State of Utah

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To: PURPA Work Group List, Docket File

From: Carol Revelt

Date: October 24, 2006

Re: Minutes of October 17, 2006 Technical Conference on 2005 EPAct Amendments to PURPA – Docket 06-999-03

Attendees:

Rocky Mountain Power:	Dave Taylor, Bill Kile, and Dean Brockbank
PacifiCorp Energy:	Greg Duvall
Utah Rural Electric Association:	Mike Peterson
Utah Clean Energy:	Sara Baldwin
Intermtn.CHP Center/ETC Group:	Patti Case
Utah Clean Air Coalition:	Kathy VanDame
Salt Lake Comm. Action Program:	Betsy Wolf
Division of Public Utilities:	Judith Johnson, Andrea Coon, Artie Powell, and Connie White
Committee of Consumer Services:	Cheryl Murray and Nancy Kelly
Public Service Commission:	John Harvey and Carol Revelt

On October 17, 2006, a technical conference was held in room 401 of the Heber Wells building with the purpose of discussing the fuel sources and fossil fuel generation efficiency standards included in the 2005 Energy Policy Act ("EPAct") amendments to the Public Utility Regulatory Policies Act ("PURPA"). During this conference a power point presentation and a document containing a draft recommendation were distributed. The following summarizes the items discussed during this technical conference.

I. Procedural Requirements/Issues

Prior to discussing the individual standards, the PURPA goals and procedural requirements were reviewed and supporting policies were mentioned. The Division of Public Utilities ("Division") reiterated the PURPA's requirement to consider the standard and then either implement the standard, decline to implement the standard, or adopt a different or modified standard. In addition, any decision not to implement a standard must be accompanied by the supporting rationale. Rocky Mountain Power ("RMP" or "Company") asked for the reference section in PURPA dealing with adopting a modified standard (see Follow-up Item #1).

The Division also proposed the following regarding how to reach closure on each standard. They recommended that if, after each technical conference, the group reached

some type of consensus on the standard in question, the Division would submit a recommendation to the Commission within approximately 30 days after the technical conference. If consensus was not reached the Division would submit their recommendation to the Commission and other parties could submit theirs. The Commission could then solicit reactions/input/comments from the public and other interested parties. In this manner each standard will be resolved individually as opposed to collectively after all of the technical conferences are held. The group agreed with this approach. A question was also raised regarding the Commission Staff's participation in this docket (See Follow-up Item #2).

Follow-up Items:

1) PURPA Sec.117. Relationship to State Law
(b) State Authority: Nothing in this title prohibits any State regulatory authority or nonregulated electric utility from adopting, pursuant to State law, any standard or rule affecting electric utilities which is different from any standard established by this subtitle.

2) Sandy Mooy indicated that since this investigation is similar to a rule making effort he did not see problems with staff participating in the effort and making comments.

II. Fuel Sources Standard

*Each electric utility **shall develop** a **plan** to **minimize dependence on one fuel source** and to ensure that the electric energy it sells to consumers is **generated using a diverse range of fuels and technologies, including renewable technologies**.*

After reviewing a summary of this standard and the draft proposal (see Attachment 1) the following issues were voiced:

- The Company stated that it believes it is meeting and in compliance with all of the standards. In theory the Company's Integrated Resource Plan (IRP) evaluates a variety of supply- and demand-side resources and picks optimal portfolio which results in a percentage of resources in the final resource mix. The IRP action plan then summarizes the actions necessary to achieve the plan. The IRP is developed by looking at a broad range of resources on a comparable basis.
- The IRP contains quite a bit of information but it is not presented such that it relates specifically to this PURPA standard. The Company referenced the recently circulated IRP studies and how the program created portfolios with different resource mixes (i.e., wind, DSM, pulverized coal, combined heat & power) that are reasonable and put them in candidate portfolios. The program then takes the portfolios and exposes them to other scenarios. The Company cannot predict the results of the evaluations.
- Company volunteered to add a section addressing the PURPA fuel sources standard with a discussion of how fuel diversity is achieved. The question was raised about what the group thinks isn't in the IRP and what needs to be said explicitly in order to address the standard. There is a public meeting on the IRP

scheduled on October 31, and the company will be issuing a draft soon thereafter. They are shooting on the second week in November for comments.

