

- BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH -

In the Matter of the Consideration of the)
Amendment of Title 16 U.S.C. 2621(d) and)
the Addition of Title 42 U.S.C. 6344 by the)
U.S. Energy Independence and Security Act)
of 2007)
)
)

DOCKET NO. 08-999-05

DETERMINATION CONCERNING
THE PURPA SMART GRID
INVESTMENT AND SMART GRID
INFORMATION STANDARDS

ISSUED: December 17, 2009

SYNOPSIS

The Commission determines it is not appropriate to adopt the PURPA Smart Grid Investments Standard. The Commission adopts the Smart Grid Information Standard.

By The Commission:

REGULATORY HISTORY AND COMMISSION RESPONSIBILITY

The 2007 Energy Independence and Security Act (“2007 EISA”), signed into law on December 19, 2007, amended the Public Utility Regulatory Policies Act (“PURPA”) by adding the following four new standards to Title 1 Subtitle B of PURPA:¹ integrated resource planning, rate design modifications to promote energy efficiency investments, consideration of smart grid investments (“Smart Grid Investments Standard” or “Standard No. 16”), and smart grid information (“Smart Grid Information Standard” or “Standard No. 17”). Herein, we address the Smart Grid Investments and Smart Grid Information Standards.

¹ PURPA § 111(d), 16 U.S.C. § 2621(d).

The Commission has previously examined regulatory standards enacted by PURPA.² Title 1 Subtitle A of PURPA³ requires the Commission, with respect to each utility for which it has ratemaking authority, to consider and make a determination whether the standards set forth in PURPA are appropriate to be implemented to carry out the purposes of PURPA, which are: 1) conservation of energy; 2) the efficient use of facilities and resources by electric utilities; and 3) equitable rates to electric consumers. The Commission's consideration must be after public notice and hearing and the Commission's determination must be in writing, based upon findings included in the determination and evidence provided at hearing, and available to the public.

The Commission may choose to implement a standard or adopt a different standard from those described in PURPA. And while nothing prohibits the Commission from determining that it is not appropriate to implement a standard,⁴ if the Commission declines to adopt a standard it is required to state in writing the reason for its decision and make that statement available to the public. And while the "Prior and Pending Proceedings" provision of PURPA only applies to the Smart Grid Investments Standard, the Commission, in its consideration and determination of the Smart Grid Investments and Smart Grid Information Standards may consider whether: 1) the State has implemented Smart Grid Investments and Smart Grid Information Standards or comparable standards; 2) the Commission has conducted a

² See Docket Nos. 80-999-09, 81-999-01, 81-999-02, 81-999-03, 81-999-04, 81-999-05, 93-999-03, 93-999-04, and 06-999-03.

³ PURPA § 101, 16 U.S.C. § 2611.

⁴ PURPA § 111(a), 16 U.S.C. § 2621(a).

proceeding to consider implementation of the Smart Grid Investments and Smart Grid Information Standards or comparable standards; or 3) the State Legislature has voted on implementation of the Smart Grid Investments and Smart Grid Information Standards or comparable standards. Following a brief procedural history, we address the PURPA requirement to consider and make a determination whether or not it is appropriate to implement the Smart Grid Investments and Smart Grid Information Standards to carry out the purposes of PURPA.

PROCEDURAL HISTORY

In a letter dated August 28, 2008, the Commission informed the U.S. Department of Energy that PacifiCorp, doing business in Utah as Rocky Mountain Power (“Company”), is the only electric utility subject to PURPA over which the Commission has ratemaking authority. On September 8, 2008, the Commission issued a Notice of Technical Conference to be held on November 5, 2008, with the purpose of: 1) discussing the four new standards applicable to electric utilities enacted by the 2007 EISA and the requirements for consideration and determination of these standards; 2) identifying existing statutes and programs in place which may potentially address the standards; and 3) setting a procedural schedule.

