

- BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH -

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In the Matter of the Consideration of the )  
Amendment of 16 U.S.C. § 2621 – ) DOCKET NO. 06-999-03  
Consideration and Determination ) DETERMINATION CONCERNING  
Respecting Certain Ratemaking Standards ) THE PURPA FOSSIL FUEL  
for Electric Utilities by the Energy Policy ) GENERATION EFFICIENCY  
Act of 2005 ) STANDARD  
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ISSUED: August 10, 2007

SYNOPSIS

The Commission determines no standard comparable to the PURPA Fossil Fuel Generation Efficiency Standard exists. The Commission adopts the PURPA Fossil Fuel Generation Efficiency Standard and its implementation will be subsequently addressed.

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By The Commission:

**REGULATORY HISTORY AND COMMISSION RESPONSIBILITY**

The Commission has previously examined regulatory standards enacted by the Public Utilities Regulatory Policies Act (“PURPA”).<sup>1</sup> Title 1 Subtitle A of PURPA<sup>2</sup> 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, namely: 1) conservation of energy; 2) the efficient use of facilities and resources by electric utilities; and 3) equitable rates to electric

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<sup>1</sup>See Dockets 80-999-09, 81-999-01, 81-999-02, 81-999-03, 81-999-04, 81-999-05, 93-999-03, and 93-999-04.

<sup>2</sup>PURPA § 101, 16 U.S.C. § 2611.

consumers. The Commission's consideration must be after public notice and hearing and the Commission's determination must be in writing, based upon findings 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. While nothing prohibits the Commission from determining it is not appropriate to implement a standard,<sup>3</sup> 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.

The 2005 Energy Policy Act ("2005 EPAct"), signed into law on August 8, 2005, amended PURPA by adding five new standards to Title 1 Subtitle B of PURPA<sup>4</sup> regarding: 1) net metering, 2) fuel sources, 3) fossil fuel generation efficiency ("Fuel Efficiency Standard" or "Standard"), 4) time-based metering and communications, and 5) interconnection. The 2005 EPAct requires the Commission to begin consideration and make a determination for each new standard according to specified dates. For the time-based metering and communications and interconnection standards, the consideration must begin by August 8, 2006, and the determination must be completed by August 8, 2007. For the net metering, fuel sources, and fossil fuel generation efficiency standards, the consideration must begin by August 8, 2007, and the determination must be completed by August 8, 2008. Herein we address only the Fossil Fuel Generation Efficiency Standard.

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<sup>3</sup>PURPA § 111(a), 16 U.S.C. § 2621(a).

<sup>4</sup>PURPA § 111(d), 16 U.S.C. § 2621(d).

**PROCEDURAL HISTORY**

On June 14, 2006, the Commission issued a Notice of Scheduling Conference to be held on June 26, 2006. On July 20, 2006, the Commission issued a Notice of Technical Conference to be held on August 30, 2006, with the purpose of discussing the five new standards applicable to electric utilities enacted by the 2005 EPAct and the requirements for consideration and determination of these standards, identifying existing statutes and programs in place which may potentially address the standards, and setting a further procedural schedule.

On July 17, 2006, the Commission filed a letter with the U.S. Department of Energy indicating that PacifiCorp, doing business in Utah as Rocky Mountain Power (“the Company”), is the only PURPA-covered utility over which the Commission has ratemaking authority.

Informal work group meetings were then held on September 19 and October 6 to further determine the approach to evaluating the new PURPA standards. A Notice of Technical Conference was issued on October 10, 2006, announcing a technical conference addressing the fuel sources and fossil fuel generation efficiency standards scheduled for October 17, 2006; a Notice of Technical Conference was issued on October 30, 2006, announcing a technical conference addressing the Smart Metering Standard scheduled for November 9, 2006; and a Notice of Technical Conferences was issued on November 17, 2006, announcing a technical conference addressing the interconnection standard scheduled for December 18, 2006, and the net metering standard scheduled for January 10, 2007. During these technical conferences the

Division of Public Utilities (“Division”) provided a working document containing recommendations for each standard and requested informal comments.

Based upon these comments and further research, on May 23, 2007, the Division submitted a recommendation to the Commission regarding the PURPA Fuel Efficiency Standard. In response to this recommendation, on May 29, 2007, the Commission issued a Request for Comments with a filing deadline of June 26, 2007. Comments on the Division’s Fuel Efficiency Standard recommendation were filed by the Company and the Committee of Consumer Services (“Committee”).

