

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**LC 58**

In the Matter of  
  
IDAHO POWER COMPANY  
  
2013 Integrated Resource Plan

Opening Comments of Renewable  
Northwest Project

Renewable Northwest Project (“RNP”) appreciates the opportunity to comment on Idaho Power Company’s (“Idaho Power” or “the company”) 2013 Integrated Resource Plan (“IRP”). In general, Idaho Power’s IRP reflects encouraging advancements in transmission development and demand response, but relies on outdated assumptions that overstate the costs of wind resources and underestimate the costs and risks of additional coal investments. These comments describe RNP’s assessment of the Idaho Power IRP with respect to the (1) benefits of new transmission development; (2) merits of expanding Idaho Power’s demand response program and refining Idaho Power’s flexibility analysis; (3) need for a more robust analysis of coal replacement portfolios; and (4) flaws in Idaho Power’s analysis that cause it to overstate the capital costs of wind resources and wind integration rates. RNP looks forward to working with Idaho Power and other parties during the technical workshop in order to arrive at a resource strategy that appropriately balances costs and risks and that facilitates the development of a cleaner, more flexible resource portfolio.

**1. Idaho Power’s IRP Demonstrates the Benefits of New Transmission Development**

RNP supports the development of the Boardman to Hemingway transmission line (“B2H”) as the primary resource in Idaho Power’s preferred resource portfolio and believes that

B2H would yield economic, environmental and reliability benefits for Idaho Power's customers and the region. The primary benefits of B2H to Idaho Power are as follows:

First, in terms of economic benefits, B2H would provide Idaho Power with transmission access 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. With the addition of B2H, Idaho Power can expand its access to Northwest energy markets in order to serve summer peak loads, thereby avoiding the need to construct peaking resources for such load service. During times when other Northwest utilities experience peak loads, B2H offers opportunities for Idaho Power to sell excess energy into the market, generating revenue that is credited to the company's customers. B2H also provides economic benefits to Idaho Power customers and the region by enabling the company to share operating reserves with other regional utilities. In addition, B2H can help Idaho Power lower the cost of integrating variable renewable energy resources by allowing the utility to access maturing markets for within-hour flexibility. Those maturing markets include within-hour scheduling with other balancing authorities and the energy imbalance markets evolving in the Northwest and California.

Second, B2H offers environmental benefits by enabling Idaho Power to reach renewable energy resource zones in the Northwest, thereby facilitating the potential development of new renewable energy resources and allowing for regional reserve sharing in order to help integrate variable energy resources. Depending on how Idaho Power and its project partners use the B2H capacity, transmission capacity could be made available to renewable resources, thus enabling those resources to serve the entire region. New regional transmission also facilitates the sharing of regulation reserves, reducing the quantity of balancing reserves needed to integrate variable renewable energy resources.

Finally, B2H will provide the region with reliability benefits. B2H provides the company (and other utilities) with additional options to serve customers; this added flexibility is particularly important in the event of a transmission outage on Idaho Power's system. Adding this new connection to the Northwest grid will bring improved energy security to Idaho Power's customers and the broader region.

In addition to its lead role in developing B2H, Idaho Power is also providing a supporting role in the development of the Gateway West transmission line project. The reasoning behind RNP's support for B2H also applies to Gateway West, and RNP supports Idaho Power's continuing role in the development of Gateway West.

## **2. Idaho Power Makes Strides with its Demand Response Program, But Should Further Refine its Flexibility Analysis**

RNP applauds Idaho Power for continuing to expand its demand response program. Idaho Power's preferred resource portfolio calls for increased use of demand response to satisfy temporary capacity deficits. Demand response offers a flexible, low-cost, low-carbon solution to meeting capacity deficits.

Another flexible, low-carbon resource for Idaho Power is energy storage. While Idaho Power's modeling appears to indicate that pumped storage hydro is nearly a cost effective resource for Idaho Power, Idaho Power's evaluation of energy storage does not consider the various purposes for which storage technologies, such as pumped storage, can be used. In addition to providing peaking capacity, storage resources provide incredibly flexible capacity, lowest variable cost balancing reserves, and arbitrage opportunities. RNP encourages Idaho Power to analyze how pumped storage and other storage resources can be used not only to meet capacity deficits, but also to provide flexible capacity and balancing reserves.

An important first step for valuing energy storage in subsequent IRPs will be to improve

the flexibility analysis required by the Oregon Public Utility Commission (“Commission”) in Order 12-013. RNP believes that Idaho Power’s flexibility analysis performed in connection with this IRP does not meet the Commission’s guidelines and must be improved upon in order to properly recognize the unique value of flexible capacity. Energy storage resources are particularly adept at providing flexible capacity.

