

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**UM 1460**

**In the matter of** )  
 )  
 )  
**PUBLIC UTILITY COMMISSION OF** )  
**OREGON** )  
 ) **OPENING COMMENTS OF**  
 ) **SMART GRID OREGON**  
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. )  
\_\_\_\_\_ )

**Comments of Smart Grid Oregon  
On the PUC Staff Straw Proposal of Oct. 22, 2010  
UM 1460**

**Introduction**

The staff is to be commended for putting forward a well thought-out straw proposal for smart grid planning to which participants in the docket can respond. While Smart Grid Oregon (“SGO”) has a number of general and specific comments, we are pleased with the efforts of staff and utilities to move towards implementation of investment in smart grid technology. These comments represent the initial effort of SGO to respond to the staff straw proposal, and, as the docket evolves, our position will likely evolve with it.

SGO has identified some key issues in the UM 1460 docket that are discussed in greater depth later in these comments. The key comments we would like to highlight are:

1. Smart grid technology presents challenges to the way the State of Oregon regulates electric utilities. To accomplish the state’s goals for the smart grid and this subject should be addressed, changes in regulatory policy may be needed, and this subject should start to be addressed in this docket

2. SGO believes that it is critical for the Commission to lead or participate in a state-wide collaborative effort aimed at developing public goals and policy for the future of the electric utility business and structure in the state.
3. A number of the original UM 1460 docket issues presented by staff do not seem to be addressed in the straw proposal or anywhere else that we can identify. These should be addressed in the Smart Grid Plan (“SGP”) and/or elsewhere.
4. A key issue that should be addressed is the opportunities and barriers that current legal and regulatory policies have on the rate of adoption and effectiveness of the implementations of smart grid technologies.

SGO would like to be a constructive partner in this docket and other smart grid considerations before the Oregon Public Utility Commission. To that end, SGO appreciates the opportunity to assist the Oregon Public Utilities Commission in framing and exploring the issues facing the successful ongoing adoption of smart grid related changes.

### **General Comments Directed to Section I- Goals & Guidelines for All Smart Grid Plans**

To the extent possible SGO has attempted to organize its comments consistent with the Straw Proposal’s structure and headings. Where a specific area has been omitted and seems deserving of separate status, SGO’s comments have been collected and included in a separate section titled, Omitted Areas Warranting Additional Treatment in the Straw Proposal.

From the outset the staff’s straw proposal appears to have omitted several important goals from its initial recommendations for opening a Smart Grid docket. *See Staff Report on ARRA Smart Grid Docket, December 8, 2009 (“ARRA Smart Grid Docket”)*. Addressing only those which were either omitted or not as fully developed as they might have been, SGO believes that:

- The staff is missing an opportunity with the UM 1460 docket to discuss whether significant changes to the regulatory structure are needed that would greatly improve the chances for rapid and successful implementation of smart grid technologies and services in the state. Smart grid technology

represents such a significant change in the way electricity is delivered and used that the docket should include discussion of whether change is needed in the way electricity is regulated in Oregon. It would be useful if the SGPs included discussion of what public and regulatory policies are needed to evolve for full implementation of the smart grid.

- While the original staff paper opening the docket anticipated investigation of rate structures that would presumably enable smart grid deployments, such consideration appears to be largely missing from the straw proposal. At the very least, the response sought from utilities could include a discussion of rate structures as they relate to costs and incentives for smart grid deployments, for example including pricing analysis relevant to the development of feed-in tariffs and ancillary services.
- The straw proposal lacks a substantive statement of the objectives of the smart grid planning process. For example, integrated resource planning is expected to produce a least-cost, robust resource plan for meeting a range of demand scenarios over time. There is no similar statement of objectives for the smart grid planning process. The goal stated in I. A. of the straw proposal is primarily procedural. The staff statement in its ARRA Smart Grid Docket was far more specific about what was expected to result from smart grid planning (*See ARRA Smart Grid Docket, P.3*).

A simple statement of the objectives for the SGP might be:

“To lay out plans for investment in those smart grid technologies that will deliver cost-effective benefit to consumers over time and to describe barriers to such investment and the utility’s plans for overcoming those barriers.”

Many commenters have suggested that moving the utilities into a smart grid planning process is premature without the PUC first stating its vision for the smart grid, as have other jurisdictions. The staff should consider this position carefully and look at jurisdictions, such as Illinois and California, where a visioning process has preceded smart grid rule-making.

The staff statement at the opening of this docket contained a number of specific questions that were expected to be answered by smart grid planning:

- 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?