#### **FOSSIL FUEL GENERATION EFFICIENCY STANDARD**

Section 1251 of the 2005 EPAct amends Section 111(d) of PURPA and U.S.C. § 2621(d) by adding the following standard:

(13) Fossil Fuel Generation Efficiency.

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

Absent prior state actions, the Standard must be evaluated in terms of the standard itself and the PURPA general requirements. PURPA Section 112(d),<sup>5</sup> addressing prior state actions for the Standard, provides that the consideration and determination requirements for the Standard are satisfied under the following scenarios: 1) the Standard or comparable standard has been implemented; 2) the Commission has conducted a proceeding to consider implementation of the Standard or a comparable standard; or 3) the State Legislature has voted on

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<sup>5</sup>PURPA § 112(d), 16 U.S.C. § 2622(d).

implementation of the Standard or a comparable standard. With respect to the Fossil Fuel Generation Efficiency Standard we address the following issues: 1) Whether a prior state action exists; 2) if no prior state action exists, whether the Standard should be adopted, and if so, how the Standard should be implemented.

## **PRIOR STATE ACTION**

### **A. Positions of the Parties**

In the determination of whether to adopt a standard, the provisions of PURPA enable prior state actions to be taken into consideration. The Division maintains the following definition of integrated resource planning contained in Attachment A of the Commission's June 18, 1992, Report and Order on Standards and Guidelines ("IRP Order") in Docket 90-2035-01 "In the Matter of Analysis of an Integrated Resource Plan ("IRP") for PacifiCorp" supports the goal of energy efficiency.

#### Standards and Guideline:

1. Definition: 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.

Through its analysis, however, the Division contends that the IRP Order does not call for the development and implementation of an explicit 10-year plan addressing fossil fuel efficiency as specified by the Standard.

While not specifically commenting on prior state actions or acknowledging the existence of a formal plan, the Company contends economics drives it toward continuous

improvement of efficiency for existing units and further comments that new units added to the fleet will have improved heat rates and the retirement of old units will always improve the fleet average. The Company states, in general, the efficiency of the generation units should always be improving. The Committee indicates it would expect that the efficiency of the overall fleet to increase with the addition of each new generation resource but does not specifically comment on the topic of prior state actions.

**B. Discussion, Findings and Conclusions**

We view fossil fuel generation efficiency, both through addition of new units as addressed in the IRP and the operation and maintenance of existing units, is encouraged through concepts embedded in the prevailing method of rate regulation of public utilities. These concepts include: utility ratemaking designed to recover costs and a fair rate of return is regarded as a substitute for competition; regulatory lag exposes the utility to the risk of its performance between rate cases; and a utility is provided an opportunity, but no guarantee, of earning a fair rate of return.<sup>6</sup>

We agree with the Division the IRP Order supports the goal of energy efficiency in the broad context of resource additions. In addition, the IRP Order Appendix A Sections

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<sup>6</sup>Bonbright, James C. 1961. *Principles of Public Utility Rates*. New York: Columbia University Press.

3.b.iii addressing resource assessments,<sup>7</sup> 3.d. requiring a 20-year planning horizon,<sup>8</sup> and 3.e. requiring an action plan<sup>9</sup> collectively could infer the requirement for a 20-year plan addressing energy efficiency. We acknowledge, however, the IRP Order does not specifically require a fossil fuel generation efficiency plan (“Fuel Efficiency Plan” or “Plan”) nor does it elaborate on its content, implementation, and tracking mechanism. Therefore, we determine a standard addressing fossil fuel generation efficiency comparable with the PURPA Fossil Fuel Efficiency Standard does not exist in Utah.

## **ADOPTION OF THE STANDARD**

### **A. Positions of the Parties**

The Division recommends the Fuel Efficiency Standard be adopted as written to make explicit planned increases in fossil fuel generation efficiency. The Division states the value of requiring an electric utility to produce an explicit plan derived from the IRP process will keep the utility focused on working toward this goal and allow the public and regulators to provide feedback and monitor progress. The Division does not believe adoption of the Standard requires an increase in fossil fuel generation efficiency every year without taking into account

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<sup>7</sup>“3.b.iii. The resource assessments should include: life expectancy of the resources, the recognition of whether the resource is replacing/adding capacity or energy, dispatchability, lead-time requirements, flexibility, efficiency of the resource and opportunities for customer participation.”

<sup>8</sup>“3.d. A 20-year planning horizon.”