On January 8, 2009, the Commission issued a Notice of Technical Conference to be held on January 21, 2009, with the purpose of discussing specifically the Smart Grid Investments and Smart Grid Information Standards and the requirements for consideration and determination of these standards. During the January 21, 2009, technical conference and the February 25, 2009, Smart Grid Work Group Meeting, work group participants expressed views that a workshop on smart grid issues would be helpful for evaluating the two smart grid

standards. On April 16, 2009, the Commission issued a Notice of Workshop on Smart Grid scheduled for May 13, 2009. On May 13, 2009, the referenced smart grid workshop, facilitated by the Regulatory Assistance Project, was held. Following this workshop two smart grid working group meetings were held on June 16, 2009, and July 28, 2009. In response to the information received during the smart grid workshop and working group meetings, and based on further research, on October 27, 2009, the Division filed with the Commission a recommendation pertaining to the Smart Grid Investments and Smart Grid Information Standards.

In its recommendation, the Division recommended the Commission should not adopt the Smart Grid Investments and Smart Grid Information Standards because more time is needed to ensure that smart grid technology is mature enough to warrant Rocky Mountain Power (“Company”) investment and ratepayer support in Utah. On October 28, 2009, the Commission issued a Request for Comments on the Division’s recommendation with a filing deadline of November 25, 2009, which was responded to by the Company, the Office of Consumer Services (“Office”), Utah Industrial Energy Consumers (“UIEC”), and jointly by a group of parties consisting of the Brendle Group, Park City Municipal Corporation Environmental Sustainability Department, the Environmental Defense Fund, the Town of Alta, and Utah Clean Energy (collectively referred to as “Brendle et al”).

THE SMART GRID INVESTMENTS STANDARD

Section 532 of the 2007 EISA amended Section 111(d) of PURPA and U.S.C. §2621(d) by adding the following standard:

(16) CONSIDERATION OF SMART GRID INVESTMENTS-

(A) IN GENERAL – Each State shall consider requiring that, prior to undertaking investments in nonadvanced grid technologies, an electric utility of the State demonstrate to the State that the electric utility considered an investment in a qualified smart grid system based on appropriate factors, including

- (i) total costs;
- (ii) cost-effectiveness;
- (iii) improved reliability;
- (iv) security;
- (v) system performance; and
- (vi) societal benefit.

(B) RATE RECOVERY – Each State shall consider authorizing each electric utility of the State to recover from ratepayers any capital, operating expenditure, or other costs of the electric utility relating to the deployment of a qualified smart grid system, including a reasonable rate of return on the capital expenditures of the electric utility for the deployment of the qualified smart grid system.

(C) OBSOLETE EQUIPMENT – Each State shall consider authorizing any electric utility or other party of the State to deploy a qualified smart grid system to recover in a timely manner the remaining book-value costs of any equipment rendered obsolete by the deployment of the qualified smart grid system, based on the remaining depreciable life of the obsolete equipment.

The PURPA Smart Grid Investments Standard must be evaluated in terms of the standard itself and the PURPA general requirements. With respect to whether or not it is appropriate to implement the Smart Grid Investments Standard, adopt modified standards, or decline to adopt the standards we consider the parties comments as discussed below in light of the purposes of PURPA.

A. Positions of the Parties

The Division recommends the Commission not adopt the Smart Grid Investments Standard. While the Division supports continued pursuit of smart grid technologies, it is concerned that adoption of Smart Grid Investments Standard is premature as smart grid technology is not currently mature enough to warrant the Company's investment and ratepayer support. In addition, the Division believes: it is premature to ask ratepayers to assume the costs and risks of smart grid as appropriate standards and protocols have yet to be developed and adopted; and there is a lack of sufficient information demonstrating the cost-effectiveness of smart grid technologies. Therefore the Division concludes moving forward with smart grid investments is not in the best interest of the Company or its customers.

The Division, however, recommends the Commission direct the Company to follow and evaluate the smart grid pilot programs and projects in the developmental state throughout the country to gain more useful knowledge and experience and to file an annual report summarizing its work of monitoring these projects and actions taken by the Company to evaluate or implement smart grid technology.

In support of its conclusions the Division discusses: the lack of official industry definition of smart grid per se, rather smart grid is defined by outcomes of various actions a utility can take, including investing in primary or enabling assets; the lack of industry standards and protocols for smart grid technologies; and the lack of resolution of cyber security problems associated with smart grid deployment.