- Must be cautious about modifying procedure which leads to something less than the optimal mix.
- Fuel diversity is a by-product of the IRP procedure in that fuel diversity is evaluated. The IRP indirectly evaluates what is the cost of reducing reliance on a particular fuel and how to reduce.
- IRP incorporates risk analysis when making cost/benefit decisions. The following are links to research papers by Awerbuch on modeling diversity risk. (see: http://www.awerbuch.com/shimonpages/shimondocs/Airtricity-Scotland.pdf or http://www.awerbuch.com)
- According to PacifiCorp, the current approach to risk in the IRP is capturing the benefits of the various portfolios.
- Division referred to sections of the "Reference Manual and Procedures for Implementation of the "PURPA Standards" in the Energy Policy Act of 2005" regarding items to be evaluated such as fuel availability studies, hedging policies of the Company, and tax policies/legislative incentives. The question was raised as to whether this is addressed in the cost benefit analysis. This manual can be found at: http://www.naruc.org/associations/1773/files/PURPA_Manual_webversion.pdf
- A question was raised about whether this standard addresses social/environmental costs such as air quality, water quality. Also the issue of addresses energy production in terms of environmental parameters such as gigawatt-hours/acre feet of water or per ton of NOx/Hg. Other than costs being built in there is nothing in the IRP that addresses societal costs explicitly. Currently, however, those issues could be addressed in the PacifiCorp RFP docket.
- The current IRP guidelines and standards issued in docket 90-2035-01 should be reviewed by the group to determine if they sufficiently address this issue. A docket to modify/clarify the standards and guidelines was opened a number of years ago but was but was suspended at PacifiCorp's request without making any changes. (Reference dockets 01-035-35 and 02-035-03).
- There was discussion regarding implicit vs. explicit plan. It was also voiced that in requiring a plan there should be some definition of what should be in the plan.

Follow-up

- By October 24, 2004, provide to Judith comments on:
  - The proposed standard draft proposal in the handout
  - Should the Commission adopt the standard, decline to adopt the standard, or adopt a modified standard? If you propose to modify the standard please provide modified wording.
  - Review IRP standards and guidelines and provide comments as to whether it addresses the standard.
- Judith will the compile and circulate comments and a recommendation. Based upon the comments on the compiled document it will be determined if consensus on the issue has been reached.

III. Fossil Fuel Generation Efficiency Standard

*Each electric utility **shall develop and implement a 10-year plan** to increase the **efficiency of its fossil fuel generation**.*

After reviewing a summary of this standard and the draft proposal, general discussion included the following:

- This standard is in conflict with other goals such as the installation of pollution control devices (which decreases thermal efficiency). Efficiency must be judged not only in terms of heat rate but also in terms of other goals and regulatory requirements, both of which may change through time.
- If the standard is a balancing act it is really not much of a standard.
- What is the definition of efficiency? It may be too narrowly defined if expressed solely in terms of heat rate. Instead of BTU/kw-h are there other metrics that we care about?
- Are there unintended consequences to adopting this standard as written? Is this a detrimental standard? This standard should not be implemented as written.
- If statutes and ratemaking principles are effective for utilities this issue is already addressed. This principle is already built into the regulatory mechanism. Maintaining efficiency is a benefit to the customers and incentives exist for the company to ensure this. In the short run managing fuel costs is a benefit to the shareholders and in the short and long run it benefits customers. In addition, the cost of fuel is a huge expense to the company therefore they have a huge incentive to manage these costs.
- During the conference the following modified wording was proposed "Each electric utility shall develop and implement a 10-year plan to ~~increase~~ optimize the efficiency of its ~~fossil fuel~~ generation". An alternate proposal was to substitute the words "manage" or "examine" or "improve" for "optimize". Someone defined "optimize" as the best you can do within constraints imposed. If the word "optimize" is used then there should be some wording on what is meant by "optimize", i.e. "in terms of regulatory requirements, commission goals, etc.
- The idea of measuring the efficiency of the portfolio and striving for a certain percentage improvement was proposed. Maybe look for improvement of heat rates within specific categories/classes that are of interest, i.e. supercritical pulverized coal, IGCC, etc. – if we approach it this way we are not forcing a tradeoff.
- Discussed how company approaches unit heat rate in the IRP. The capacities of the units don't change with time – the amount of fuel required to maintain the same energy output increases with time.
- The Company discussed the four-year overhaul schedule of the fleet and the budgeting process. The Company looks at efficiency on a fleet-wide basis. As newer units are installed the entire fleet becomes more efficient, however the fleet is always degrading over time. Each unit is like an auto and is most efficient when new. During an overhaul the unit heat rate improves but it is never as good as when the unit was new. To manage efficiency the company relies on

maintenance plans, capital plans, and the installation of new/more efficient units. A detailed plan at the unit level would be cumbersome to manage. The company could calculate historic and going forward heat rates on a fleet-wide basis for comparison.