### **3. Coal Replacement Portfolios Are Good For Oregon Ratepayers**

RNP is encouraged that Idaho Power has modeled the retirement of its coal resources; however, RNP disagrees with the company’s conclusion that continued investment in coal is in the best interest of Oregon’s ratepayers. Transitioning away from coal is of important strategic value for all Northwest utilities. Coal replacement portfolios allow ratepayers to avoid expensive pollution control upgrades, to mitigate exposure to future carbon policy, and to be served by low-cost, diverse replacement generation.

Coal retirement is a necessary component of meeting future carbon reduction goals. Of the nine portfolios modeled, only the four coal transition portfolios meet Idaho Power’s Board of Directors’ goal to lower emission intensity by ten to fifteen percent relative to 2005 levels (2013 IRP, Page 100). After identifying four portfolios that meet the Board’s sensible target, the company concludes that the four coal replacement portfolios are not least cost and least risk. RNP believes there are at least three reasons why this conclusion is premature.

First, the IRP does not contemplate natural gas boiler conversion as a replacement strategy at the Jim Bridger units. Natural gas conversions have proven themselves to be one of the least-cost replacement options for retiring coal units. Conversion allows the thermal facility to continue delivery of seasonal capacity, without the more expensive costs of building green-field peaking capacity units. Coupled with long-term least-cost energy resources and market

purchases, portfolios with natural gas conversions have demonstrated themselves to be least cost, least risk in other utility plans, most recently with PacifiCorp's proposed conversion of Naughton Unit 3. Idaho Power, in contrast, did not estimate the costs of converting each of its coal plants. For the Jim Bridger units, this omission is particularly glaring given that PacifiCorp, the plant's joint operator, performed a natural gas conversion engineering study for the exact same units as a part of its IRP. Idaho Power should not make any expensive pollution control investments before studying natural gas boiler conversion as a low cost resource alternative for each of its coal units.

Second, the IRP underestimates the cost of continued operation of its coal facilities by not considering a range of pollution compliance costs. There exists some uncertainty about the engineering costs associated with installing selective catalytic reduction controls at the Jim Bridger units. There exists considerably more uncertainty about additional future costs that may be associated with achieving the Regional Haze Program's 2064 visibility goals. The IRP document is bereft of any details on how the costs of required and reasonably likely pollution control upgrades are calculated. This is a troubling omission in the IRP, and RNP will continue to look for additional information from the company. Idaho Power must make a full accounting of all reasonably likely pollution control investments before committing to expensive upgrades at its coal units.

Third, the IRP does not contemplate recent progress on federal energy policy, and as a result, fundamentally underestimates the costs associated with continued operation of its coal facilities. Recently, the federal government made clear that CO<sub>2</sub> will be regulated and controlled. In June of this year, President Obama released a presidential memo directing the EPA to develop additional regulations to limit CO<sub>2</sub> emissions from upgraded and existing thermal power plants.

These rules will be proposed by June of 2014. States will finalize their CO<sub>2</sub> control programs for existing thermal resources by 2016. The regulations will increase the costs of operating coal units, and may not allow these facilities to operate at today's level of output—if they allow them to continue operating at all. Idaho Power should avoid long-term investments in its coal fleet at a time when the federal government has committed to regulating CO<sub>2</sub> emissions from these plants, but has not yet established how stringent the regulations will be.

#### **4. Idaho Power's IRP Overstates Wind Resource Costs**

Idaho Power's IRP misrepresents the value of wind, both by mischaracterizing the resource cost and by proposing an inaccurate wind integration rate.

Idaho Power's assumed cost differs widely from the source material on which the company's cost assumptions are supposedly based. The IRP used the National Renewable Energy Laboratory's ("NREL") February 2012 report, *Cost and Performance Data for Power Generation Technologies*, as the basis for its supply side resource assumptions (2013 IRP, Page 4). However Idaho Power's assumed costs are inconsistent with the NREL report—oftentimes, strikingly so. The IRP does not explain this discrepancy, and the lack of clarity on what new resource costs are based undermines RNP's confidence in the IRP portfolio results.

For wind resources, the assumed resource cost is particularly problematic. The assumed costs for wind resources in or near Idaho Power's system territory is very high and differs from the NREL source document. The IRP dramatically underestimates the capacity factor of modern wind turbines, significantly overestimates wind's capital costs, and proposes an unsupported and unreasonable wind integration rate. These three errors combined result in a proxy wind resource with a levelized costs of \$169/MWh, which is many times more expensive than wind resources available for procurement today. An unreasonable wind integration rate is then added to this

overestimated levelized cost.

