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## VIA ELECTRONIC FILING AND OVERNIGHT DELIVERY

June 29, 2007

Public Service Commission of Utah Heber M. Wells Building, 4<sup>th</sup> Floor 160 East 300 South Salt Lake City UT 84111

Attention: Julie P. Orchard, Commission Secretary

Re: Docket 06-999-03 Energy Policy Act 2005 Amendments to PURPA Rocky Mountain Power Decision Summary Report on PURPA Time-based Metering and Communication Standard

On February 14, 2007, the Public Service Commission of Utah (Commission) issued its determination concerning the Public Utilities Regulatory Policies Act (PURPA) Time-Based Metering and Communications Standard enacted by the Energy Policy Act of 2005. In its determination the Commission directed

"... the Company to prepare a decision summary report which provides: a description of the survey it conducted and the selection of applicable literature or studies on which it based its conclusion; a review and comparison of the cost and benefit information from these reports as compared with that used in the Company's evaluation; and the reasons supporting the Company's conclusion that Smart Metering, as envisioned by the Standard, is not cost effective for its applicable circumstances."

As directed, Rocky Mountain Power provides the following report.

## Background

Technologies for automating meter reading can be classified into three categories: automated metering reading, advanced metering and smart metering.

**Automated meter reading** (AMR) systems are typically defined as a system that only automates the manual meter reading process. These systems deliver accurate and reliable monthly meter readings to billing on a cycle basis at a cost typically lower than manual reading methods. Mobile, or drive-by, systems are the most commonly implemented AMR solutions in the industry.

Advanced metering systems (commonly referred to as fixed networks) provide the same data response as automated meter reading and, additionally, they are capable of delivering interval data from all the meters. This interval data can be used for time-based rates and critical peak pricing programs. These systems also provide additional benefits in the form of outage detection and restoration messages via the system. Demand response programs can be implemented indirectly with direct load control through a separate system (e.g. paging, etc.) and the impacts measured with the advanced metering system. Many utilities, including Rocky Mountain Power, intend to mitigate the risk of stranded investments by installing mobile systems with the ability to migrate to fixed networks that offer advanced metering capabilities.

**Smart metering systems** (sometimes referred to as mesh networks) provide the highest level of meter reading automation and integrate demand response, outage management and transmission and distribution asset management. These systems have the capability to offer "in home display" of information to customers and integrate direct load control where the utility sends signals to cycle loads (e.g. A/C, water heaters, etc.). Furthermore, these systems are capable of integrating indirect load control where the utility sends pricing signals and consumers' program behavior of their individual appliances as a response. Automated meter reading, and most advanced metering systems, cannot be migrated to a smart metering system.

## Wasatch Front AMR Project

Rocky Mountain Power is implementing a mobile automated meter reading system along the Wasatch Front in Utah to gain efficiencies in meter reading and increase meter reading and customer billing accuracy. This project was first proposed, on a smaller scale, in 2004. The initial business case looked only at the benefit of automating residential meters in the Salt Lake Valley. With the positive results from the initial study, a broader scope was identified and the business case re-evaluated. The results for the larger project were positive and approvals for implementation were received in July 2006. The project automates the meter reading for all residential and small commercial customers from north Ogden to Santaquin, including Park City and Tooele.

## **Rocky Mountain Power's Evaluation of Smart Metering**

In 2005, the Energy Policy Act was passed and the company began reviewing the impacts of section 1252 "Smart Metering". This section requires state commissions to consider whether to adopt a standard relating to offering of time-based rates and the investigation of demand response and time-based metering. During review of the act, several questions were raised regarding the decision to implement a mobile automated meter reading system in lieu of a more advanced metering system capable of meeting the requirements and intent of the Act.

The electric rate schedules in Utah include time-of-use offerings for all customer classifications. These programs meet the basic requirements of the Act. The mobile AMR systems can support simple, time-of-use programs including the residential program currently in effect in Utah.

Participation in the residential time of use option is very low. An industry benchmark study (results supplied by Itron, Inc.) that reviewed time-of-use programs at electric utilities showed participation rates of less than 10% during the first five years of the program. These numbers are consistent with the current participation rates in Utah. The "Optional Residential Time-of-Day

Tariff Analysis Report" filed by the Company in December 2005 identified that less than 0.1% of Utah residential customers are served under the optional time-of-day tariff. In electric utility companies that offer an opt-out time-of-use program, the participation rate dropped by as much as 98% after the mandatory period expired. In the case of Puget Sound Energy, their time-of-use program was cancelled after two years due to a very low participation rate after the mandatory period expired.

Participation rates and demand response have been shown to be dependent on the price structure of the time-of-use programs. A report by Charles River Associates (California's Statewide Pricing Pilot) presented at the Oregon PUC Advanced Metering Workshop in January 2005 demonstrated that price differentials for critical peak hours would need to be 7-10 times that of off-peak rates in order to change customer behavior. With such drastic pricing differentials, it is our position that customers in Utah would not be receptive to such pricing structures.

Rocky Mountain Power's analysis indicates that upgrading the planned mobile AMR system to an advanced metering system, that supports time-of-use and critical peak pricing schemes, would increase the costs by approximately 75%. In contrast, the metering hardware cost to install a smart metering system is three times that of the mobile automated meter reading system. This does not include the systems integration costs required to make the smart metering system fully functional.

Our study revealed that 85% of the meter reading and call center benefits are achieved with a mobile reading system. An additional 10% in benefit is gained with an advanced metering system. The additional benefits found with advanced metering systems do not offset the additional costs and did not support proposing an advanced metering system at this time.

The decision to move forward with the mobile AMR system was made with the knowledge that the system can migrate to an advanced metering system. The fixed network will be installed at a point in time when the business case becomes positive, regulatory rules or other conditions require it. If other requirements emerge that require smart metering systems, those will be will be integrated into the business case and a complete analysis will be done at that time.

A business case for smart metering typically takes many years to develop and requires a working partnership between the utility and the state regulatory authorities. California has been working on a sustainable business case since 2001, Ontario, Canada, since 2002, and Texas since 2003; all are still in development.

It is respectfully requested that all formal correspondence and Staff requests regarding this report be addressed to:

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Informal questions should be directed to Dave Taylor at (801) 220-2923.

Sincerely,

Jeffrey K. Larsen Vice President, Regulation

cc: Division of Public Utilities Committee of Consumer Services Rocky Mountain Power DSM Advisory Group