The straw proposal is largely silent about many of the substantive matters raised by these questions. Notable in their absence is any discussion of recommendations on efficiency, alignment of interests, generation markets, interconnection policies and renewable portfolio standards, rate designs, guiding principles, and functional requirements. *See ARRA Smart Grid Docket Attachment, Smart Grid: The Role of Public Utility Commissions, Lisa Schwartz, Regulatory Assistance Project, 9/9/2009.* These questions need to be incorporated into the staff proposal, and obtaining the utility's opinions and proposals relating to these issues must be an essential part of smart grid planning.

Full implementation of the promise of smart grid technology will require unprecedented interaction between the regulated utility and its assets and customer-owned and third party-owned assets. The docket speaks primarily to how the utility should plan for its assets alone and does not discuss how the utility will plan to encourage and interact with assets owned by others. The integration of activities of government, utilities, regulators, third-party investors, and consumers is key to smart grid implementation, and a fuller discussion of the utility role with regard to other parties should be a key part of the SGPs. For example, the utility might work with or rely upon BPA to operate a transactive incentive signal or encourage Energy Trust of Oregon to research consumer behavior in response to pricing information. SGPs should also identify initiatives by outside parties that may affect the SGP.

Lastly, staff appears to have resisted adding a definition of smart grid in the straw proposal. SGO firmly believes that the proposal remains too vague for utility planning without a definition of what the utilities should be planning for.

There are numerous definitions in the domain, any one of which would be adequately broad – e.g., see pg 23-24 of the NIST V1 “Framework and Roadmap”.

## **Specific Comments Directed to Section I- Goals & Guidelines for All Smart Grid Plans**

Insofar as additional specific areas of Section I, Goals & Guidelines for All Smart Grid Plans, warranting comment, SGO also offers the following feedback:

### **I.A. Goal and Sub-Goals for this Docket.**

SGO asks that the staff clarify what is meant by “protocols”.

### **I.B.3. Treatment of Obsolescence Risk.**

SGO asks for comments in the SGP as to who should bear the risks for obsolescence and what mechanisms would be suggested. Does the Commission need to develop new policies to address equipment obsolescence? The straw proposal does ask about obsolescence and risk mitigation but does not discuss potential new policies to address this issue. Further, the SGP could ask for different strategies to mitigate risk of obsolescence of legacy and new smart grid technologies, e.g. technology architectures based on open standards that include forward/backwards interoperability considerations.

### **I.B.4. Utility Energy Management in Customer’s Home or Business.**

SGO believes it would be helpful to either define the boundary for customer energy use systems or ask for such a definition. The key question is whether the revenue meter is a part of the utility fixed infrastructure or part of the customer energy management system and both a variable and non-recoverable cost within traditional rate structures. There are precedents for both and arguments both ways but it is an issue that should be addressed.

To the extent that competitive markets for customer smart grid systems are entertained, the Commission and the SGP should elaborate on the I.B.4 statement “...utility should work to assure that any devices or software it is involved in installing allow for interoperability with third-party hardware and software.” The SGP should address just how the utility plans to accomplish this as well as how the overall market should operate to insure

interoperable products and services that are not directly installed and/or controlled by the utility.

## **Specific Comments Directed to Section II- SGP Structure & Content**

### **II. A. SGP Content-Overview**

This section provides proposed section headings and SGO respectfully suggests that the following topic area(s) deserve additional or separate treatment within the SGP content structure:

#### **Interoperability Standards.**

SGO recommends that interoperability standards be separated into its own section with additional considerations, such as a plan for verifying claims of interoperability and conformance to standards; plans for internal R&D to reduce integration time and costs of new systems, etc. A major consideration should be forward/backwards compatibility with newer and legacy systems. The new GWAC Decision-Maker's Checklist at <http://www.gridwiseac.org/about/publications.aspx> may provide guidance.

### **II. C. SGP Estimated Benefits & Costs.**

SGO believes it would be useful to policy-makers to add some potential non-financial benefits (or at least those hard to quantify financially) which include environmental benefits of smart grid implementations, such as more effective renewables integration and use, etc., even though PUC jurisdiction may not specifically extend to these items.

### **II.D. Systems Reliability.**

In the straw proposal there is a section that touches on potential ancillary services – e.g., dynamic voltage VAR management and conservation voltage optimization – but they are more in the context of traditional utility operational management. The opportunity to establish a market mechanism for ancillary services is not addressed. Should new reliability metrics be developed to evaluate the performance of utility distribution systems? A good deal about reliability is included in the straw proposal but the direct

question about the need to develop new metrics is not addressed. SGPs should also identify the value of improved reliability and improved power quality. The SGP should propose a valuation methodology to measure these improvements, which will also ultimately assist in measuring the cost-effectiveness of certain smart grid actions.

The straw proposal should also call the NIST Roadmap by its formal title: “NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 1.0”, NIST Special Publication 1108, January 2010. The SGP should be clear about whether standards considered as recommended include only those in the NIST Roadmap in Section 4 “Standards Identified for Implementation” or if they include the Section 4.4 “Additional Standards Identified by NIST for Further Review”.

