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July 21, 2014

Utah Public Service Commission
Heber M. Wells Building
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UTAH PUBLIC
SERVICE COMMISSION

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RECEIVED

Attn: Public Service Commission Chairman Ron Allen ✓
Public Service Commissioner David Clark
Public Service Commissioner Thad LeVar
Executive Staff Director Becky Wilson

Re: Public comments, Docket No. 13-035-184, in the matter of Rocky Mountain Power's Intent to file a General Rate Case to charge \$4.25 per month for net metering customers

I am looking forward to speaking and responding to your questions at your July 29, 2014 meeting. The attached paper will give you a heads up on some of my thoughts.

In 2012 three of us on the Salt Lake Community Solar Steering Committee selected the vendor to install solar electric systems on Utah homes. At the conclusion of the project I visited that vendor to understand of how the process worked in practice.

Based on that information I obtained I developed a significantly different plan. This plan will result in at least **half of the homes in Utah** having **solar electric systems in five years**. No additional housing subsidies will be needed.

I have been consulting with businesses and some governments on unique ways of conducting their business since 1970 that has resulted in significant savings and improved operations. Based on those many years of experience I feel confident that 50% of Utah homes can have solar electric power in five years.

At some time in might be productive to share those plans with you. Now, however, the issue is the \$4.25 that is being asked to be imposed on net metering homes. The attached paper suggests what the effect of this surcharge will have and what the economics are of their proposal.

Sincerely



Don Mignola, Consultant

Attachments:

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cc: Jordan White

Solar Electric Rooftop Panels

A Good Long Term but Poor Short Term Investment

Solar electric panels on the roof of a home are usually a good long term investment. That is because the warrants on the equipment and installation is usually 25 years and the payback is less than half of that.

The problem in the past has been that the monthly loan payments have usually been greater than the monthly savings on the electric utility bill – that is until the loan is paid off. This has discouraged about 3/4 of the home owners that have considered roof top solar electric panels.

We need to find ways of cost effectively reducing the monthly cost so that it is below the savings on the owner's monthly electric utility bill. In short, a net monthly savings. I have been exploring ways of doing so and know of programs that will make this possible.

The \$4.25 will only make this more difficult. Many homeowners will fear future increases.

The Roll of the Electric Utility and the Electric Power Research Institute (EPRI)

EPRI is addressing the costs and other issues involved with net metering.

An important reading on this subject is EPRI's document titled, "The Integrated Grid: Realizing the Full Value of Central and Distributed Energy Resources". A copy of this publication dated February 10, 2014 is attached. I urge any of you who have not had the opportunity to read this document to do so. This publication is Phase I which is the "Develop and Concept Paper". Phase II is the "Develop and Assessment Framework". It is expected to be published in August of 2014. Phase III is to "Conduct a Global Demonstration and Modeling Program".

EPRI research aims to making net metering reliable and cost effective. Never the less, each electric utility must invest to make net metering workable for them.

Electric utilities also incur some minor costs for each new net metering customer.

It is not clear what costs are incur every month – no backup. EPRI may provide some answers.

Electric utilities must invest in capacity to meet the need at high noon (not latter in the day for a typical hot day) on the hottest days of the hottest years when the air conditioners are running at full tilt and which may cause brown or black outs. This additional investment for peak capacity does not have a good payback since it is only needed for a few hours every few years.

Solar electric rooftops will reducing the electric utilities need to meet this minimally used capacity.

This investment savings should be far greater than \$4.25 per solar electric rooftop home.

Air Quality is an Imperative

We must do everything we can to improve Utah's air quality. Every child with respiratory problems deserve better. Utah's autism rate is twice the normal rate. This may be caused by air pollution¹.

We must do everything we can to reduce global warming. Our water supply is already being impacted by global warming. Our ski resorts, restaurants and hotels will have fewer critical high revenue days.

¹ If a pregnant mother is exposed to air traffic pollution during her pregnancy, the risk of autism in her offspring is greater, researchers from the University of Southern California and Children's hospital Los Angeles reported in Archives of General Psychiatry (November 2012 issue).

The Integrated Grid: Realizing the Full Value of Central and Distributed Energy Resources

Abstract

The electric power system has evolved through large, central power plants interconnected via grids of transmission lines and distribution networks that feed power to customers. The system is beginning to change – rapidly in some areas – with the rise of distributed energy resources (DER) such as small natural gas-fueled generators, combined heat and power plants, electricity storage, and solar photovoltaics (PV) on rooftops and in larger arrays connected to the distribution system. In many settings DER already have an impact on the operation of the electric power grid. Through a combination of technological improvements, policy incentives, and consumer choices in technology and service, the role of DER is likely to become more important in the future.

The successful integration of DER depends on the existing electric power grid. That grid, especially its distribution systems, was not designed to accommodate a high penetration of DER while sustaining high levels of electric quality and reliability. The technical characteristics of certain types of DER, such as variability and intermittency, are quite different from central power stations. To realize fully the value of distributed resources and to serve all consumers at established standards of quality and reliability, the need has arisen to integrate DER in the planning and operation of the electricity grid and to expand its scope to include DER operation – what EPRI is calling *the Integrated Grid*.

The grid is expected to change in different, perhaps fundamental ways, requiring careful assessment of the costs and opportunities of different technological and policy pathways. It also requires attention to the reality that the value of the grid may accrue to new stakeholders, including DER suppliers and customers.

This paper is the first phase in a larger Electric Power Research Institute (EPRI) project aimed at charting the transformation to the Integrated Grid. Also under consideration will be new business practices based on technologies, systems, and the potential for customers to become more active participants in the power system.