The Division also asserts that lack of standards to determine what constitutes smart grid makes smart grid investments risky investments and replacing units that may still have useful lives would place the Company at risk for failing the prudence review and therefore not recovering its costs. Finally the Division mentions that rate structures which place the recovery of fixed costs in usage charges create a situation where the more a customer benefits most from smart grid technology, the less they pay for it. Such rate structures can also create a volatile revenue stream and put utility cost recovery for these systems at risk.

The Company, in general, concurs with the Division's recommendation. The Company is committed to monitoring the development of smart grid technologies and to consider their implementation as technologies mature and cost effectiveness analyses demonstrate appropriate benefits to the Company and its customers. Therefore the Company requests the Commission to direct the Company and other interested parties to meet and collaboratively determine the content of the report in order to ensure the Division's suggested report provides information that is useful in accomplishing the objectives discussed above.

Regarding Subparagraph 16(A) of the Smart Grid Investments Standard, the Company believes the Commission's existing prudency standards, combined with the Division's proposed annual reporting process, is sufficient to meet the intent of this standard. The Company maintains adding an additional requirement to the demonstration of prudency for non-advanced grid technologies would only serve to delay and encumber the resource prudency process in Utah without adding appreciable benefit.

Regarding Subparagraph 16(B), the Company believes the Commission's existing standards regarding utility cost recovery are sufficient to meet the intent of this standard. And regarding Subparagraph 16(C), the Company believes that if the obsolete assets have previously been allowed recovery from the Utah customers, the assets have already been deemed prudent by the Commission and should be granted recovery through rates. Current accounting practices consistent with FERC regulations should continue to be applied with respect to depreciable electric utility equipment rendered obsolete by investment in smart grid technologies.

The Office concurs with both of the Division's recommendations. The Office also recommends that prior to supporting the implementation of smart grid technology the Commission should consider the Smart Grid Principles presented in the National Association of Utility Consumer Advocates ("NASUCA") Resolution 2009-03 "Smart Grid Principles of the NASUCA."

UIEC disagrees with the Division's recommendation and alternatively recommends the Commission adopt Standard No. 16, Subparagraph (A), requiring the Company to make an informed analysis whenever any new equipment investment is to be made whereby the six provisions of this subparagraph are weighed when choosing between any smart grid investment versus any non-advanced equipment investment. UIEC points out the Division's recommendation fails to treat Standard Nos. 16 and 17 and their subparagraphs separately, nor has it considered whether to adopt either or both of the standards in a modified form.

UIEC presents a list of issues pertinent to smart meters and smart grid relating to load sampling data, implementation and evaluation of demand-side management programs, the

Company's Energy Gateway Transmission Expansion, penetration of variable renewable resources, the Federal Energy Regulatory Commission's Smart Grid Policy, and the \$3.4 billion Smart Grid award funding through the 2009 American Recovery and Reinvestment Act. UIEC requests the Commission give more thought to these smart grid questions and at least require the Company to consider smart grid technologies before making an investment in non-advanced equipment at all levels.

UIEC points out Subparagraph 16(A) does not require that an investment in smart grid be made – it only requires that a balanced, informed decision be made before a utility further invests in older traditional technologies. UIEC adds that as a matter of prudence, the Company should probably already be making this analysis and that investing in old technology when other options are available and without even making an analysis of the six factors is likely imprudent.

UIEC disagrees with the Division's assertion that the Commission would have to implement smart grid technologies through a general rate case or similar proceeding. UIEC maintains that the Commission's consideration of previous PURPA amendments resulted in other investigations or rulemakings. Similarly DSM and recovery of DSM expenses were implemented without a general rate case.

Brendle et al encourages the Commission to order the adoption of the Smart Grid Investment Standard as written as it is both prudent and in the public interest. Brendle et al states its understanding that the implementation of Smart Grid technologies is not required, but rather a utility must demonstrate such technologies were considered prior to making other

investments. This is a reasonable approach which promotes more strategic investments in grid technologies. In addition, Brendle maintains the requirements of the Smart Grid Investments Standard will help ensure prudent investments in the most appropriate technologies while giving careful consideration to rapidly evolving technologies and the challenges, risks, and opportunities of today and the future.

