BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Consideration of Changes to Rocky Mountain Power's Schedule No. 135 – Net Metering Service	Docket No. 08-035-78 COMMENTS OF THE INTERSTATE RENEWABLE ENERGY COUNCIL

The Interstate Renewable Energy Council (IREC) submits these Comments pursuant to the Commission's Request for Comments and Notice of Technical Conference (Notice) issued September 25, 2008. In the Notice, the Commission invited public comment on (1) increasing the aggregate cap for net metered generation above the current 0.1 percent of Rocky Mountain Power's peak demand and (2) the appropriate value for excess customer-generated electricity credits.

For over two decades, IREC has worked as a non-profit organization to accelerate the sustainable utilization of renewable energy resources. With funding from the U.S. Department of Energy, IREC's mission includes assisting policymakers in identifying best practices in the areas of net metering and interconnection. To that end, IREC has participated in proceedings before over eighteen state utility commissions in the past two years. IREC has also developed model interconnection procedures and model net metering rules that reflect best practices in these areas.[1] IREC appreciates the

[1] IREC's Model Interconnection Standards and Procedures for Small Generator Facilities are available at http://www.irecusa.org/fileadmin/user_upload/ConnectDocs/IC_Model.pdf. IREC's model net metering rules are available at http://www.irecusa.org/fileadmin/user_upload/ConnectDocs/NM_Model.pdf.

Commission's invitation to offer comments on the above topics. Total program capacity for net metering and the value given to excess generation are two very important issues in determining whether a state's net metering policy will fully support utility customers' investments in renewable energy resources.

I. Appropriately Valuing the Excess Generation that Customer-Generators Deliver to the Grid is Critical to Accommodating Customer Investment in Renewable Resources.

Appropriately valuing the excess generation that customer-generators deliver to the grid is critical to accommodating customer investment in renewable resources as the value given to these kilowatt hours (kWh) directly impacts the economics of a customer's investment in a renewable resource. If the Commission undervalues the excess generation, customer-generators might decrease the size of their generation in order to avoid being a net exporter of energy to the grid over any particular month. In other words, customers will have no incentive to size their system above their minimum expected monthly electricity needs and will, therefore, likely size a system such that it meets on-site generation needs during the customer's month of lowest consumption. This outcome not only results in less private investment in renewable generation, but also results in the installation of systems much smaller than might otherwise have been installed. Both outcomes undermine one of the major benefits associated with renewable generation – its ability to offset customer load and decrease strain on the electric grid. In order to appropriately value excess generation, one must look at two components: (1) rollover - the timeframe over which the excess generation is available for credit and (2) the monetary value given to the excess kilowatt-hours (kWh) generated and exported to the grid.

A. Rollover

In general, net metering represents a simple and transparent way to value the excess generation a customer brings to the grid. With net metering, customers are able to net generation and consumption over a billing period and receive a credit on their monthly bill during billing periods when their generation is greater than their consumption. The associated excess generation credit can be used to offset billing periods when their consumption is greater than their ability to generate. This straightforward framework is mirrored in Utah Code §§54-15-102(10)-(12).

A key aspect of the net-metering arrangement is the treatment of monthly excess generation or rollover. In IREC's experience, providing rollover of excess generation is essential to allowing a customer-generator to receive the full benefit of on-site generation during seasons when renewable generation is highest and to use accumulated credits during periods when output is lower. Rollover is particularly important in accommodating customers with electricity requirements that vary seasonally, such as agricultural customers, ski resorts and part-time residents. Furthermore, as noted above, appropriately valuing the excess generation produced by a customer's renewable generation system sends a clear signal to the consumer that their investment in renewable energy is valued by the state and that they should size their system to meet as much of their on-site load as possible, thereby, decreasing strain on the electric grid. For these reasons, monthly rollover is a minimum standard in order to allow for seasonal fluctuations in renewable generation.[2]

Utah's net metering provisions do not forbid monthly rollover of excess generation.

[2] The recent revisions to Utah's net metering statute appear to recognize the importance of allowing for seasonal variation in generation by setting the annual billing cycle to begin at April 1 of each year. This change allows a longer time period for credits earned in summer months to be consumed during winter months.