<sup>9</sup>“3.e. An action plan outlining the specific resource decisions intended to implement the integrated resource plan in a manner consistent with the Company’s strategic business plan. The action plan will span a four-year horizon and will describe specific actions to be taken in the first two years and outline actions anticipated in the last two years. The action plan will include a status report of the specific actions contained in the previous action plan.”

environmental and cost-benefit analyses. The Division agrees with the Company's comment addressing the working document from the October 17, 2006, technical conference that the overall emphasis should be on having a plan and on obtaining continuous improvement over a 10-year period. The emphasis should not be on an exact execution of a plan on a year to year basis because flexibility is needed to respond to changing market and system conditions.

The Company agrees with the Division's recommendation the Standard should be adopted as written stating the intent of the Standard is to improve the thermal efficiency of fossil generation units, an objective of which the Company is very supportive and to which it is committed. The Company also proposes thermal efficiency should be measured in terms of heat rate as measured in British thermal units per kilowatt-hour ("BTU/kWh") and agrees with the Division's contention the Standard does not require efficiency to improve every year, but rather requires a plan to increase efficiency over a ten-year period. In support, the Company states the heat rate of coal-fired units is difficult to measure accurately over short periods of time due to variability of heat content of coal and difficulty of accurately weighing fuel, consequently the accuracy of the average heat rate improves when measured over longer periods of time.

The Committee supports the Division's recommendation that the Commission adopt the Fuel Efficiency Standard. The Committee is concerned, however, that while the goal of increased efficiency is laudable, it may be at odds with other worthwhile goals such as the addition of environmental controls or may impact the selection of a new resource technology. The Committee's concerns are alleviated some by the Division's statement that it does not believe adoption of the Standard requires an increase in fossil fuel generation efficiency each

year without an environmental and cost-benefit analysis. The Committee recommends any plan should be supported with a cost-benefit analysis and include environmental improvements and obligations that could impact efficiency. The Committee notes the Standard requires that the ten-year plan be implemented but does not give guidance as to actual compliance and is concerned that unintended consequences may arise from adoption of the Standard unless the Commission makes clear that implementation of the plan must be evaluated as an integrated part of the IRP process.

**B. Discussion, Findings and Conclusions on Adoption of the Standard**

The Fuel Efficiency Standard relates directly to the second purpose of PURPA, namely the optimal efficiency of electric utility facilities and resources. We also view the Standard as supporting the other purposes of PURPA relating to conservation of energy and equitable rates for electric consumers. The Standard casts a wide net over efficiency as affected by, among other things, operations, maintenance, fuel quality, regulatory requirements, and new resource acquisitions. In considering whether to adopt the Standard, or a modification of the Standard, we evaluate whether adoption as implied by the parties will result in any meaningful action or provide information supporting the purposes of PURPA above and beyond that which is already occurring. We further consider efficiency measurement and whether “a 10-year plan” as referenced in the Standard is a single one-time event or a rolling 10-year plan which will become a permanent requirement of the IRP process.

We first consider the benefits of adopting the Standard. The Division recommends the standard be adopted to make explicit planned increases in fossil fuel efficiency.

The Division further contends the value of requiring an electric utility to produce an explicit plan derived from the IRP process will keep the utility focused on working toward this goal and allow the public and regulators to provide feedback and monitor progress. As the Company states it is very supportive of and committed to this objective, and to the extent other parties are currently uninformed of the Company's strategy, we find benefit in presenting information relating to fuel efficiency such as overhaul, retirement, retrofit, and environmental requirements and new resource plans and constraints in a consolidated package which will help inform both regulators and ratepayers of the Company's intent and plans for managing its fossil fuel generation fleet. We also concur with the Division that this information will indeed keep the Company focused on efficiency which ultimately will support all of the goals of PURPA.

We agree with the Division's position that adoption of the Standard does not require an increase in fossil fuel generation efficiency every year without taking into account environmental and cost-benefit analyses. We also recognize the Company's concern that emphasis should not be on an exact execution of a plan on a year to year basis because flexibility is needed to respond to changing market and system conditions. We do not expect the existence of the plan addressing fossil fuel generation efficiency ("Fuel Efficiency Plan" or "Plan") to override the Company's responsibility for efficient operations of all its resources in compliance with regulatory requirements and its obligation to seek efficiency opportunities wherever possible. We further recognize heat rate is only one component of the Company's least cost dispatch and do not expect the existence of a Plan to alter the Company's focus on this operational principle. We also find communication of a comprehensive Plan with

implementation goals and reporting requirements will enhance the sometimes hidden link between the IRP and the Company's comprehensive business plan. Therefore we adopt the PURPA Fossil Fuel Efficiency Standard as written with the intent of using the comprehensive Plan to inform regulators and ratepayers of the Company's strategy, actions, and results associated with managing its fossil fuel generation fleet.

