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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations	**Docket No. 13-035-184** UCE Exhibit 3.0 (DT) [COS + RD]

DIRECT TESTIMONY OF RICK GILLIAM

ON BEHALF OF

UTAH CLEAN ENERGY

[COST OF SERVICE + RATE DESIGN]

May 22, 2014

INTRODUCTION

Q: Please state your name and business address.

A: My name is Rick Gilliam. My business address is 590 Redstone Drive, Suite 100, Broomfield, CO 80020.

Q: By whom are you employed and in what capacity?

A: I am the Program Director, DG Regulatory Policy for Vote Solar, a non-profit grassroots organization working to foster economic opportunity and mitigate climate change by bringing solar energy into the mainstream. Since 2002, Vote Solar has engaged in state, local and federal advocacy campaigns to remove regulatory barriers and implement key policies needed to bring solar to scale. Vote Solar has 140 members in Utah.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of Utah Clean Energy (UCE).

Q: Please provide your professional experience and qualifications.

A: I have been with Vote Solar since January of 2012 overseeing policy initiative development and implementation particularly as it relates to distributed solar generation or "DSG." Prior to joining Vote Solar, my regulatory experience included five years in the Government Affairs group at Sun Edison, one of the world's largest solar developers, as a manager, director and eventually vice president; twelve years with Western Resource Advocates (formerly known as the Land and Water Fund of the Rockies) as Senior Policy Advisor; and twelve years in the Public Service Company of Colorado (PSCo or the Company) rate division as Director of Revenue Requirements. Prior to that, I spent six years with the Federal Energy

Regulatory Commission (FERC) as a technical witness (engineer). All told, I have in excess of thirty-five years experience in utility regulatory matters.

I have a Masters Degree in Environmental Policy and Management from the University of Denver in Denver, Colorado. I also have Bachelor of Science Degree in Electrical Engineering from Rensselaer Polytechnic Institute in Troy, New York. My resume is attached at the end of this testimony.

Q: Have you testified previously before this Commission?

A: Yes, I have (in Docket Nos. 01-035-10 and 99-035-10). I have also testified in proceedings before the Arizona Corporation Commission, Public Utilities Commission of Colorado, Idaho Public Utilities Commission, Nevada Public Utilities Commission, the New Mexico Public Regulation Commission, the Wyoming Public Service Commission, and the Federal Energy Regulatory Commission.

OVERVIEW AND CONCLUSIONS

Q: What are Utah Clean Energy's and Vote Solar's interests in this docket?

A: UCE prioritizes a more efficient, cleaner, and smarter energy future. Vote Solar is aligned with UCE's mission, however we focus on the benefits that can be realized through the broad deployment of solar generation, and in my case, distributed solar generation or "DSG."

Rate design decisions have a direct influence on increased utilization and adoption of DSG and will have long-term impacts on consumer energy decisions, which in turn, impact their adoption rates. In order to facilitate the smart expansion of DSG, it is important that this Commission

approve rate designs that take into account the benefits and values of DSG, do not discriminate against retail customers that install DSG, and continue to send appropriate price signals to ratepayers in Utah.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to discuss the implications of the proposed new net metering facilities charge of Rocky Mountain Power (RMP) in the context of the regulatory practices of this Commission and recent legislation. Further, I will outline the policies and principles supporting our recommendations.

Q: Please provide a brief outline of your testimony.

A: I first introduce guiding principles on the rights of retail customers, distributed solar generation, net metering and related rate design. I then specifically address and make recommendations with respect to the proposed net metering facilities charge. My analysis finds that no such charge is warranted, and indeed net metered customers provide more benefits to other retail customers than costs. I recommend that no charge be implemented without consideration of a full cost/benefits analysis across all customer classes.

Q: Have you taken into account the Commission Public Notice issued April 16, 2014 related to the passage of Senate Bill 208?

A: Yes. My testimony and recommendations take into account Senate Bill 208 and the Commission's Public Notice referencing the costs and benefits of the net metering program and the potential for just and reasonable charges, credits and ratemaking structures.

INTRODUCTION TO THE CHARACTERISTICS OF DISTRIBUTED SOLAR GENERATION AND NET METERING

Q: What is distributed solar generation or DSG?

A: DSG is, as the name implies, solar electric generation (usually photovoltaic or PV) connected to the utility grid in relatively small sizes at the distribution level. Most often DSG is located on-site at a customer's premises although in some states Community Shared Solar (CSS) is gaining popularity. CSS projects are larger, somewhat more centralized PV systems connected to the distribution grid from which retail customers acquire ownership shares or subscriptions, and pay a delivery charge in most cases to receive the power. Customer-sited DSG is most often deployed under a net metering arrangement, as it is on RMP's system.

The amount of energy generated at any one time can be (1) zero (at night), (2) less than the consumption of the host customer, or (3) more than the host customer's consumption. In the third case, electricity generated by the on-site DSG leaves the premises and supplies neighboring customers. It is this aspect of net metering, the export component, that is unique in comparison to other behaviors or vehicles customers may use to reduce consumption from the utility.