Rather, SB 84 allows the Commission to set an appropriate value for any excess generation.[3] In other words, SB 84 allows the Commission to determine that excess generation credits should be rolled over on a monthly basis over the 12-month billing cycle established in Utah Code §54-15-102(1).[4] At the end of the annualized billing period, credits for excess generation not used by the customer expire.[5] While current law in Utah does not allow indefinite rollover, if excess generation is coupled with an appropriate value as discussed below, Utah's rollover policy will represent a solid approach to valuing the energy exported to the grid from utility customers' investments in renewable generation.

B. Value of Excess Generation

1. Valuing Excess Generation from Residential Customers

In IREC's experience, the most simple and transparent way to value the excess customer-generated electricity delivered to the grid over the relevant billing period is to monetize it at the full retail rate faced by the customer when he or she consumes energy delivered by the utility. Approximately 30 states take this approach and allow a simple rollover of kWh excess generation credits from one billing period to the next.[6] This allows customer-generators to fully offset retail energy purchases with the energy they generate on site. For residential customers, monetizing the value of excess generation is particularly appealing and intuitive because customers do not pay their bill in kWh's but rather in dollars. When the electricity generated by their system is similarly turned into dollars and

---

[3] See Utah Code §54-15-102(6).
[4] See Utah Code §54-15-104(3)(a)(ii).
[5] See Id.
[6] See Network for New Energy Choices, *Freeing the Grid* (October 2008), pp. 23, 94-95. Available at http://www.newenergychoices.org/uploads/FreeingTheGrid2008_report.pdf. (*Freeing the Grid*).

used to offset their total bill, they see a direct translation between the kWh's they have generated and their bill. Valuing excess generation in this way also allows customers the flexibility to size a system in a way that manages their unique energy consumption profile because they are receiving a directly understood benefit from doing so.

This outcome is consistent with Utah Code §54-15-104(a)(ii) because this section requires the customer to receive a credit at a "value" that is at least avoided cost. The word "value" contained in this section suggests monetary value because Rocky Mountain Power's avoided costs are determined in dollar terms and qualifying facility generators can choose payments under an energy (cents/kWh) and capacity ($/kW-month) option or under a volumetric energy option. For residential customers, the monetary value assigned to kWh's of excess generation produced by their systems would be determined by the fully-bundled retail rate contained in a customer's otherwise applicable tariff.

Valuing excess generation at full retail rates has the added benefit of conserving scarce stakeholder resources while still providing a well understood value to excess generation. As a general proposition, IREC supports efforts to fully value the benefits renewable generation brings to the grid. On the most basic level, the premise of basing the value of energy generated by renewable net-metered systems, which are distributed throughout the grid, on the avoided costs derived from large central station generation is problematic as many benefits of distributed generation are undervalued or simply not valued at all within avoided cost models for large central station generation. These benefits include the ability to avoid or defer costly transmission and distribution upgrades, avoid line losses, and provide voltage support. Renewable generation's ability to avoid transmission and distribution upgrades is particularly important given the often intense public opposition to

transmission line projects due to public concern over the environment, safety, and harm to scenic views. In short, the task of accurately valuing a generation resource is complex and resource intensive. Given the relatively small amount of total excess generation occurring on renewable net metered systems, which are typically designed primarily to offset customer load, one must ask how much effort stakeholders should spend in arriving at an exact value for generation exported to the grid from net metered generation. In IREC's opinion, it would make more sense to simply follow the approach that has been take by the majority of states and allow for retail rollover of monthly excess generation credits.

2. Valuing Excess Generation from Commercial Customers

Demand charges undermine the value and simplicity involved in allowing customer-generators to fully offset retail purchases. Demand charges potentially undermine this value proposition because demand charges are often unavoidable for intermittent generation such as wind and solar. Because they are unavoidable, demand charges can significantly reduce the value received from renewable generation and blunt the incentive for a customer to strive to fully offset as much of their energy consumption as possible and, thereby, ease the strain on the electric grid. Demand charges also can make it very difficult to estimate the savings a customer will receive from an investment in a renewable energy system because a customer's load profile will change once a system is installed. Depending on particular changes in a customer's load profile that result from installation of a renewable system and how those changes are treated by the rate structure contained in the customer's tariff, a

customer could face little or no reduction in demand charges.[7] This uncertainty in the economic value that investment in a renewable energy system will bring to a particular customer undermines the customer's incentive to invest in renewable generation.

