

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
UM 1657**

In the Matter of)	
)	
PORTLAND GENERAL ELECTRIC,)	COMMENTS OF
)	THE OREGON DEPARTMENT OF
2017 Smart Grid Report)	ENERGY
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Summary

The Oregon Department of Energy (ODOE or Department) is pleased to submit these comments on the 2017 Smart Grid Report (Report) filed by Portland General Electric (PGE or Company) on May 31, 2017.

ODOE commends PGE again this year for its continued holistic approach to planning, piloting, and scaling integrated smart grid technology solutions. ODOE believes that the deployment of advanced smart grid technologies will help to enable an electric sector in which loads can be modulated dynamically in response to grid conditions or the availability of carbon free generating resources. This type of dynamic, flexible operation of the grid will allow for higher penetrations of carbon free energy to be integrated at lower cost while helping the state to meet its long-term climate goals.

In particular, ODOE continues to support PGE’s utilization of the Smart Grid Maturity Model to guide its overall smart grid development and ODOE greatly appreciates the visualization of the company’s smart grid roadmap displayed in Section 2.4 of the Report.¹

¹ PGE 2017 Smart Grid Report, Section 2.4(a)-(c), p.

ODOE's comments below focus on the following three areas: Technology Deployment; Distribution Resource Planning; and Smart Grid Pilots.

Technology Deployment

Advanced Metering Infrastructure (AMI). In our comments to PGE's 2016 Smart Grid Report, we indicated the Department's interest in seeing PGE quantify the direct and indirect benefits associated with its deployment of Advanced Metering Infrastructure (AMI).² As an example, the Company indicates in its description of its recently deployed Outage Management System that inputs from AMI have helped to provide "faster, more accurate information to help prioritize restoration efforts and optimize field crew deployment."³ Additionally, the Company also notes that its T&D Analytics pilot program relies on AMI data inputs to help produce "actionable information required to enhance planning and operations on PGE's T&D system."⁴

ODOE reiterates its support here for PGE to quantify the value of these and other benefits (e.g., reduction of labor and fuel costs associated with truck rolls for meter reads) to demonstrate the overall value that these types of smart grid investments can deliver to utility ratepayers in Oregon.

Smart Inverters. In the Report, PGE indicates its continued involvement in the development of industry standards around smart inverters, particularly UL-1741 and IEEE-1547. Now that manufacturers have made UL-1741 certified smart inverters commercially available, ODOE would like for PGE to describe its plans to advance the type of "broad-scale enablement and adoption of smart inverter technology" that the Company says will be necessary "to realize the benefits of smart inverters at a utility scale."⁵ As the Company is likely aware, in September

² ODOE Comments, PGE 2016 Smart Grid Report, PUC Docket UM 1657, p. 2.

³ 2017 Report at Section 3.1(b), p. 32.

⁴ 2017 Report at Section 3.1(c), p. 34.

⁵ 2017 Report at Section 6.2(a), p. 70.

2017 California's Rule 21 will require the utilization of UL-1741 certified smart inverters for all new distributed solar projects seeking to interconnect to the grid.⁶ Given the dominance of the solar market by California,⁷ it is likely that this requirement will dramatically increase the commercial availability of UL-1741 certified smart inverters.

ODOE supports PGE moving toward the adoption of a requirement for the utilization of smart inverters for new distributed solar projects.

Synchrophasors. ODOE supports PGE's decision to deploy synchrophasor technology at its substations to allow the Company to maximize the value of its transmission system. PGE notes that it has installed synchrophasor technology at one substation to date and has plans to deploy the technology at an additional twelve substations "over the next few years."⁸ ODOE supports PGE accelerating the deployment of synchrophasor technology across its system, particularly given PGE's participation in the Energy Imbalance Market beginning later this year and the added value that synchrophasors can provide to PGE's participation in that market.

Distribution Resource Planning

In ODOE's comments to PGE's 2016 Smart Grid Report, the Department expressed its interest in PGE describing how its smart grid investments could be leveraged to evaluate and enable the strategic deployment of cost-effective distributed energy resources (DERs) to meet system needs. As such, the Department appreciates the thoughtful consideration that PGE has given to Distribution Resource Planning (DRP), as described in Section 2.7(b) of this year's Report.⁹

⁶ See, California's Rule 21 Interconnection Tariff, <http://www.cpuc.ca.gov/Rule21/>

⁷ See, NREL's Open PV Project, <https://openpv.nrel.gov/rankings>

⁸ 2017 Report at Section 3.2(b), p. 39.

⁹ 2017 Report at Section 2.6(b), p. 25-30.

Generally, however, the Department would like to see the Company go further to describe how it envisions DRP aligning or otherwise interacting with existing regulatory dockets at the Public Utility Commission, including: Resource Value of Solar (UM 1716), Energy Storage (UM 1751), Transportation Electrification (UM 1811), and Integrated Resource Planning (LC 66). It would also help stakeholders to better understand this process if PGE could describe how it would need to change its existing distribution capital planning to incorporate DRP.

Locational Net Benefits Analysis. As described by PGE in the Report,¹⁰ ODOE appreciates that locational net benefits analysis for DERs (one potential component of DRP) is a new field for the utility industry, not just in Oregon but nationally. This type of analysis, however, will likely be critical to unlocking innovative DER solutions that can lower overall system costs while also helping to integrate higher levels of renewable energy and enhancing system resiliency. Given this potential, ODOE would like for PGE to give this concept further consideration and to describe what near term steps could be taken to move the Company further in this direction even as industry standards develop.

Transmission & Distribution (T&D) Analytics. As noted above, ODOE appreciates the proactive approach that PGE takes to developing and piloting innovative smart grid solutions. In particular, the Department strongly supports PGE's T&D Analytics pilot described in Section 3.1(c) of the Report.¹¹ We would like to see PGE better describe how this pilot project can be used to inform DRP. For example, to what extent will this pilot help PGE to better understand the location specific costs and benefits of DERs in a way that can inform DRP?

¹⁰ 2017 Report at Section 2.6(b)(2), p. 27-28.

¹¹ 2017 Report at Section 3.1(c), p. 34.

Smart Grid Programs and Pilots

As noted previously, the Department supports PGE's proactive approach to developing and piloting innovative smart grid solutions.

Commercial & Industrial (C&I) Demand Response / Energy Partner. In Section 3.3(c) of the Report, PGE describes its Schedule 77 demand response program for non-residential customers who can commit to a 4-hour load reduction of at least 200 kW at a single point.¹² The Company notes that the prospects for this program going forward are uncertain, partly due to customers opting instead to participate in the Energy Partner program. ODOE notes that the Schedule 77 program requires a minimum commitment of 4-hour load reduction while the Energy Partner program allows for 2-4 hour commitments. As the Company considers modifications to its C&I demand response program offerings, the Department encourages PGE to consider whether lower minimum thresholds (both on time duration and minimum load reduction required) for customers to participate would actually result in greater cumulative participation levels.

Fire Station No. 1. ODOE supports the innovative solar+storage project being developed with the City of Portland at Fire Station No. 1.¹³ The Department encourages PGE, however, to consider an agreement with the city that would allow the Company to utilize the system for multiple use cases (beyond demand response).

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¹² 2017 Report at Section 3.3(c), p. 45.

¹³ 2017 Report at Section 3.3(a), p. 42.

Conclusion

Overall, the Department offers its continued support for PGE's proactive approach to planning, piloting, and integrating smart grid technologies. The comments made above reflect the Department's interest in seeing the state continue to move toward a more dynamic, flexible grid that helps to lower the cost of meeting Oregon's long-term energy and climate goals.

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Respectfully submitted,

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