BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1675

In the Matter of	)	
	)	COMMENTS OF
IDAHO POWER COMPANY,	)	THE OREGON DEPARTMENT OF
	)	ENERGY
2016 Annual Smart Grid Report	)	
	)	

Summary

The Oregon Department of Energy (Department) is pleased to provide these comments on Idaho Power Company's (Company) 2016 Smart Grid Report, dated September 30, 2016. The Department is encouraged again to see the leadership that the Company continues to offer with regard to the investment in and deployment of smart grid applications on its system. As noted in the Department's comments on the Company's 2015 report, the Department believes that the Company's approach continues to appropriately balance its pursuit of innovative solutions to solve emerging challenges with a sensitivity to the costs and impacts on its ratepayers.

The Department offers comments on this year's report in the following four areas:

1. Transmission Network and Operations Enhancements
2. Substation and Distribution Network and Operations Enhancements
3. Customer Information and Demand-side Management
4. Distributed Resource and Renewable Resource Enhancements

Transmission Network and Operations Enhancements

Transmission Situational Awareness. The Department offers continued support for the Company's efforts to enhance grid reliability by improving the quality and use of data streams from multiple points on its transmission system, and looks forward to seeing the Company's assessment of the usefulness of this data in future Smart Grid Reports. In particular, the

Department would find it valuable for the Company to share insights that it gains from its collaboration with other utilities across the West through its participation in the U.S. Department of Energy research and demonstration grant for a new synchrophasor-based software application. The lessons that the Company learns from this collaborative effort will be useful to evaluate the potential for broader applicability to other utilities in Oregon.

Additionally, as noted last year, the Department reiterates its interest in the Company specifically addressing any barriers or challenges that it has faced working with its internal stakeholders (e.g., grid operators) to gain acceptance of the usefulness and reliability of the new data collected and the enhanced situational awareness that it provides. The Department understands and appreciates the value of the procedures and protocols the utilities have relied upon to build and maintain a reliable system for more than a century. Any changes to these procedures and protocols should require careful deliberation and the Department would find it valuable for the Company to share its leadership in this area with regards to overcoming challenges and barriers with internal stakeholders.

Substation and Distribution Network and Operations Enhancements

Solar End-of-Feeder Project. The Department was encouraged last year that the Company planned to evaluate the potential to locate a solar photovoltaic and battery (PV + battery) system at the end of a distribution feeder in lieu of a traditional distribution network upgrade to address operational challenges on that feeder. At the time, the Department encouraged the Company to evaluate multiple use cases for the PV + battery system once a location was selected. While the Department appreciates that the twelve feeders evaluated by the Company for this project resulted in the selection of a feeder for which battery storage was not

beneficial, the Department encourages the Company to continue exploring the potential use cases for deploying distributed battery storage on its distribution system.

Additionally, the Department believes that it would be valuable for the Company to release a more detailed accounting of its cost-benefit analysis for deploying a PV + battery system across the twelve feeders that it evaluated. Not only would this make it easier for stakeholders to understand why the Company chose the particular feeder that it did, but it would also allow for additional transparency around the manner in which the Company assesses the costs and benefits of deploying distributed resources solutions to resolve operational challenges on the distribution system.

Electric Vehicle (EV) Deployment. The Department is encouraged by the Company's embrace of EVs within its corporate fleet and its deployment of EV chargers at its workplaces to support employee EV adoption. In addition to the Company's interest in tracking the hours of usage and duration of charging by its employees and fleet drivers at the Company's EV chargers, the Department believes it would be valuable for the Company to evaluate more advanced functionality. For instance, has the Company evaluated the capabilities of its chargers to support and/or the willingness of its employees to participate in either V1G (controlled-charging) or V2G (two-way communications, charge and discharge based on grid conditions) applications? The Department also believes it would be valuable for the Company to evaluate the potential benefits that could be achieved by requiring its employee EV drivers to pay for charging based on time-of-use (TOU) rates.

Customer Information and Demand-Side Management

Again this year, the Department commends the Company for its wide-ranging efforts in this area. The Department strongly supports the expanded visibility that the Company provides

its customers through the creation of an online customer web portal, and continues to applaud the Company for its efforts to learn from its collection of smart grid data to streamline its relationships with customers and target participation in its voluntary renewables program.

As suggested last year, however, the Department would like to see the Company build on these positive steps in several additional ways. For instance, the Company may have the potential to leverage smart grid data to target customer participation in a broader array of programs, including demand response and time-of-use pilots. Additionally, the Department believes that there is significant value in providing additional real-time (or near real-time) data to end-use customers. Access to such data creates the potential for end-users, or aggregators of end-users, to participate in more sophisticated programs that allow for real-time shifting of loads based on various factors, such as price signals or the environmental attributes of the current resource supply mix. The Department recognizes that this type of functionality would require the delivery to customers of intra-hour data in real-time or near real-time through the Company's customer web portal (or possibly as a direct data stream over the end-user's wireless network). As such, the Department would like the Company to address whether its currently deployed advanced metering infrastructure (AMI) and smart grid infrastructure would support this level of functionality, or if not, what would be required to make it so.

Distributed Resource and Renewable Resource Assessment

As indicated last year, the Department supported the Company's leadership in the evaluation of non-south facing solar PV systems on the basis that non-south facing systems may better align with the utility's peak load profile. The Department is encouraged by the results presented in the 2016 Report suggesting that the Company can demonstrate real value by incentivizing west-facing PV, particularly on specific feeders whose loads peak in late afternoon

or early evening. The Department would find it valuable for the Company to present the analysis in a table or graph visually depicting these results.

Conclusion

In summary, the Department encourages the Company to:

- Share insights gained through participation in the U.S. Department of Energy research and demonstration grant for a new synchrophasor-based grid management software application;
- Share its industry leadership in overcoming internal challenges and barriers to the increased use of data streams to better manage the transmission system;
- Release a more detailed accounting of its cost-benefit analysis for deploying a PV + battery system and continue exploring potential use cases for deploying distributed battery storage on its distribution system;
- Evaluate advanced functionality with regard to EVs and EV charging station use by Company employees;
- Explore opportunities to deliver real-time data to customers and to leverage smart grid data to target customer participation in a broader array of programs; and
- Share the results of its evaluation of non-south facing PV in charts or graphs for greater impact.

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The Department commends the Idaho Power Company on its work and looks forward to future updates about the Company's smart grid projects.

DATED this 22nd day of November 2016.

Respectfully submitted,

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