Further, it would be useful to reference subsequent work by the Smart Grid Interoperability Panel in the PAPs (Priority Action Plans) as well as relevant NERC standards. The Commission could also be more restrictive and identify as acceptable only those standards submitted by NIST to FERC for rule-making consideration or otherwise adopted by NIST in a formal manner subsequent to the Version 1.0 Roadmap.

While the straw proposal asks for justification of “...any standards or technologies that are not recommended by NIST,” (which we agree with unambiguously) the SGP might go further and ask for identification of key smart grid standards the utility is studying or expects to use along with comments about the maturity of the standard itself and the maturity of the technical implementations (products) available. A useful consideration when identifying such standards is to also assess whether or not multiple vendors can supply functionally equivalent products based on the standards. While it is still in development by GWAC and now the SGIP, the Smart Grid Interoperability Maturity Model (SGIMM) should be referenced as a tool for assessing the maturity of standards under consideration as well as the automated technology interactions between utilities, their customers, partners and other stakeholders. The latest public information on this model can be found at [http://www.gridweek.com/2010/#session\\_1792](http://www.gridweek.com/2010/#session_1792) (login required).

## II.F. Education & Information- Customer Energy Use Management

This section is focused on consumer education and information and SGO agrees that the consumer is a critical factor in the success of demand-side smart grid initiatives. However, it would be useful to address the reasons for consumer involvement or, at a minimum, how utilities intend to

discover the right level of consumer interaction as well as how best to engage the consumer in order to insure that customer education programs are optimally targeted and effective. The goals and objectives of customer engagement can vary considerably depending on the structure of the electricity market – i.e., totally captive customers in a monopoly structure have a different role than those who are part of a competitive marketplace for their energy dollars.

## II.G. Communications and IT Infrastructure.

The Commission is “...to determine the adequacy of the utility’s communications and IT planning....” This raises the question: how would the Commission make such technology judgments? On what basis or criteria would the Commission judge a plan to be adequate? The listing in the Section includes topic headings but does not include criteria for what is adequate and what is not.

SGO would be pleased to assist the Commission in developing criteria and expertise to make such judgments. One approach, for instance, would be to focus on the objectives implicit in this Section – i.e., these seem to be ensuring that smart grid designs do not run over budgets when implemented; such designs do not unnecessarily strand existing assets; obsolescence is addressed; interoperability of systems is addressed, etc. The Commission can also concentrate on structuring recovery mechanisms and markets that build in incentives for utilities to adequately address the communications and IT planning and benefit from doing it well (or suffer from poor judgment and planning) without the Commission having to pass judgment on these technical issues.

## II. J. SG-Enabled Pricing Options.

SGO recommends some requirement for analysis of SG-based rate structures. What types of rate structures will be possible with the new meters and communication systems? The straw proposal discusses some potential pricing strategies as they relate to demand-response programs but does not look for nor discuss a range of possible options enabled by AMI systems such as energy usage analysis, feed-in-tariffs for solar or other alternative energy, monitoring and verification of energy efficiency investments, ancillary services, etc. What are the expected energy savings from these rate structures?



## **Specific Comments Directed to Section III, SGP Submission Review and Use in Future Proceedings.**

### **III. B. SGP and Annual Update Review**

SGO offers three comments on the timeframes for the SGP. First, asking for SGPs in a six month timeframe seems premature, given our recommendation that the Commission, develop a vision and goal statement for smart grid in the state of Oregon, as has been done by other states. Instead, we would suggest that SGPs be scheduled for delivery six months after adoption, in a collaborative process with all stakeholders, of a statewide vision and goals for smart grid.

Second, given that some form of collaborative process would delay progress, it would be prudent to ask utilities to provide preliminary planning for smart grid as input to the vision and goals collaboration process.

Third, given the anticipated rapid development of smart grid technologies and business cases, even a five-year planning horizon seems very long. While some aspects of smart grid may indeed warrant a five year horizon (or longer – e.g., replacing Meter Data Management Services (“MDMS”), adding Phasor Measurement Units (“PMUs”) to the distribution system, etc), other areas, especially commercial and residential smart grid devices and applications, will potentially move in a much more rapid development cycle. The SGP could ask utilities to consider appropriate planning timeframes for differing classes of smart grid investments.

## **Omitted Areas Warranting Additional Development in the Straw Proposal.**

### **Regulatory and Legal Barriers**

A discussion of regulatory and legal barriers or impediments to smart grid investments by utilities should be included in SGPs. One of the major issues with the smart grid is the potential of misalignment of traditional legal and regulatory policies and the incentive structures that are needed for utilities and others to do the necessary research and development as well as assess consumer requirements and needs to bring about optimum smart grid investments and benefits.