The IRP uses unsupported and unreasonably low wind capacity factors. The company assumed a twenty-six percent capacity factor for new wind resources, despite continual advancements in wind turbine technology that allow for higher capacity factors in the class 3 and 4 wind resources available to Idaho Power. Recognizing turbine technology improvements, the NREL report suggests using thirty-three to thirty-seven percent capacity factors for wind resources similar to Idaho Power's. This adjustment alone would decrease the levelized cost of energy calculated by Idaho Power by twenty-seven to forty-two percent per MWh.

Idaho Power assumes wind capital costs that are significantly higher than those reported in the IRP's stated source, the NREL report. Idaho Power assumes that the cheapest wind resources available to the utility on a going-forward basis are located in Magic Valley, with a plant capital cost of \$2,229/kw (Appendix C, Page 85). The NREL report identifies present wind capital costs at \$1,980/kw—eight percent lower. Idaho Power gives no explanation as to why its cost assumptions differ from the source it appears to rely on for cost information.

Solar capital costs are similarly overstated in the company's IRP. Idaho Power assumes that solar capital costs will be ten percent more expensive than those established in the NREL reports for both fixed and one-axis tracking 10 MW systems. Once again, no explanation is given for this troubling discrepancy.

The wind integration costs resulting from Idaho Power's 2013 Wind Integration Study are likewise overestimated. Idaho Power's Wind Integration Study concludes that wind integration will cost the company \$8.06-\$19.01/MWh, depending on the level of wind penetration on the system. For a quick comparison, Portland General Electric's 2013 wind integration study update resulted in a \$3.99/MWh cost, PacifiCorp's 2012 wind integration study

resulted in a \$2.55/MWh cost, and the Bonneville Power Administration's 2014-15 rate case resulted in roughly a \$5.30/MWh cost for standard wind integration services using hourly scheduling. Idaho Power's elevated wind integration costs are the result of a flawed assumption regarding the amount of balancing reserves required to integrate wind.

Balancing reserves allow systems to integrate wind by providing capacity to compensate for any differences between the real-time wind generation and the scheduled generation that was forecasted an hour earlier. Idaho Power's Wind Integration Study assumes that balancing reserves must be held to cover the much larger schedule error associated with the difference between real-time generation and the forecasted generation made the previous day (2013 Wind Integration Study, Page 23). Because day-ahead forecasts are much less accurate than hour-ahead forecasts, the practical result of this study methodology is to require many more balancing reserves to integrate wind than are actually needed to make up for differences between hour-ahead forecasted generation and real-time generation. As a result, Idaho Power's study estimates that wind integration requires more balancing reserves and will be much more costly.

This flawed study assumption was new for the 2013 Wind Integration Study. The 2007 wind integration study correctly based the size of the balancing reserves on the difference between the hour-ahead forecast and the actual generation (2007 Wind Integration Study, Page 41). The company does not explain why the methodological change is warranted for the 2013 Wind Integration Study.

The Technical Review Committee ("TRC"), required by Commission Order 12-177, did flag the unsupported methodological assumption as a significant concern. However, because the TRC was introduced after Idaho Power had nearly completed its Wind Integration Study, the company chose to simply acknowledge the TRC's comments but not change the study's



methodology. While it is understandable that the company was at a late stage and had limited flexibility to change its methods after the TRC was formed, RNP reminds the Commission that this Wind Integration Study did not receive the level of comprehensive review and participation by the Technical Review Committee that the Commission had envisaged in Order 12-177.

RNP appreciates that Idaho Power will have an opportunity to correct for this methodological error in its next wind integration study, but before then, the company will likely propose to use these wind integration rates for the purposes of creating twenty-year rate adjustments for new qualifying facilities under Oregon's PUPRA implementation. When considering whether to acknowledge the IRP, RNP respectfully asks the Commission to consider whether these wind integration results have been appropriately scrutinized for PURPA ratemaking purposes. If the Commission determines that these costs require more scrutiny, RNP recommends that the Commission not use Idaho Power's 2013 wind integration costs for the purposes of setting long-term avoided cost rates.

## **5. Conclusion**

RNP appreciates the opportunity to comment on Idaho Power's 2013 IRP and looks forward to working with the company on addressing the issues raised in our comments.

Respectfully submitted this 8<sup>th</sup> day of October, 2013.

RENEWABLE NORTHWEST PROJECT

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## CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I served the OPENING COMMENTS OF RENEWABLE NORTHWEST PROJECT upon the following parties on the service list for LC 58, via electronic mail, on October 8, 2013:

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