Exhibit 1 - PacifiCorp Supplemental Information
2015 Smart Grid Annual Report

Requirement 6 – An Explanation of the interaction of smart grid, possible rate structures, and consumer behavior

The objectives of a comprehensive and robust smart grid strategic deployment consistent with goals set forth by Utah PSC can be achieved through implementation of technologies that improve opportunities to provide additional choices, greater reliability, and enhanced value to the customer. Success of such a strategic approach can be realized given strong customer involvement and ability to provide feedback for increased participation throughout the process.

Time-based pricing can encourage customers to change energy usage patterns. The most common price signals in the industry today are time-of-use (TOU), critical peak pricing (CPP) and critical peak rebate programs. As discussed in the revised 2015 Smart Grid Report, PacifiCorp conducted a two year pilot program in Oregon that was placed in-service beginning with the 2014 irrigation season and implemented on-peak energy surcharges and off-peak energy credits. Although the pilot program offered significant savings, the participation rate in 2014 was well below the threshold to initiate the pilot program. In 2015, more customer outreach was performed to assess customer behavior by petitioning for and receiving feedback on the 2014 program. Using that feedback, the program was modified accordingly. The customer outreach and changes are discussed in the revised 2015 Smart Grid Report and resulted in improved participation rates.

PacifiCorp's current irrigation TOU enrollment is lower than that of other utilities, with 8% of Utah customers and 1% of the Oregon customers enrolled. Higher enrollment could potentially be achieved through a redesign of the rate and more marketing. It seems reasonable to expect that 30% enrollment could be reached, which is at the lower end of the range described above. These observations are based on the findings of primary market research based on customers' stated preferences regarding hypothetical rate options. When CPP and TOU are both offered simultaneously as opt-in options, between 1.5 and 3 customers prefer CPP for every customer that prefers TOU. [1]

Requirement 8 – A discussion of alignment of the demand-side resource performance standards approved by the Commission with smart grid analysis.

The smart grid and the demand side resource performance standards annual reports perform separate cost benefit analyses for class III DSM programs. Relating to costs, both the smart grid financial analysis and the DSM performance standards analyses consider program installation and ongoing administration costs, as well as incentives paid to or on behalf of customers. For

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[1] PacifiCorp, *Volume 5 – Class 1 and 3 DSM Analysis Appendices* [Online]. Available: http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Demand_Side_Management/DSM_Potential_Study/PacifiCorp_DSM_Potential_Vol_5_Class_13_Appendix_FINAL_Jan30-2015.pdf

benefits, both analyses consider energy and capacity-related costs avoided as a result of the program.

The reports differ in their cost versus benefit comparisons. While the smart grid report incorporates DSM costs and benefits into the smart grid analysis and weighs in on the overall business case for a total smart grid solution, the DSM performance standards report utilizes the Total Resource Cost (TRC) test in conjunction with the Utility Cost test (UC) to determine viability. The UC test (also called the Program Administrator test) evaluates the effect of the DSM costs on revenue requirements. Passing the UC test indicates that the costs of the demand side resource that is recovered through rates is lower than a utility's avoided cost. The UC test does not include the costs borne directly by customers. The TRC test compares the total cost of the demand side resource to the total cost of a supply side alternative. Passing the TRC test indicates that the demand side resource is less expensive than a supply side alternative, considering both the costs borne through rates and the costs borne directly.[2]

Requirement 9 - A discussion of microgrids

In the past year there has been a shift in microgrid research and pilot projects from new microgrid deployments to methods of providing control for improved grid resiliency and communication technologies and standards for optimized cost and efficiency.[3,4,5] Alongside the continued research, different types of microgrids have been defined to provide clarity within the field. A "utility-integrated campus microgrid" is fully interconnected with a local utility grid but can also maintain some level of service in isolation from the grid, such as during a utility outage. Typical examples serve university and corporate campuses, prisons, and military bases. A "community microgrid" is integrated into utility networks and serves multiple customers or services within a community, generally to provide resilient power for vital community assets. "Off-grid microgrids" are not connected to a local utility network. "Nanogrids" serve single buildings or assets, such as commercial, industrial, or residential facilities, or dedicated systems, such as water treatment and pumping stations.[6]

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[2] Rocky Mountain Power, Utah Demand Side Management Advisory Group. *Utah Demand Side Management and Other Resources Benefit and Cost Analysis Guidelines and Recommendations. (pg. 9)* [Online]. Available: http://www.psc.utah.gov/utilities/electric/elecindx/2006-2009/0903527indx.html

[3] Burr. M (2015). Resilience through Microgrids, *2015 NASEO Energy Policy Outlook Conference*. Retrieved from: http://energyoutlook.naseo.org/Data/Sites/6/media/presentations/Burr-Microgrid-Institute.pdf

[4] DOE, *The Role of Microgrids in Helping to Advance the Nation's Energy System* [Online]. http://www.energy.gov/oe/services/technology-development/smart-grid/role-microgrids-helping-advance-nation-s-energy-system

[5] Berkeley Lab, *Closed Loop Customer And Utility Interactions with DER-CAM* [Online]. https://building-microgrid.lbl.gov/projects/closed-loop-customer-and-utility

[6] Burr. M (2015). Regulatory and Business Models for Community Microgrids, *Proceedings of the 2015 IEEE PES General Meeting*. Denver, CO.

Microgrids offer unique advantages in integrating renewable resources for increased reliability during outage events, such as natural disasters. A robust communication and control methodology must be in place in order to maintain operation during such events. Research regarding different information systems and control methods remains to be completed in order to operate a microgrid at an optimal level.[7]

A multi-phased project of interest is the Smart Power Infrastructure Demonstration for Energy Reliability and Security (SPIDERS) Joint Capability Technology Demonstration (JCTD). SPIDERS JCTD is a program to bolster the cyber security and energy efficiency of U.S. military installations and transfer the expertise to non-military critical infrastructure.[8] SPIDERS JCTD is a three-phase effort to demonstrate a cyber-secure microgrid architecture with integration of smart grid technologies, distributed and renewable generation, and energy storage on military installations for enhanced reliability. Each phase of the SPIDERS JCTD program occurs at a different site with progressively more complex and larger scopes of execution.

- Phase 1 was a single circuit demonstration of a cyber-secure microgrid for waste water treatment at Joint Base Pearl Harbor-Hickam, Hawaii.
- Phase 2 was a multi-building demonstration at Fort Carson, Colorado. It included integration of a large solar photovoltaic (PV) array and microgrid connected electric trucks.
- Phase 3 Industry Day was held August 2015 at Camp Smith, Hawaii. When complete it will be DOD's first installation-wide microgrid.

The microgrids installed for SPIDERS JCTD have shown the ability to integrate renewable and other distributed energy resources with a reduced carbon footprint and associated costs in an industrial environment. The technology and knowledge gained throughout the project will transition to non-military applications following final testing expected to occur by end of 2015.

Attachment A, Smart Grid Financial Model

Please see Confidential Exhibit 2.

[7] Brandt, T., DeForest, N., Stadler, M., and Neumann, D. (2014). Power Systems 2.0: Designing an Energy Information System for Microgrid Operation, *Proceedings of the International Conference on Information Systems 2014*. Auckland, New Zealand.
[8] U.S Department of Energy. *SPIDERS JCTD Smart Cyber-Secure Microgrids* [Online]. Available: http://energy.gov/eere/femp/spiders-jctd-smart-cyber-secure-microgrids