It is IREC's understanding that only nonresidential customers face demand charges in Rocky Mountain Power's Utah service territory. Because of the complexity demand charges bring to estimating the value of renewable systems for nonresidential customers, IREC believes it is important to give these customers the flexibility to choose to either request credit for their excess generation at their full retail energy rate under an applicable tariff or at the avoided cost determined in Schedule 37.[8] Giving nonresidential customers this flexibility would allow customers to determine which situation makes the most sense for their individual situation. Ultimately, the impact that rate structures and demand charges have on customer's decisions to invest in renewable energy will need to be addressed within the context of rate design. However, the framework offered above will allow some customers the flexibility to use a monetized credit to offset some of their demand charges. By allowing customers the flexibility to choose which option makes the most sense in their individual situation, the incentive to invest in a renewable energy system is maintained to the maximum extent possible under the tariffs currently in effect.

---

[7] A recent study by Lawrence Berkeley National Laboratory discusses in great detail the impacts retail rate structures have on the economics of solar photovoltaic systems including the impact of demand charges. See Wiser, Ryan et al. (2007) *The Impact of Retail Rate Structures on the Economics of Commercial Photovoltaic Systems in California*. Ernest Orlando Lawrence Berkeley National Laboratory. Available at: http://eetd.lbl.gov/EA/EMP/reports/63019.pdf. (LBNL Study).

[8] See LBNL Study, pg. 58.

II. Arbitrary Caps on Program Capacity are Counterproductive and Undermine Growth in the Renewables Market

Program capacity limits are often premised on concerns for revenue impacts to utilities and are commonly set as a percentage of statewide or utility peak demand. However, this concern fails to recognize that the revenue impacts associated with customer investment in renewable generation are often relatively small for two important reasons. First, net-metered systems are sized primarily to offset customer load. Accordingly, net metered systems typically export relatively little net generation to the grid. This outcome is reinforced by the requirement in Utah Code §54-15-104(a)(ii) that any credits stemming from excess generation not used on an annual basis expire. In other words, these credits become a donation to the utility. Second, commercial customers, because of their large loads, often have a harder time fully offsetting their load with limited on-site generation capacity. Therefore, while the larger renewable systems installed by commercial customers can quickly fill a low program capacity cap, these customers are even less likely to generate more than they consume over the relevant billing period.

In the end, statewide or utility level program capacity caps, justified as a means to avoid revenue impacts on utilities, essentially place an artificial cap on the total amount of clean energy customers may generate. This outcome is counterproductive for two reasons. It could potentially end program participation long before customers' desire to invest in clean energy resources has expired. Furthermore, because customers and installers do not know when program capacity will be met, they have a difficult time planning for future installations. This outcome introduces uncertainty into the renewables marketplace. By prematurely ending program participation and introducing uncertainty in the marketplace, program capacity limits restrict the growth in the renewables market, which is counter to the

rationales animating net metering programs.

Based on these concerns, IREC believes best practice regarding program capacity limits is to set no limit. This outcome avoids the problems identified above and allows renewables markets to grow and thrive based on customer desire to invest in clean renewable energy. Utah Code §54-15-103(3)(a) allows the Commission to set a program capacity limit above the 0.1% specified in the statute. Seventeen states have achieved this best practice and have no program capacity limit for their net metering programs.[9]

