ITEM NO. 3

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: December 8, 2009

REGULAR X CONSENT ____ EFFECTIVE DATE N/A

DATE: December 3, 2009

TO: Public Utility Commission

FROM: Maury Galbraith

THROUGH: Lee Sparling and Ed Busch

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF: Staff recommendation to open a docket and use Oregon Electricity Regulators Assistance Project funds from the American Recovery and Reinvestment Act of 2009 to develop Commission smart grid objectives and action items for the 2010-2014 time period.

STAFF RECOMMENDATION:

Staff recommends the Commission open a docket to develop Commission smart grid objectives and action items for the 2010-2014 time period.

DISCUSSION:

On November 1, 2009, the Public Utility Commission of Oregon (Oregon PUC or Commission) received an award under the American Recovery and Reinvestment Act of 2009 (ARRA 2009) to fund an Oregon Electricity Regulators Assistance Project (Assistance Project). Through its regulatory oversight of the investment decisions of Oregon's investor-owned utilities, the Oregon PUC will be directly involved in implementing the electricity-related initiatives of the ARRA 2009. To ensure that it can meet the anticipated increased workload the Oregon PUC intends to hire new limited-duration utility analysts to manage dockets that will further develop the regulatory framework in the following ARRA 2009 topic areas: (1) Electric vehicles; (2) Energy efficiency; (3) Smart grid; (4) Renewable energy; and (5) Energy storage.[1]

The goals of the Assistance Project are to: (1) increase the capacity of the Oregon PUC to manage a significant increase in regulatory caseload; (2) facilitate timely

[1] See the Oregon Electricity Regulators Assistance Project grant application packet, dated August 28, 2009, for a complete description of the assistance project.

consideration by the Oregon PUC of ARRA electricity-related activities; and (3) create the equivalent of two new full-time jobs for a period of four years. The Assistance Project will supplement, not supplant, normal state appropriations for Oregon PUC staffing.

In its grant application, the Oregon PUC identified smart grid as one area where electric utilities and their customers could benefit from further development of the Oregon regulatory framework. At that time, the Commission identified the following regulatory issues:

- What types of rate structures will be possible with the new meters and systems that become available?
- What are the expected energy savings from these rate structures?
- Should rate structures be mandatory or optional?

These issues certainly do not exhaust the regulatory matters that will need to be addressed in consideration of the smart grid.

On September 9, 2009, the Oregon PUC held two workshops on the topic of the smart grid. In morning workshop, a consultant working with the Lawrence Berkeley National Laboratory, and experts from the Regulatory Assistance Project and the Oregon investor-owned utilities, discussed alternative visions of a future smart grid as well as key technical and regulatory issues that will likely need to be resolved along the way. The afternoon workshop, lead by Commission staff, addressed near-term technical issues where the Commission could potentially impact the development of the smart grid. A common theme of the afternoon workshop was that the Commission should attempt to set a vision for future smart grid deployment in Oregon.

In a separate Staff Report being presented to the Commission at the December 8, 2009 Regular Public Meeting, Staff is recommending that the Commission adopt a modified version of the U.S. Energy Independence and Security Act of 2007 (EISA 2007) smart grid investment standard. The standard would require each electric utility to demonstrate that it considered smart grid alternatives prior to undertaking an investment in non-advanced grid technologies. The early demonstration required by the modified EISA 2007 smart grid standard would keep the Commission and interested parties up-to-date on utility grid investment decisions. This would be a good first step towards achieving consistent and predictable smart grid policy in Oregon, however, Staff believes more is needed. The purpose of this Staff report is to recommend an

additional step, the development of a near-term Commission Action Plan, to advance smart grid deployment in Oregon.

Smart Grid 5-Year Action Plan

The smart grid has the potential to provide net benefits on several levels: at the level of the electricity customer; at the level utility distribution system; and at the level of the regional transmission system. The Commission should establish near-term objectives and mileposts to set regulatory expectations and guide utility decision making on smart grid advancement at each of these levels. The five-year action plan could also include a near-term smart grid vision statement. Staff recommends that the Commission open a docket, and use ARRA 2009 funding, to investigate and develop Commission smart grid objectives and action items for the 2010-2014 time period. Potential issues to address in the new docket include:

- What types of rate structures and services will be possible with the new meters and communication systems?
- What are the expected energy savings from these rate structures?
- Should rate structures and services be mandatory or allow customers to voluntarily opt-in or opt-out?
- Does the Commission need to develop new standards to address equipment obsolescence?
- Should new reliability metrics be developed to evaluate the performance of utility distribution systems?
- Should the Commission direct each utility to file a smart grid transition plan with periodic updates?

Attachment A is a copy of a presentation made by Lisa Schwartz of the Regulatory Assistance Project at the Commission's September 9th smart grid workshop. This presentation provides a list of ten things that commissions can do to advance consideration of smart grid technology. Commission Staff and other interested parties would work with the Commission and the appointed Administrative Law Judge to develop a comprehensive issues list for the new docket.

PROPOSED COMMISSION MOTION:

Open a docket to develop Commission smart grid objectives and action items for the 2010-2014 time period.

Smart Grid: The Role of Public Utility Commissions

Lisa Schwartz

Presentation to the Oregon Public Utility Commission

Smart Grid Workshop – September 9, 2009

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Attachment A

What Commissions Can Do

1. Scale up smart policies ahead of smart grids
   - Treat efficiency at least on a par with supply-side alternatives
   - Adopt mechanisms that align utility and consumer interests to optimize deployment of smart grid and customer-side resources – efficiency, distributed generation and demand response
   - Reveal the value of customer-side resources to all
   - Rethink transmission policies designed to connect large plants to load centers & enable competition – not to address climate change
   - Advance renewable resources through interconnection policies, portfolio standards and policies that foster distributed generation
   - Integrate rate design (incentives) with smart grid technologies/ applications to optimize consumer behavior & system operations

Attachment A

What Commissions Can Do

2. Establish guiding principles and objectives
   - In terms of consumer value consistent with sound regulation
   - Focus on high-value technologies, applications, locations
3. Specify minimum functional requirements
   - Services that must be enabled by smart grid investments for utilities to receive cost recovery
4. Develop policies to address concerns about equipment obsolescence and integration
   - Open standards and protocols

Attachment A

What Commissions Can Do

5. Plan for the transition
   - Direct each utility to file for review a smart grid transition plan that addresses the Commission's principles and objectives, discusses the state of technology, estimates costs and benefits, forecasts phased deployments, and establishes an evaluation plan
   - Require periodic updates
6. Address information access and privacy issues
   - Ensure consumer access to own information, privacy of data
   - Enable open market for products and services by mandating 3rd party access to consumer data with suitable privacy protections

Attachment A

What Commissions Can Do

7. Specify business case requirements
   - Framework and parameters for benefit/cost analysis
   - Analysis of uncertainties related to key assumptions
8. Facilitate price-responsive loads
   - Automated controls, set by consumer
9. Provide assistance and information to consumers so they can take advantage of options and functions enabled by smart grid
10. Update reliability objectives, criteria, service quality measures and reporting requirements

Attachment A

For More Information

- RAP smart grid *Issuesletter*
  - http://www.raponline.org/Pubs/Issuesletter_July09.pdf
- LBNL smart grid technical advisory team presentations at the 7/2/09 smart grid meeting, Mid-Atlantic Demand Response Initiative
  - http://sites.energetics.com/madri/meetings_2009.html
- NARUC FAQs
  - http://www.naruc.org/Publications/NARUC%20Smart%20Grid%20Factsheet%205_09.pdf

Attachment A