Brendle et al asserts failure to consider the most current Smart Grid developments and technologies before utility investments are made will put ratepayers at risk of paying for technologies that have a shorter useful life due to becoming obsolete as Smart Grid technologies fully mature. Adopting a wait and see approach may also put Utah ratepayers at risk by delaying solutions and upgrades that can improve electric delivery, increase energy efficiency and distributed renewable energy, and reduce outages. Further, Brendle et al states adopting Standard No. 16 will help keep Utah abreast of the best information relating to Smart Grid and may enable Utah to take advantage of current and future funding and research opportunities.

Brendle et al supports the Division's recommendation that the Commission direct the Company to follow and evaluate developments from current Smart Grid pilot projects across the U.S. and also share lessons learned by filing a report. However, Brendle et al recommends such findings also be shared with other interested stakeholders at more frequent intervals as developments in the Smart Grid industry occur. Brendle notes this type of regular evaluation is consistent with the requirement of Standard No. 16 as it will aid in the Company's strategic consideration of Smart Grid technologies when relevant investments are needed.

Regarding the Division's position on the Smart Grid standards and protocols, UIEC asserts the National Institute of Standards and Technology ("NIST") has been mandated with developing a framework of protocols and model standards on Smart Grid and, following their current schedule, final standards for interoperability and cyber security should be issued shortly. Brendle et al maintains the development of such standards is being fast-tracked by NIST and the current lack of finalized standard does not preclude consideration of Smart Grid investments before other long term investments are made.

B. Discussion, Findings and Conclusions

As a preface to our discussion on the Smart Grid Investments Standard we clarify our concept of smart grid. We agree with the Division there is no official definition of Smart Grid. Smart grid is not any one technology, rather smart grid reflects a series of attributes (e.g., increased use of digital information; dynamic optimization of grid operations, deployment and integration of distributed resources and generation, including renewable resources, deployment of smart technologies, etc.) which support various desired outcomes or objectives such as improving reliability, security, efficiency of the electric grid, or increasing demand-response or energy efficiency by customers, and the incorporation of renewable energy. As a clarification, smart grid is not simply the installation of smart meters. Metering is just one of the many possible applications which collectively comprise a smart grid. From this definition it is apparent that the concept of smart grid extends to many utility processes and investments associated with the generation, transmission and distribution of electric power.

We concur with UIEC and Brendle et al that the Smart Grid Investments Standard does not require the implementation of any particular smart grid technology. Rather, prior to making investments in nonadvanced grid technologies, a utility must make a balanced, informed decision based upon six criteria. It is unclear whether or not this requirement would promote more strategic investment in grid technologies over what is being done today, as stated by Brendle et al, as each investment would be subject to the outcome of a particular evaluation. Also unclear is whether the Smart Grid Investments Standard would necessarily result in an increase the level of investments made by the Company pertaining to the modernization of its operations.

Parties provide comment on how the existing method of utility regulation, cost recovery, and current practice address the various provisions of Standard No. 16, including the normal rate case investment prudence review, existing standards for cost recovery, and current accounting practices. We agree that these methods address various provisions of the standard.

We recognize both the Division's concern that the standards and protocols pertaining to smart grid technologies currently do not exist and UIEC's and Brendle et al's observation that the development of these standards and protocols are being "fast tracked" by NIST. We conclude that regardless of the time frame for development of the standards and protocols their existence and relationship to a particular investment decision would be addressed on a case by case basis in terms of the timing of the investment.

We are also concerned of the implications of Subparagraph (A) of the Rate Design Standard which requires that "*prior to undertaking investments* in nonadvanced grid

technologies, an electric utility of the State *demonstrate to the State . . .*” The Company voices its concern that this subparagraph would only serve to delay and encumber the resource prudence determination process without adding appreciable benefit. We agree. It is neither our intent to micro-manage the Company’s investment decisions nor to change the manner in which prudence reviews are currently being conducted.

It is apparent the Smart Grid Investments Standard is intended to support all of the purposes of PURPA. It is also apparent that some or all of the outcomes of implementing smart grid technologies related to, among other things, improving reliability, security, and efficiency of the electric grid; increasing demand-response or energy efficiency by customers; the incorporation of renewable energy and others are important to the Legislature, the Commission, and the ratepayers, in general. That said, at this time we partially agree with the Division and the Company and conclude that some smart grid-related technologies may not be mature enough to warrant investment by the Company and rate payer support in Utah. However, others may currently be available and appropriate for Company investment and prudent project management and planning would require their consideration. We concur with UIEC that, as a matter of prudence, the Company should be making an informed analysis whenever any new equipment investment is made based upon the six factors listed in Subparagraph 16(a) and other factors as appropriate.