Next we address the measurement of efficiency. While the Division's recommendation does not address how efficiency should be measured, the Company proposes thermal efficiency should be measured in terms of heat rate as measured in units of BTU/kWh. The Committee is unclear if efficiency is defined as a simple input/output measurement or on what basis efficiency improvements should be measured. While we concur with the Company that this Standard pertains to thermal efficiency in terms of BTU/kWh, we find unit heat rate, fuel price, fuel quality, and ultimate dispatch cost are intimately linked in terms of supporting the goals of PURPA and the objective of the IRP. Thus we find that more discussion on this item is warranted as addressed in the following section.

Finally we address the issue of the phrase "a ten-year plan" as specified in the Standard. While no comments explicitly interpret whether the plan required by the Standard is a one-time event, we note some comments imply a specific plan and others indicate the plan would be an ongoing effort. For example, the Company states it agrees to continue to provide information on the ongoing fossil fuel efficiency *plans* in future integrated resource *plans*. The Division states *a specific fossil fuel efficiency 10-year plan* should be included in *each* IRP. The Committee comments *the* ten-year fuel efficiency *plan* should be incorporated into *the* IRP.

Further, on page 53 of the 2007 IRP, the Company affirms in subsequent integrated resource *plans* it will summarize the efficiency improvement plans, as well as report heat rate trends using forward-looking heat rates that account for these plans. To the extent the Company has volunteered to provide this information, we hereby incorporate into the Company's IRP Standards and Guidelines the requirement for the Company to provide a 10-year Fuel Efficiency Plan in all subsequently-filed biennial IRPs.

Adoption of the Standard, however, does not resolve all relevant issues. By adopting the Standard we require full and prompt plan development, implementation, and tracking which we address in the following section.

**DEVELOPMENT, IMPLEMENTATION, AND TRACKING OF THE FOSSIL FUEL  
GENERATION EFFICIENCY PLAN**

**A. Positions of the Parties**

The Division's recommendation does not assume any specific Plan but suggests that any Plan include both a supporting cost-benefit analysis and environmental improvements and obligations that could affect efficiency. The Division recommends the 10-year plan be included in each IRP report and proposes to use the IRP comment period to evaluate the section and make further recommendations. The Division also suggests the Commission either keep the PURPA docket open to inform the IRP process or request specific comments on the 10-year fuel efficiency plan as part of the IRP review. The Division does not believe adoption of the Standard requires an increase in fossil fuel generation efficiency every year without taking into account environmental and cost-benefit analyses.

The Company agrees with the Division's recommendation and includes a discussion of the Fuel Efficiency Standard in Chapter 3 of the 2007 IRP, provides a brief description of the fuel efficiency plan and a 20-year projection of the fleet average fossil fuel heat rate annual trend by generator type in Chapter 7, Figure 7-34 of the 2007 IRP, and agrees to provide similar information in future IRPs. Further, should the adoption of clean air initiatives or other constraints reduce the efficiency in a particular year, the Company states it can explain those events in the IRP.

The Committee supports the Division's recommendations the plan should be incorporated into the IRP and suggests any plan should be supported with a cost-benefit analysis and include environmental improvements and obligations that could have an affect on efficiency. The Committee notes, however, the Standard requires the ten-year plan be implemented but does not give guidance as to actual compliance and is concerned unintended consequences may arise from adoption of the Standard unless the Commission makes clear implementation of the plan must be determined and evaluated as an integrated part of the IRP process. The Committee believes the IRP is the only appropriate place to evaluate the Plan as the IRP will provide the foundation for analyzing the cost effectiveness of the Plan taking into account environmental improvements and obligations, resource needs and other considerations to balance costs and risks while determining the appropriate implementation process and timing.

**B. Discussion, Findings and Conclusions on Development, Implementation, and Tracking of the Fossil Fuel Generation Efficiency Plan**

While the Fuel Efficiency Standard is very specific it does not address plan elements or implementation, tracking, and reporting requirements. The parties agree that the Fuel Efficiency Plan should be located in the IRP, but only provide general statements regarding the content of the Plan and its tracking and reporting mechanisms. The Division does not assume any specific plan. Both the Division and the Committee concur any plan should be supported by a cost-benefit analysis and include environmental improvements and obligations that could affect efficiency. We find the IRP may be appropriate for communicating elements of the Plan. However, until parties agree on Plan content, tracking, and implementation, it is premature to determine whether all elements of the Plan should be presented in the IRP or in some other filing.

