



PublicService Commission <psc@utah.gov>

Solar Net Metering, Docket 14-035-114

1 message

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To: Public Service Commission <psc@utah.gov>

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As a net metering customer of Rocky Mountain Power (RMP) I would like to provide my perspective on distributed generation (DG) and how the Public Service Commission should proceed. I think it is prudent, as the commission has ordered, to separate the cost-benefit analysis of Solar DG from how to set rates and evaluate the impact of DG on all rate payers into the future.

Situation

I think it is important to remember what RMP does for me and its' other customers. They provide the energy that I combine with stuff I buy to do work, keep my house warm or cool, see at night, and keep my food cold. New technologies come and go to provide these basic needs.

Before the civil war there existed a huge industry that cut Ice from lakes in the north and shipped it south via steam driven trains in exchange for cotton to cool food in ice houses. After the Civil War that industry was replaced by refrigerated ice plants and those ice plants were eventual replaced by household refrigerators with the development of Freon and electrical utilities.

As these example from the past had profound impacts. DG technologies are going to have a profound impact on electrical utilities and their customers. DG will provide safer and more cost effective ways of meeting our needs like cooling food.

Both of my parents worked for a telephone company. Before they retired twenty years ago, telephone utilities and electrical utilities were similarly structured. There was a huge network of thousands of microwave towers providing long distance service and local exchanges connected wires from home phones. In just over twenty years the microwave towers are abandoned and less and less homes have phones. Today we carry computers in our pockets that have replaced phones, letters, faxes, books, billiards, pinball machines, VCRs, TVs, encyclopedias, maps, and maybe even our friends.

The technologies that changed telecom are bearing down on electrical utilities. Current telecom technologies and business practices are completely alien to my parents. For the most part these technologies were embraced by the telecom industry and the outcome was positive. I hope electrical utilities can find a way to ride the DG wave as effectively.

Cost and Benefit of Distributed Generation

The questions about net metering, before the utilities commission, is just the beginning. It is going to require a lot of forward thinking by all parties to ride the wave. Developing tools like forward looking cost-benefit analysis for DG is key. Utilities have already seen flat energy demand and customers are accelerating their embrace of demand side management (DSM) approaches like solar power.

From the net metering customer's point of view, solar panels on their roof is not much different than LED lights. They both reduce the power purchased from the utility and the power that is sold to the utility is just resold to their neighbors by the utility at no real cost to the utility. The neighbor gets to run their refrigerator off power from their neighbor and the utility didn't need to build anything or burn anything to sell that energy. This point of view holds until DG levels grow to levels 100 fold of where they are now. The commission should adopt an approach that embraces the future and truly evaluates the costs and benefits of DG into the future. The resulting tool will be essential in evaluating Solar DG now and new technologies and approaches that will materialize in the near future. Viewing DG as another cost of service just avoids the future opportunity that DG provides and increases the risks and opportunity costs of ignoring these technologies. In just the last few months, in the period the utilities commission has been evaluating Solar DG, the prospect of low cost battery systems has emerged and may change the calculus of the question, before the commission has completed its' work.

Rate Structures and Strategies for the Future

After the utilities commission has established a cost-benefit approach and begins to evaluate impacts on rate structures there are a number of points that need to be considered in order to establish rates that will be fair in the future. First, a sensitivity analysis using the established cost-benefit model should be conducted to evaluate outcomes for a variety of customers before deciding to create a separate DG rate class. Examples are deployment of solar in rural, urban, commercial, and residential installations. Unless DG is substantially different in a variety of situations from other customers and as a whole a separate class should not be created. As RMP tries to ride the technology wave the costs and benefits are going to fluctuate a lot, and a new class could be an impediment to adjusting future rates and will probably focus risks on one group or another inappropriately instead of distributing risk fairly across ratepayer classes.

Second, Utah is not an island. As companies like Vivint Solar deploy solar DG in states like California the demand for power generated in Utah (e.g. IPP) will decrease. With coal consumption reduced and economies of scale reduced, coal prices could be driven up. Uncertainty about markets for Utah generated electricity and Utah coal could significantly reduce availability of capital for thermal generation and coal mining. The costs of these risks can be evaluated and should be incorporated in the cost-benefit model adopted by the commission. I believe these risks should also be considered when establishing a rate structure. During times of great uncertainty it is usually better to distribute risk amongst parties until the situation stabilizes.

The third, and likely the most important, into the future, is the hazards pollution from thermal generation of electricity pose. When managing risks it is important to evaluate the level of harm that can come from a hazard. Thermal generation of electricity from nuclear reactors has produced unacceptable levels of harm to large regions of the Ukraine and Japan. Therefore, the hazards posed by nuclear power plants require significant efforts and high costs to mitigate. Risk control of hazards that can produce unacceptable levels of harm require control and mitigation even when probability of occurrence are low or are uncertain. I believe that burning hydrocarbons to produce electricity presents a very similar situation as nuclear power.

Pollution from burning coal produces carbon dioxide, and distributes a variety of toxins like mercury and sulfur dioxides. All of these pollutants will produce unacceptable harm at high concentrations in the air. One of these, carbon dioxide, is not directly toxic. However, it can be indirectly harmful by excluding oxygen. It can also be indirectly harmful in its ability to absorb infrared light and retain heat in the atmosphere. At high levels of carbon dioxide the atmosphere retains more heat at night. It is like having extra blankets on one's bed at night and the atmosphere does not cool as much when more carbon dioxide is present. At any

given moment throughout time, half of earth's atmosphere is in the dark and is cooling. Carbon dioxide is what retains most of the heat in the atmosphere. Without it, we would get very cold, and too much we would get very hot.

The problem is, we are uncertain about the level of carbon dioxide that produces harm, too cold or hot. Without that information, do you just wait and see what happens as carbon dioxide goes up, knowing it will eventually do unacceptable harm? It could take centuries or a few years. So it is prudent to look for means of control. Early mitigation and control vs late mitigation, as with nuclear power is important. Low cost of control verses extraordinary costs of control. DSM and renewables are the controls available that don't severely restrict our economy. It is important to remember what the energy provides, work and light. It moves things, people, and heat in addition to letting us see at night. This is a simple cost-benefit relationship. No control results in extreme cost and some early prudent control results in low cost.

I strongly believe that rates should distribute the cost of control across all of those that stand to benefit. Which is all of RMP rate payers. All of RMP customers benefit from encouraging renewables. Discouraging DG by establish a separate class will eventually increase costs for everyone either from pollution or market forces from outside of Utah. Unless a sensitivity analysis can show a substantial increase in cost verses benefits associated with DG over a variety customers and geographies, DG should not be in a separate rate class and net metering strategies should not change.

Sincerely

David Hopkins