

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1667

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

Introduction

The Oregon Department of Energy (ODOE) previously submitted comments on the Draft 2016 Pacific Power Smart Grid Report dated July 15, 2016, with a focus on the Company’s plan for Advanced Metering Infrastructure; evaluation tools and approaches for Distributed Energy Resources including energy storage and demand response; and specific utilization of smart grid technologies in both the distribution system (smart inverters) and transmission system (synchrophasors).

ODOE is pleased to take this opportunity to submit additional comments on the revised Pacific Power Smart Grid Annual Report dated August 1, 2016.

Advanced Metering Infrastructure: Oregon AMI Project

ODOE commends the company on continued efforts to quantify the costs, benefits and risks of Advanced Metering Infrastructure (AMI) deployment. Conducting research with other utilities to capture lessons learned was a strategic investment of company resources, while continued discussions with vendors resulted in price reductions. ODOE is very pleased that the culmination of these efforts is a positive business case for AMI and a deployment timeline in the upcoming two to three years.

ODOE appreciates the detailed description of customer benefits of AMI deployment. Improved customer service is a key benefit of AMI, and can enhance the utility-customer relationship that paves the way for other programs, like direct load control (DLC) or more dynamic pricing. ODOE concurs that AMI deployment will aid future rate design to give customers innovative rate plan options, as well as provide a platform for future smart grid applications, and is pleased to see Pacific Power identify these benefits.

ODOE does have a few questions about AMI deployment, however. For instance, why is the hourly data only available to the customer the day after it is metered? Additionally, is the AMI technology capable of providing this information directly to customer home area networks, as opposed to making it available online through a web portal? What is needed in order to allow customers to have access to the information closer to real-time with the possibility of pulling the data directly into a home energy management system? As the AMI technology is delivered and tested, and back-end IT infrastructure is implemented, ODOE would like to see these issues addressed in future smart grid reports.

ODOE commends the company for the decision to invest in a Meter Test Lab, and agrees that lab testing is a wise investment before deploying 590,000 smart meters in the field. The Meter Test Lab should contribute to a more positive customer experience and overall lower costs to deploy AMI on the part of the company.

The Customer Portal is a potentially exciting development, and ODOE looks forward to learning more about this and how it can enhance customer engagement in energy and demand reduction programs. In particular, ODOE is interested in having the company address the ability of customers to directly pull data from AMI onto their home networks, making usage data available to customers on an almost real-time basis.

The company has committed to design the AMI system with consideration for a wide variety of additional applications. ODOE supports this comprehensive view of the future value of the AMI system, and is pleased that the company has scoped the AMI system with the expectation that the nine applications described on page 13, varying from critical peak pricing to integration with SCADA, will all be feasible.

Customer Communications and Programs will be a critical part of the AMI deployment. ODOE is pleased that the company is already working on forming technology solutions like the customer portal as well as communication strategies and materials, and looks forward to updates on the customer education and engagement actions in future smart grid reports.

Transmission Network and Operations Enhancements

Transmission reliability is a cornerstone of good utility practice. ODOE commends the company for its efforts to date in deploying synchrophasors and collaborating with WECC and Peak Reliability to increase visibility and reliability on the transmission system. ODOE appreciates the detailed description of how the company is interfacing with Peak Reliability and exchanging data, and understands that Peak Reliability's current focus is identifying and analyzing system vulnerabilities and disturbances on the western grid. It would be useful for the company to include a discussion of lessons learned in future smart grid reports.

With the synchrophasor data becoming available to utilities in the first quarter of 2017, the objective of the company to integrate synchrophasor data with the new SCADA Monarch energy management system is very encouraging. ODOE looks forward to more information in future smart grid reports on how the synchrophasor data is being used to increase real-time situational awareness for transmission operations.

Substation Operations Enhancements

The company characterizes demand response and energy storage as methods to enhance substation operations. Under the section on Oregon HB 2193 implementation, the company outlines its approach to energy storage. ODOE appreciates that the company is on a steep learning curve and is impressed with the increase in analytical capabilities regarding energy storage. ODOE looks forward to more details on the energy storage evaluations in the 2017 Smart Grid Report, in particular, the company's evaluations of centralized energy storage alongside evaluations of distributed energy storage. Clear definitions of how the company categorizes "centralized" and "distributed" or "localized" energy storage would be helpful. Additionally, ODOE encourages the company to provide an assessment in future smart grid reports of its ability to leverage AMI and other smart grid technology deployments to enable more distributed, automated demand response assets. It would be helpful to see an assessment not only of demand response assets that reduce peak load to provide a capacity product, but also assets capable of providing load following or fast response ancillary services.

ODOE is pleased that PacifiCorp has developed the Distributed Energy Resources (DER) Template, and furthermore made the commitment to train transmission and distribution planners in its use. ODOE also supports the effort of the company to keep the inputs to the tool fresh (e.g. updating the cost of battery energy storage). The considerable detail provided in Appendix F is helpful, and ODOE looks forward to additional examples of DER Template evaluations in future smart grid reports.

The company's example of the DER template analysis for Redmond 5D22 circuit in Redmond, and the detailed evaluations provided in appendix F, appear to focus on a DER solution being deployed as an alternative to a single investment. This is the equivalent of limiting the DER to have one system benefit or "use case" (to borrow from the terminology used in

energy storage). ODOE supports use of the DER Template in a way that shows potential value for multiple system benefits for DER, similar to the methodology being developed for energy storage.

Demand Response

The 2016 Smart Grid Report includes the updated preferred portfolio from the company's 2015 IRP Update, which results in direct load control (DLC) being deployed in 2027 or later. ODOE encourages the company to maintain the customer engagement that is a part of the AMI deployment to assess interest and possible uptake of (DLC) to meet customer wants and needs sooner than 2027. After AMI deployment is completed over the coming two to three years, energy markets across the company's service territory may be significantly different (e.g., if a regional ISO is formed). The development of a regional wholesale market for demand response (DR) assets could change the cost evaluation and result in a nearer-term deployment for DLC than the company currently anticipates.

ODOE is encouraged that the company plans to revisit costs, capacity impacts, and supply curves of current DLC programs like the Cool Keeper as part of the 2017 IRP. ODOE would also be interested in an assessment by the company of the flexibility of its Cool Keeper program and whether it has the ability to operate more flexibly to provide other grid services beyond capacity benefits.

ODOE continues to be interested in a pilot for winter peaking DR in the company's Oregon territory. A key regional driver for DR deployment is the conclusion of the NPCC 7th Power Plan, which shows a capacity shortfall occurring in the months of December and January by the year 2021. Looking to the south, excess solar generation in the mid-day hours in

California, combined with higher levels of power traded between the Northwest and California, may result in a significantly lower value for summer peaking DR programs in the future.

ODOE looks forward to a compilation of successes and challenges with the irrigation pilot in the Klamath Basin. When the company is reaching out to customers, ODOE encourages the discussion to include the customers' desired length of commitment on the part of the company. We would like to understand if a commitment longer than 3 years might have enticed more participants or higher levels of controllable loads.

Conclusion

ODOE is encouraged by many of the developments in Pacific Power's work on smart grid development, in particular its work related to: quantifying aspects of Advanced Metering Infrastructure, energy storage applications, and Direct Load Control programs; the deployment of synchrophasors and the integration of synchrophasor data to improve transmission operations; and the development of the Distributed Energy Resources Template. ODOE looks forward to discussions of lessons learned from these efforts in future Smart Grid reports, and appreciates the opportunity to provide comments.

DATED this 6th day of October, 2016.

Respectfully submitted,

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