We do not believe this conservative approach will be a detriment to ratepayers as technologies are rapidly changing and the Company has committed to monitoring the development of smart grid technologies and to consider their implementation as technologies

mature and cost effectiveness analyses demonstrate appropriate benefits to the Company and its customers. We believe this commitment addresses Brendle et al's concern that adopting a wait and see approach may also put Utah ratepayers at risk by delaying solutions and upgrades that can improve electric delivery, increase energy efficiency and distributed renewable energy, and reduce outages.

We find merit in the Division and the Company's recommendation regarding monitoring the development of smart grid technologies and to consider their implementation as technologies mature and cost effectiveness analyses demonstrate appropriate benefits to the Company and its customers. Therefore, we direct the Company, the Division, and other interested parties to meet in a technical conference noticed by the Commission in the proceeding and collaboratively determine the content of the report in order to ensure the report provides information that is useful in accomplishing the objectives discussed above.

Based on the above we find it is not necessary to adopt the Smart Grid Investment Standard at this time and direct that smart grid monitoring activities be conducted and reported as determined in the work group mentioned above.

THE SMART GRID INFORMATION STANDARD

Section 532 of the 2007 EISA amended Section 111(d) of PURPA and U.S.C. §2621(d) by adding the following standard:

(17) SMART GRID INFORMATION-

(A) STANDARD- All electricity purchasers shall be provided direct access, in written or electronic machine-readable form as appropriate, to information from their electricity provider as provided in subparagraph (B).

(B) INFORMATION- Information provided under this section, to the extent practicable, shall include:

(i) PRICES- Purchasers and other interested persons shall be provided with information on —

(I) time-based electricity prices in the wholesale electricity market; and

(II) time-based electricity retail prices or rates that are available to the purchasers.

(ii) USAGE- Purchasers shall be provided with the number of electricity units, expressed in kwh, purchased by them.

(iii) INTERVALS AND PROJECTIONS- Updated information on prices and usage shall be offered on not less than a daily basis, shall include hourly price and use information, where available, and shall include a day-ahead projection of such price information to the extent available.

(iv) SOURCES- Purchasers and other interested persons shall be provided annually with written information on the sources of the power provided by the utility, to the extent it can be determined, by type of generation, including greenhouse gas emissions associated with each type of generation, for intervals during which such information is available on a cost-effective basis.

(C) ACCESS- Purchasers shall be able to access their own information at any time through the Internet and on other means of communication elected by that utility for Smart Grid applications. Other interested persons shall be able to access information not specific to any purchaser through the Internet. Information specific to any purchaser shall be provided solely to that purchaser.

The PURPA Smart Grid Information Standards must be evaluated in terms of the standards itself and the PURPA general requirements. With respect to whether or not it is appropriate to implement the Smart Grid Information standard, adopt modified standards, or decline to adopt the standards we consider the parties comments as discussed below in light of the purposes of PURPA.

A. Positions of the Parties

The Division recommends the Commission not adopt the Smart Grid Information Standard. The Division believes more time is needed to ensure smart grid technology is mature enough to warrant Company investment and ratepayer support in Utah.

The Company, in general, concurs with the Division's recommendation that Smart Grid Information Standard not be adopted by the Commission at this time. The Company believes consideration of providing the information to customers as detailed in this standard should be deferred until such time that the infrastructure necessary to provide the information is reasonably available to the Company and investment in such infrastructure has been determined prudent by both the Company and the Commission.

UIEC, while pointing out the Division has not discussed this amendment separately from the Smart Grid Investment Standard, takes no position on adoption of this standard but notes that the statute only requires the Commission to consider the standard, and in doing so, consider whether it should be adopted as written, or adopted with modifications, or not adopted. UIEC states it is unclear whether any type of modifications were considered in evaluating this standard or whether any of this type of information is currently available or could be made available in some form.