- The concept of efficiency is also based upon how the units are operated as a fleet. It is more efficient to get more power out of one big unit than small amounts of power from all of the units. Units not run at full load are less efficient.
- Is the concept embedded in this standard addressed in the IRP? If you consider this in terms of improving the efficiency of existing plants the answer is "no". But if you consider this in terms optimizing the entire portfolio then perhaps the answer is "yes".
- How is it addressed in the IRP? Is it via cost? If you compare a gas plant with a gas plant then it is in terms of cost but if you compare a gas plant with a coal plant it is evaluated on many more things. Combined heat & power in IRP is difficult to evaluate because you need to have more than just the utility.
- There is no explicit plan in the IRP, although overhaul improvements are part of the IRP. This may need an addendum to the IRP to address this although the group should review the IRP standards and guidelines to determine if this is already addressed. This might be a topic for the "efficiency" docket.

Follow-up

- By October 24, 2004, the Company will look at the draft proposal and propose revisions to Judith.
- Judith will then circulate the proposed revisions to the group and request comments addressing whether we should:
    - Adopt the standard, decline to adopt the standard, or propose a modification to the standard. If you propose to modify the standard please provide modified wording.
    - Review IRP standards and guidelines and provide comments as to whether it addresses the standard.

IV. Future Technical Conferences

Future technical conferences addressing the new PURPA standards are scheduled as follows. A Commission notice will be issued soon.

1) November 9, 2006 at 9:30 a.m.: Time-Based Metering and Communications
2) December 13, 2006 at 1:30 p.m.: Interconnection
3) January 10, 2007 at 9:30 a.m.: Net Metering

Attachment 1 to Meeting Minutes

PRELIMINARY RECOMMENDATION REGARDING ADOPTION OF PURPA STANDARDS[1]

Division of Public Utilities

October 17, 2006

IV. PURPA Fuel Sources Standard:

Each electric utility **shall develop** a **plan** to **minimize dependence on one fuel source** and to ensure that the electric energy it sells to consumers is **generated using a diverse range of fuels and technologies, including renewable technologies**.

Q. PURPOSE OF THE STANDARD?

A. Having diverse fuel sources reduces risk thus reducing potential future costs and reliability problems that could come from a shortage/high price of a certain fuel. The standard discusses both fuels and technologies. Technologies that manage load could also be considered a source of fuel diversity. (Reference Manual, page 51, section 4.2.3.1.2.1 Energy price risk mitigation for generators for a discussion of this issue.)

Q. CURRENT STANDARDS IN PLACE IN UTAH THAT ARE EQUIVALENT?

A. The IRP process inherently leads to a fuel source plan since it picks a portfolio of resources. However, there is no explicit standard in place that calls for minimizing dependence on one fuel source.

Q. PRIOR STATE ACTIONS?

A. The following prior state actions were identified during the August 30 technical conference:

- Docket 90-2035-01 – In the Matter of Analysis of an Integrated Resource Plan for PacifiCorp: Report and Order on Standards and Guidelines
- Attachment A Standards and Guidelines for Integrated Resource Planning for PacifiCorp, Utah Jurisdiction
- Integrated resource planning is a utility planning process which evaluates all known resources on a consistent and comparable basis, in order to meet current and future customer electric energy services needs at the lowest total cost to the utility and its customers, and in a manner consistent with the long-run public interest. The process should result in the selection of the optimal set of resources given the expected combination of costs, risk and uncertainty.

(Quoted from August 30 Meeting Notes)

[1] The recommendations and comments in this document do not represent the final positions of the DPU but were intended to begin discussions within the working group in Docket No. 06-999-03

Q. RECOMMENDATION REGARDING ADOPTION OF THE STANDARD.

A. The DPU recommends adoption of the standard as written. We agree that minimizing dependence on one fuel source, that is, diversifying the sources for power delivery will potentially reduce risk. The potential risk mitigation identified in the Reference Manual (page 49) include: mitigation of fuel price and energy price risk, mitigation regulatory risk associated with individual fuels, increased reliability, increased operational flexibility, reduced environmental impacts. By reducing risk, the portfolio will be more efficient and minimize the expected cost to ratepayers over the long run. This recommendation does not assume any specific plan. Any plan should include a cost benefit analysis that supports the plan.

Requiring an electric utility to produce an explicit plan derived from the IRP process will keep the utility's focus on working towards the goal of a cost benefit justified diversified portfolio and allow the public and regulators to provide feedback and to monitor the progress towards optimal fuel source diversity

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We recommend that diversity planning include both fuels and technologies. For example, coal is a fuel source but clean coal is a different technology and therefore should be treated as a separate fuel source. (Reference Manual, page 56, section 4.2.4.2.2, Regulatory risk, last paragraph, for a discussion of how technologies can impact different types of fuel sources.) Further, cost effective technologies that manage load should also be considered a source of fuel diversity.

