues**

Selection of Preferred Portfolio

Staff and CUB challenged Idaho Power's selection of portfolio P6(b) as the Company's preferred portfolio due to its higher cost, higher risk, and higher Section 111(d) compliance cost compared to alternative resource portfolios. The Company responded

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<sup>17</sup> Idaho Power's Final Comments, at page 7, Docket No. LC 63, February 19, 2016.

that in addition to the relatively small differences in cost for the portfolios that Staff and CUB contended were quantitatively supported, portfolio P6(b) minimized qualitative risks.

Idaho Power also correctly identified that the Commission in its review of a utility's IRP will only consider items set forth in the utility's short-term Action Plan.<sup>18</sup> The portfolios that Staff and CUB argued were more appropriate choices share the same four-year Action Plan as the Company's preferred portfolio. From this, the Company argues the Commission should acknowledge the Company's IRP.

Staff reiterates its observation made in its Final Comments: an Action Plan is only justified by the long-term resource plan. Despite similar or even identical Action Plans, they are otherwise irrelevant if not considered in the broader context of a cost-risk optimal long-term resource plan.

Staff agrees with Idaho Power's position that the Commission should acknowledge Idaho Power's 2015 IRP Action Plan.

#### Qualitative Risk Analysis

Both CUB and Staff raised concerns over the Company's reliance on qualitative risks to support the selection of portfolio P6(b) as the preferred portfolio despite four lower-cost, lower-risk alternatives. In particular, Staff raised concerns regarding the Section 111(d), "regulatory" resource commitment, PURPA, and DSM implementation qualitative risks. Though Idaho Power further clarified some of Staff's concerns in its Reply Comments, Staff believes that some of these lower-cost, lower-risk portfolios also afford the same qualitative risk benefits the Company attributes to preferred portfolio P6(b). Because of the lack of comprehensive evaluation of qualitative risks of all other portfolios besides the preferred portfolio, Staff recommends Idaho Power pursue a systematic evaluation of all portfolios' qualitative risks. This evaluation must be balanced and consistent in its comparisons in order to support future preferred portfolios. Despite this concern, Staff appreciates Idaho Power's broader assessment in assessing qualitative risks.

Staff recommends Idaho Power include a more systematic evaluation of the qualitative benefits of the resource portfolios in the 2017 IRP.

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<sup>18</sup> Commission Order No. 14-253, at page 12, Docket No. LC 58, July 8, 2014.

2015 IRP Update Waiver

In its final comments, Staff recommended that Idaho Power provide updated Section 111(d) and existing coal unit considerations in the 2015 IRP Update. Idaho Power replied in its Final Comments that, though it plans to comply with Staff's recommendations regarding additional analyses, doing so in the 2015 IRP Update would be inefficient. The Company notes that the 2017 IRP is due only three months after the planned 2015 IRP Update filing. Because the analyses requested by Staff are substantial and therefore more suited for a complete IRP cycle rather than an IRP Update, Idaho Power recommends the Commission waive its obligation to file a 2015 IRP Update.

Staff agrees and recommends the Commission waive Idaho Power's obligation to file a 2015 IRP Update.
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**PROPOSED COMMISSION MOTION:**

Idaho Power's 2015 IRP be acknowledged with the following recommendations by Staff as contained in this report and summarized in Attachment A to this report.

**ATTACHMENT A**

<b>Action Item</b>	<b>Description</b>	<b>Staff Recommendation</b>
<b>1</b>	<b>B2H – ongoing permitting, planning studies, and regulatory filings</b>	<b>Acknowledge</b>
<b>2</b>	<b>Gateway West – ongoing permitting, planning studies, and regulatory filings</b>	<b>Acknowledge</b>
<b>3</b>	<b>Pursuit of cost-effective energy efficiency</b>	<b>Acknowledge</b>
<b>4</b>	<b>Implementation planning for Section 111(d)</b>	<b>Acknowledge with Recommendations</b>
<b>5</b>	<b>Shoshone Falls license amendment</b>	<b>Acknowledge</b>
<b>6</b>	<b>Jim Bridger 3 – Complete SCR installation</b>	<b>Acknowledge</b>
<b>7</b>	<b>Shoshone Falls upgrade study</b>	<b>Acknowledge</b>
<b>8</b>	<b>Jim Bridger 4 – Complete SCR installation</b>	<b>Acknowledge</b>
<b>9</b>	<b>North Valmy – NV Energy collaboration</b>	<b>Acknowledge</b>
<b>10</b>	<b>Shoshone Falls 2017 upgrade</b>	<b>Acknowledge</b>
<b>11</b>	<b>Jim Bridger 1 &amp; 2 – SCR evaluation</b>	<b>Acknowledge</b>
<b>12</b>	<b>Shoshone Falls 2019 on-line date</b>	<b>Acknowledge</b>

**Recommendations**

In addition to acknowledgement of the Action Plan items, Staff recommends that the Commission direct the Company to:

- Analyze alternative Section 111(d) compliance paths' impacts on Idaho Power's respective liabilities in North Valmy and Jim Bridger generation stations with stochastic analysis for each compliance path in the 2017 IRP.
- Calculate the cost of compliance with these paths for Idaho Power, and the impact of these costs upon Idaho Power's ratepayers.
- Include a more systematic evaluation of the qualitative benefits of the resource portfolios that Idaho Power analyzes in the 2017 IRP.