Following on the above theme, there is no discussion in the straw proposal concerning how utilities can be compensated for making serious investments in research and development of both technology and the marketing mechanisms to address smart grid opportunities. Not allowing recovery of this type of investment

has become a stated or implied policy on the part of regulatory commissions in some jurisdictions and is a major impediment to the wise and timely planning and implementation of potential smart grid technologies. This in turn causes significant public harm in that it delays (and in some cases completely eliminates) potential cost-saving implementations a while utilities wait for “proven” technologies and systems and third parties wait for incentives to invest.

Enabling Consumer Energy Management Markets.

SGPs should address whether competitive markets at the customer level for energy management, energy efficiency, distributed renewable net-metering or feed-in-tariffs, demand-response programs and ancillary services should be established. The straw proposal implies a similar PUC Staff position in I.B.4 but with little definition or discussion.

The straw proposal has a reference to a “...market for customer energy use management hardware and software...” (I.B.4 Utility Energy Management in Customer’s Home or Business) and has a policy recommendation that “...the Commission not allow any of the costs of to be recovered from ratepayers”. SGO agrees with this policy but would like to see more discussion about how the Commission could enable such a market and how entrants, including utilities, could benefit from participating. There are some examples in other states such as Connecticut, Illinois, Massachusetts, New York, Ohio, Pennsylvania and Texas and these could be instructive in developing Oregon’s policies for retail energy management systems and services.

The SGP should also include high-level strategy and some detail about how utilities will work with third party entrants who will provide energy-related services. For instance, anticipating that third parties will be authorized to acquire and analyze consumer energy use data, how will such data transfers be managed for optimum benefits to all parties?

#### The Impact(s) of SGP investment on IRPs.

SGPs should identify how smart grid investments may affect the utility’s current IRP.

#### Regional Transmission System Recommendations.

SGPs should include utility recommendations for changes in the investment in or operation of the regional transmission system that would support smart grid benefits

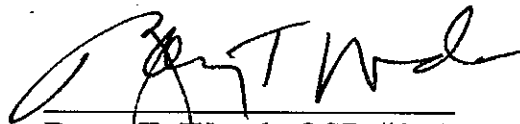
## Conclusion

SGO's comments are intended to provoke continued discussion over the scope and details surrounding SGPs. These comments represent the initial effort of SGO to respond to the staff proposal and, as the docket evolves, our position will likely evolve with it. The construction of a smart grid will be an ongoing process and necessarily involves new players, combining the visions of consumers, entrepreneurs and regulators. Smart grid planning will require the Oregon Public Utility Commission to learn how to regulate change and unforeseeable events, some of which will not fit neatly into its existing jurisdiction or historic regulatory experience. However, the benefits of constructing this new reality through incentivizing and rewarding investment cannot be underestimated anymore than the risks of taking too little action.

Accordingly, SGO would like to emphasize that smart grid technology presents challenges to the way the State of Oregon regulates electric utilities and will require it to continue a collaborative effort to develop appropriate public policy goals for the future of the electric utility business. We do not presume to yet know what the future shape of the electric utility business will be, only that this docket is the beginning of the transformation. We appreciate the opportunity to assist in clarifying its boundaries.

Dated : November 16, 2010

On behalf of Smart Grid Oregon,



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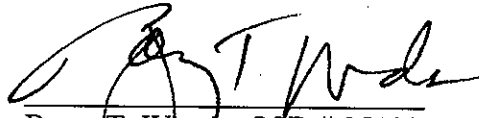
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**CERTIFICATE OF SERVICE**

I hereby certify that on this day, November 16, 2010, I served a true and correct copy of the foregoing document in Docket No. UM 1460 upon each party listed in the attached UM 1460 OPUC Service List by email and, where paper service is not waived, by U.S. Mail, postage pre-paid.

Dated at Portland, Oregon, this 16th day of November, 2010.



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**Summary Report****UM 1460 DEVELOPMENT OF SMART GRID OBJECTIVES AND ACTION ITEMS FOR  
2010-2014****Category:** Miscellaneous

In the Matter of

PUBLIC UTILITY COMMISSION OF OREGON

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...

**Filing Date:** 12/8/2009**Case** Procter, Robert J 503 378-5362**Law Judge(s):** WALLACE, SARAH K 503-378-6208**SERVICE LIST:**OREGON DOCKETS  
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**Summary Report**

**UM 1460 DEVELOPMENT OF SMART GRID OBJECTIVES AND ACTION ITEMS FOR  
2010-2014**

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**UM 1460 DEVELOPMENT OF SMART GRID OBJECTIVES AND ACTION ITEMS FOR  
2010-2014**

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