Q: Please describe the solar generation exported off site.

A: Exported energy tends to be incidental, short lived, and, as a matter of physics, reduces the loading on the local distribution grid by supplying locally generated energy to a neighboring retail customer. This happens instantaneously and there is no incremental cost to the utility. Indeed, the utility has no control over the flow, is not required to re-dispatch it in any way, and is unaware that it has happened. For example, if a customer with a 5kW system is only using 4

kW, the other kilowatt leaves the home and serves the non-solar neighbor. The utility only sees a 5 kW load reduction (plus line losses) at that point in time on the circuit (if it is metered), but does not know the mix of loads and generation. Moreover, the extra kilowatt reduces the load on the distribution system at a time of generally higher utility costs in the middle of the day—a benefit for all.

Next door, the neighboring customer sees nothing different. She does not know whether the electricity she is consuming came from the utility or her solar neighbor. Either way, she pays full retail price for the electricity to the utility. Thus the utility recovers full retail revenue for solar electricity that is exported to the neighbor.

Q: How much DSG in the form of net metered PV exists on the RMP system?

A. Table 1 provides a breakdown of DSG on the RMP system.[1]

Table 1. DSG Systems through December 2013

	No. of Systems	Proportion	Total kW	Proportion
Schedule 1 Residential	1,869	87.1%	5,989	41.5%
Schedule 10 Irrigation	2	0.1%	5	0.0%
Schedule 23 Small General Service	154	7.2%	1,810	12.5%
Schedule 6 General Service	105	4.9%	3,500	24.3%
Schedule 6A General Service TOD	10	0.5%	238	1.6%
Schedule 8 Large General Service	6	0.3%	2,890	20.0%
Total	2,146	100.0%	14,432	100.0%

In the aggregate, the total amount of DSG generation on the RMP system (14,432 kW times 1,426 kWh/kW per year, or about 1,700 MWh/month) is less than 1/10th of 1% of the Company's

[1] Source: RMP response to UCE2.15

total sales of about 24 million MWh. To put this in perspective, RMP projects an average of about 5,000 MWh per month of kWh reductions due to increased efficiency, mostly in the industrial class during its future test year (Ref OCS10.1-5). The effect of weather is even more pronounced, with the residential sales adjustment ranging from a low of 0.3% in 2009 to a high of 7.1% (462,000 MWh) in 2013.

Q: Does the level of net metered solar on the RMP system warrant urgent action?

A: Clearly not. As will be discussed in more depth later in my testimony, the amount of net metered solar currently is very low and significant growth is not projected by RMP. There is no sense of urgency at this time, providing the Commission with the luxury of time to be thoughtful and considerate on this issue.

Q: Is there a basic principle you recommend guide this Commission in reviewing the information in this case?

A: Yes. Throughout this proceeding, the Commission should keep in mind the basic rights of the consumer behind the meter. Historically, customers have had the right to use as much or as little energy as they want, within certain limits for very large customers, provided that the activities of the customer do not compromise the safety and reliability of the utility grid. We see no reason to deviate from this perspective here. The implications of establishing fees and charges for customers based on one specific behavior that reduces consumption are problematic and far reaching.

For example, if a retail customer installs more efficient lighting or replaces a refrigerator with a more efficient one, the utility does not charge that customer a fixed charge or a higher rate to make up for lost revenue. Likewise, if a residential customer has a shrinking household for any

of a number of reasons, with a commensurate reduction in electricity consumption, the utility doesn't add a fee to make up the difference. As a corollary, should customers that invest in new energy-intensive technologies (e.g. plasma televisions) receive a credit on their electric bills to account for the additional contributions they would be making to utility "fixed costs" through their increased consumption? In other words, changes in the consumption of individual customers that occur between rate cases is nothing new – increases and decreases of individual customer consumption will continue to occur and be addressed in rate proceedings along with the corresponding changes to cost responsibility.

Indeed, in response to UCE discovery request 2.19, RMP witness Mr. Walje described his understanding of the "regulatory compact." Nowhere on his list of "customer benefits and obligations" is there any limitation or other restriction on when and how a customer may consume electricity provided by RMP.

Therefore, the Commission's net metering focus should be limited to solar generation that *leaves* the retail customer's premises, i.e. is exported. To be clear, we in no way are suggesting that the safety and reliability of the grid is not of paramount importance and should be compromised in any way. Moreover, we are fully supportive of the utility recovering 100% of its prudently incurred costs of providing electric service.

Q: Please explain how customer classes may be affected differently by net metering.