III. Other Issues

A. Renewable Energy Credits (RECs)

Another important issue in addressing the value utility customer investment in renewable generation brings to the grid is recognition that any renewable energy credits generated by a customer generator are not transferred as a result of participation in a net metering program. The sale of RECs in voluntary or compliance markets potentially provides an important revenue stream for owners of a renewable energy system that directly impacts the potential value of a customer's investment in a renewable energy system. Most importantly, most, if not all, of the RECs generated by a renewable energy system are associated with energy consumed on-site. For these RECs, a utility provides no services to accommodate the on-site energy use and should therefore have no claim to the RECs associated with that generation. While Utah does not currently require the transfer of RECs in order to participate in net metering, IREC believes an explicit recognition of this fact is important. Ten states have adopted this best practice and recognized that participation in net

[9] See *Freeing the Grid*, pp. 22, 94-95.

metering programs does not require transfer of RECs.[10]

B. Generation Financing Options

Lastly, third-party financing agreements, such as solar service agreements (SSAs) have become increasingly important to the creation of a robust solar energy sector. SSAs allow businesses, governmental entities, schools, religious organizations, and non-profit groups who are interested in supporting renewable energy but lack the necessary capital to invest in such facilities or lack sufficient taxable income to fully capture available federal tax credits and incentives for accelerated depreciation to harness these incentives to their benefit. By combining federal investment tax credits with accelerated depreciation, the capital cost of a solar energy system can be reduced by up to 60 percent.[11] As a matter of basic economic principles, this reduction in cost through the use of a SSA spurs the growth of solar by allowing customers interested in investing in solar energy to do so at significantly less cost.

Recent reports have highlighted the increasing use of third-party financing arrangements and their importance in accelerating the rate of adoption and development

[10] See *Freeing the Grid*, pp. 25, 94-95.
[11] See Solar Energy Industry Association, Guide to Federal Tax Incentives for Solar Energy, Version 1.2, Executive Summary.

of solar.[12] IREC is aware of significant use of third-party financing arrangements in California, New Jersey, Oregon, and Colorado. These states appear to have minimal regulation of third-party financing agreements and third-party financers are not treated as utilities. IREC is not aware of any state commission maintaining active oversight of the private contracts between third-party financers and host customers. IREC was pleased to see that Utah Code §54-15-102 appears to allow third-party financing arrangements that involve a customer lease. This change represents an important step to promoting renewable energy development in Utah. However, it is IREC's understanding that lease agreements may not allow some customers to take full advantage of the financing benefits discussed above. This is because a lessor may not qualify for federal tax incentives if it leases a system to a tax-exempt lessee. The impact is that schools, non-profits and government entities may be precluded from taking advantage of the benefits of third-party ownership. Accordingly, the full benefits of third-party financing agreements are probably not available to customers in Utah seeking to invest in renewable generation at this time. Addressing this issue would greatly support

---

[12] See Greentech Media, Inc., "Solar Power Services: How PPAs are Changing the PV Value Chain," (Feb. 14, 2008), available at: http://www.greentechmedia.com/reports/research-report-solar-power-services.html; Energy Trust of Oregon, Inc., Opening Brief and Waiver of Paper Service of Energy Trust of Oregon, Inc., Docket No. DR 40 (June 30, 2008) (Energy Trust Opening Brief), available at: http://apps.puc.state.or.us/edockets/edocs.asp?FileType=HBC&FileName=dr40hbc143832.pdf, (more than 80% of the commercial solar installations in Oregon involved third-party ownership arrangements, which represented approximately $35 million of private investment in new clean renewable resources in Oregon); California Solar initiative, California Public Utilities Commission Staff Report, July 2008, pp. 30-31, available at: http://www.energy.ca.gov/2008publications/CPUC-1000-2008-020/CPUC-1000-2008-020.PDF (estimate that approximately 102.1 MW of solar which represents approximately 41% of program capacity has been developed under third-party ownership arrangements).

renewables development in Utah.

III. Conclusion

IREC appreciates the opportunity to provide these comments to the Commission.

Respectfully submitted this 25th of November 2008.

Interstate Renewable Energy Council

/s/ Kevin T. Fox
Kevin T. Fox

Attorney for the Interstate Renewable Energy Council

KEYES & FOX LLP
Kevin T. Fox
5727 Keith Avenue
Oakland, CA 94618
Telephone: (510) 381-3052
Email: kfox@keyesandfox.com