The Company represents it has provided in the 2007 IRP a brief description of the fuel efficiency plan in Chapter 3 and a 20-year projection of the fleet average fossil fuel heat rate annual trend by generator type in Chapter 7, Figure 7-34 and agrees to provide similar information in future IRPs. We note in Chapter 3 of the 2007 IRP the Company states it will summarize its efficiency improvement plans, as well as report heat rate trends using forward-looking heat rates that account for the plans in subsequent IRPs. With this statement the Company effectively delays the production of a Fuel Efficiency Plan until the next IRP.

While we appreciate the Company's proactive efforts in attempting to provide fossil fuel generation efficiency data in the 2007 IRP, upon review of Figure 7-34 in the 2007 IRP we find both the title and vertical axes misinform the reader. In addition, the referenced graph is insufficient to provide a thorough understanding of the underlying data or the details of

the Company's Plan. Given the information provided to the Commission in the 2007 IRP, we are unable to discern the Company's intent for managing fossil fuel generation efficiency. We do expect, however, that parties will comment on the information addressing fossil fuel generation efficiency as currently presented in the Company's 2007 IRP.

In support of its future efficiency improvement plans in subsequent IRPs, the Company has committed to reporting heat rate trends using forward-looking heat rates and suggests that efficiency should be measured in terms of heat rate as measured in units of BTU/kWh. While this approach is appropriate for the forward-looking Fuel Efficiency Plan, we find useful the submittal and tracking of both actual and normalized fuel use data in order to evaluate the effectiveness of the Plan. These data combined will provide the basis for evaluation of the Standard as it is linked to all of the purposes of PURPA.

We note the Company provides fuel quantity, heat rate, fuel price, and fuel quality information for fossil fuel generating facilities in its annually-submitted FERC Form 1 Report. However, the sources and calculations underlying these data are not provided. As such, discussion and understanding of these data is critical for evaluation of the Plan.

With respect to tracking normalized fuel use data, we rely upon the Company's Semi-Annual Report. The Adjustment 5.1 of the December 2006 Semi-Annual Report provides forward-looking normalized net power costs for the 12 months ending December 2007, a full year beyond the reporting period. In contrast, the Company previously has submitted Semi-Annual Reports presenting normalized net power costs covering the actual reporting time period. While the forward-looking net power cost study reflects the use of future test years in

ratemaking, we find providing a net power cost study developed using the resources employed during the semi-annual report period will ensure the development of a consistent record over time of normalized fuel efficiency for the fossil fuel fleet. To the extent other tracking or reporting mechanisms may be more effective, we find this topic is appropriate for further discussion.

During the October 24, 2006, Technical Conference the Company expressed concern that a detailed plan at the unit level would be cumbersome to manage. We note in the 2007 IRP the Company represents the referenced Figure 7-34 is based upon heat rates from individual units weighted by their annual generation which implies the existence of some type of unit-specific base Plan. We also note previous versions of the IRP, e.g., Resource and Market Planning Program - 3 submitted in April, 1994, address energy efficiency in terms of supply-side resource alternatives in greater detail than the 2007 IRP. In order to ensure that the Company's Fuel Efficiency Plan is apparent, provides sufficient information for evaluation, addresses the needs of the parties, and supports the goals of PURPA, we direct a technical conference be convened. The intent of this technical conference is to discuss the details associated with Plan data, location, content, implementation, results and the method(s) by which this information will be communicated to parties. The concept of efficiency measurement and the relationship between the Company's plan and the data provided in Figure 7-34 of the 2007 IRP will also be addressed.

**DETERMINATION**

NOW, THEREFORE, IT IS HEREBY determined no comparable Fossil Fuel Generation Efficiency Standard exists. The Commission adopts the PURPA Fossil Fuel Generation Efficiency Standard and implementation of and details associated with the Standard will be subsequently addressed as described herein.

DATED at Salt Lake City, Utah, this 10<sup>th</sup> day of August, 2007.

/s/ Ted Boyer, Chairman

/s/ Ric Campbell, Commissioner

/s/ Ron Allen, Commissioner

Attest:

/s/ Julie Orchard  
Commission Secretary  
G#54277