Brendle et al encourages the Commission to order the adoption of the Smart Grid Information Standard as written as it is prudent and in the public interest. Brendle et al observes this standard requires that all electricity purchasers be provided with information about prices, usage, intervals and projections, and sources *to the extent practicable*. Brendle et al maintains that certain methods for sharing information will be more practicable than others and believes

certain practicable options exist today which would satisfy certain aspects of the Smart Grid Information Standard. Brendle et al states that large industrial users and municipal governments in Utah are already, or have expressed interest in, exploring small-scale pilot Smart Grid technologies in conjunction with the Company. Adopting Standard No. 17 could leverage these efforts and enable the joint exploration of funding opportunities to support these pilot projects.

Further Brendle et al maintains adopting the Smart Grid Information Standard will not burden the Company with sharing information that is not practicable, but expands the scope of these opportunities and leads to innovative means to create a more resilient, flexible, and efficient means to generate and deliver electricity. Among other things, Brendle et al suggests “Home Energy Reports,” currently being provided by more than 20 utility companies across the country and under consideration by the Company, have the capacity to provide information on usage and sources to both residential and commercial customers on a larger scale.

Brendle disagrees with the Division’s statement that “. . . Meeting this requirement would require full deployment of Smart Grid technologies including interoperability of all components.” While agreeing that full information distribution may entail deployment of Smart Grid technologies, Brendle et al states Standard No. 17 requires information sharing take place “to the extent practicable” and believes adopting and complying with Standard No. 17 can include a strategic, phased-in approach to delivering information where determined to be practicable by the Company, regulators, and interested stakeholders.

B. Discussion, Findings and Conclusions

Absent testimony or comments from parties, we conclude the purpose of the Smart Grid Information Standard is to provide customers sufficient information such that they are able

to make informed decisions about their electricity usage and emissions footprint. We find this standard supports the “conservation of energy supplied by electric utilities” purpose of PURPA.

We agree with Brendle et al’s observation that the Smart Grid Information Standard only requires information be provided to the extent practicable. It is unclear, however, as suggested by Brendle et al, how adoption of the Standard Smart Grid Information Standard could leverage pilot program efforts and enable the joint exploration of funding opportunities to support pilot projects.

We observe much of the information pertaining to the Company’s electric service rates and emissions is available through other means. For example, rate schedules are provided by the Company on their internet site; residential bills are annotated with usage and rates; residential customers are able to access billing information through the internet; and sources of the Company’s electric power generation can be found in the Company’s integrated resource plan and its FERC Form 1. We also note the Company’s time-of-use electric service rates are based upon off peak and on peak pricing in the summer and seasonal rates reflect summer-winter differentials – not on an hour by hour basis. Nor are daily, critical peak, or day-ahead pricing pertinent to the Company’s current electric service rates.

As Brendle et al points out, the Smart Grid Information Standard only requires that the information be provided to the extent practicable. We find that much of the information pertaining to the Company’s electric service rates and air emissions is available through other means at the present time therefore adoption of the Standard will not disadvantage the Company. Adoption of the Smart Grid Information Standard reflects our belief that customers require information to make informed decisions regarding energy usage. We also find merit in Home

Energy Report introduced by Brendle et al's in this docket as we believe information such as provided in the report could have an immediate impact on energy conservation in the Company's Utah service territory. Accordingly we direct the DSM advisory group to review the Home Energy Report and provide a recommendation whether or not such report is appropriate and, if so, an estimate of the costs and timing necessary to implement such report. Said recommendation shall be submitted to the Commission by May 1, 2010.

Based on the above we adopt the Smart Grid Information Standard. We direct the Demand-Side Management Advisory Group to review the Home Energy Report as stated above.

DETERMINATION

NOW, THEREFORE, IT IS HEREBY determined is not appropriate to adopt the Smart Grid Investments Standard and it is appropriate to adopt the Smart Grid Information Standard for the reasons mentioned above. We direct the DSM advisory Group to review the Home Energy Report and provide a recommendation to the Commission as indicated herein.

DATED at Salt Lake City, Utah, this 17th day of December, 2009.

/s/ Ted Boyer, Chairman

/s/ Ric Campbell, Commissioner

/s/ Ron Allen, Commissioner

Attest:

/s/ Julie Orchard
Commission Secretary
G#64827