Q. RECOMMENDED CRITERIA AND MEASUREMENTS TO DETERMINE UTILITY ADHERENCE TO THE STANDARD?

A. The DPU recommends that an explicit 10 year plan be included in each IRP. The plan should include fuel sources in five year increments; five years before today, today, five years in the future and ten years in the future in order to see what progress has been and is being made towards fuel diversity. Categories should go beyond simply stating the percentage of generation from natural gas, coal, hydro, wind and purchased power. We would expect the categories to include technologies that, for example, differentiate types of coal generation, or programs used to manage demand by cutting peak and total demand. Renewable sources would be reported separately. The plan should be detailed to explain how the plan would be achieved and should include a cost benefit analysis to support the reasons for the plan choices.

This recommendation does not assume any particular standard but only that the IRP should include an explicit plan. We recommend a ten year plan since that coincides with the requirements of the Fossil Fuel Generation Efficiency Standard.

Q. IDENTIFY ISSUES TO BE ADDRESSED IN THE ENERGY EFFICIENCY DOCKET.

A. The docket would be useful in formulating the details of what the plan would include and how it would be presented. Reducing capacity growth in Utah to levels more in line with average growth would make a big difference in resource requirement and the type of generation needed to fill those requirements. Work would be needed to decide how the IRP can better focus on this important energy source and how it would be presented and tracked

in the 10 year plan. For example, it may be useful to create a new category from which to choose in the IRP models. The category would include any generation, technology, process, policy etc. that would reduce capacity growth. This category would include CHP, solar energy, type 1 DSM, load curtailment programs etc. Other issues could be setting goals for fuel types and what should be included in a cost benefit analysis.

V. PURPA Fossil Fuel Generation Efficiency Standard:

Each electric utility **shall develop and implement a 10-year plan** to **increase the efficiency of its fossil fuel generation**.

Q. PURPOSE OF THE STANDARD?

A. The merits of increasing the efficiency of fossil fuel generation are self evident. The standard calls for the development and implementation of a 10-year plan the purpose of which is to focus the electric utility on increasing efficiency and to hold the utility to implementing that plan.

Q. CURRENT STANDARDS IN PLACE IN UTAH THAT ARE EQUIVALENT?

A. During the August technical conference, the IRP proceeding – Docket 90-2035-01 was suggested as a possible equivalent standard. However, the IRP standards and guidelines do not call for an explicit 10 year plan with implementation.

Q. PRIOR STATE ACTIONS?

A. The following prior state (PacifiCorp) actions were identified during the August 30 technical conference:

Discussion Items/Questions for Electric Utilities on Fossil Fuel Generation Efficiency
Responses provided by Bill Kyle of PacifiCorp.

1) Does your company currently have a strategic plan for increasing fossil fuel generation efficiency? If so, what is the plan? No specifically-named plan but actions for improving efficiency of the fossil fuel fleet are embedded in the integrated resource plan. For the existing fleet, they attempt to operate as efficiently as possible and retrofit the unit/plant with new technologies which will help improve overall efficiency.

2) What sort of measures has your company implemented to track generation efficiency? Company tracks generation efficiency through heat rate – BTU/KWH – the lower the number the better. Company tracks unit average heat rate monthly and compares it to what was budgeted. Also the Company rolls up heat rate at an annual level. Refer to FERC Form 1 which lists information on unit heat rates. (PacifiCorp's most recent FERC Form No. 1 can be found on the FERC website using the elibrary general search capability).

PacifiCorp focuses on optimizing existing units in terms of reliability, efficiency, and availability. When new units are added to the fleet they utilize new technologies. Retired units are the older and least efficient units.

(Quoted from August 30 Meeting Notes)

Q. RECOMMENDATION REGARDING ADOPTION OF THE STANDARD.

A. The DPU recommends adoption of the standard as written. The DPU believes that having an explicit plan that calls for implementation will be useful in getting more efficiency from the fossil fuel generation portfolio. This recommendation does not assume any specific plan. Any plan should include a cost benefit analysis that supports the plan.
Requiring an electric utility to produce an explicit plan derived from the IRP process will keep the utility's focus on working towards this goal and allow the public and regulators to provide feedback and to monitor the progress towards optimal fuel source diversity.

Q. RECOMMENDED CRITERIA AND MEASUREMENTS TO DETERMINE UTILITY ADHERENCE TO THE STANDARD?

A. The DPU recommends that an explicit 10 year plan be included in each IRP. The plan should include information about fossil fuel efficiency five years before today, today, each year for five years in the future and ten years in the future. The plan should be detailed to explain when and how the efficiencies would be implemented. Each succeeding IRP should report on the previous year's goals and whether those goals were achieved.

Q. IDENTIFY ISSUES TO BE ADDRESSED IN THE ENERGY EFFICIENCY DOCKET.

A. The docket would be useful in deciding whether the only measure of efficiency should be BTU/KWH. Running units at higher capacity levels would increase efficiency. Controlling peak demand would help to increase unit efficiency by not having to run peaking units which are the most inefficient.

Other issues could be goal setting for energy efficiency and what should be included in a cost benefit analysis.