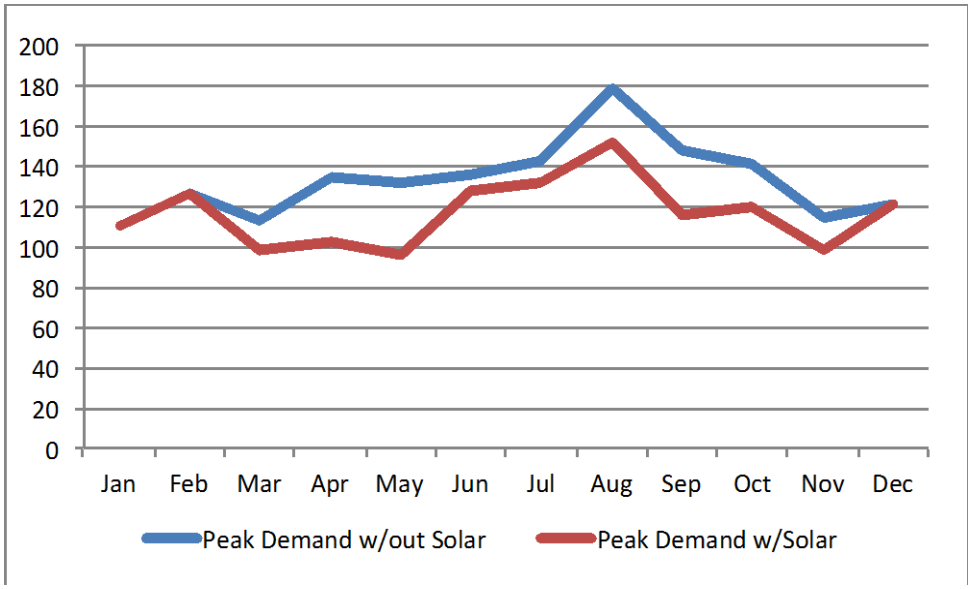
A: Much of the public discussion of net metering here and elsewhere has been focused on the residential class of customers. We don't disagree that, without consideration of the energy and grid values and other benefits that DSG (and energy efficiency) provide, when a residential customer uses less grid-supplied electricity, it contributes less revenue to the utility.

Commercial and industrial customers with on-site solar, who are on demand-based rates, produce a *revenue* reduction based on average fuel (and other variable) costs, but a *cost* reduction to the utility based on higher marginal costs. Even without consideration of the long-term value of a fixed energy price (i.e. no fuel costs), the fuel cost savings to the utility (and other customers) are greater than the electricity bill savings to the customer for the energy charge and revenue portion of the bill, due to the difference between marginal and average costs.

Second, the rate structure of most commercial and industrial customers includes a demand charge for the recovery of the utility's demand-related costs. While insufficient data exists in Utah to analyze the effect of DSG on demand charges, such an analysis was performed in Arizona.[2] The effect of a 178 kW solar generator on the monthly billing demand of a commercial customer with a peak load of 178 kW is graphically represented in *Chart 1*, below. The analysis shows DSG's effect on the customer's peak demand is less than 10% of the DSG system capacity. Thus the utility continues to recover nearly all of its demand-related costs through the demand charge, before consideration of the long-term value DSG provides to demand-related costs.

[2] Source: Table 10, Appendix B, Navigant Consulting report for Arizona Public Service Company, submitted in Docket Nos. E-01345A-10-0394 and E-01345A-12-0290, December 6, 2012.

Chart 1. Impact of Solar Generation on Commercial Customer Peak Demands



Putting these two pieces together, even on the most superficial level, there is likely to be more benefits than costs for customers on a demand-based rate, again without consideration of the value DSG provides over the longer run. It's important to keep in mind that RMP's commercial and industrial customers host about half, if not more, of the MWs deployed on the RMP system.

Q: How does the recently enacted SB208 affect this review?

A: SB208 requires the consideration of the relationship between costs and benefits before imposing any charges or providing any credits to DSG customers. RMP has not submitted any such review of benefits for consideration.

THE PROPOSALS OF ROCKY MOUNTAIN POWER COMPANY IMPACTING SOLAR CUSTOMERS

Q: Please identify and describe the proposals of RMP with which you have concerns.

A: The Company is proposing to increase certain existing charges, and add an additional fee,

which impacts the deployment of DSG facilities. While I have concerns with the proposed increases to the monthly residential customer charge and minimum bill, these issues will be addressed by UCE witness Sarah Wright. The focus of my testimony will be on the proposed net metering facilities charge.

Q: Please describe the Company's proposed "Net Metering Facilities Charge."

A: RMP proposes to add a monthly facilities charge of $4.25 on the bills of residential customers only who invest in solar generation on their home. It claims the charge "will recover the fixed distribution and retail costs that are incurred and necessary to serve net metered customers,"[3] based on the rationale that net metering customers are credited with the full retail energy rate and "their contribution to fixed costs are reduced and therefore shifted to other customers."[4]

Q: Please describe the Company's view of the net metering activity necessitating the charge.

A: In Exhibit RMP__(JRS-8), RMP witness Steward identified 13,012,995 MWh (line 11) as the net amount of electricity purchased from RMP by residential net metered customers over 25,117 monthly bills in the future test year ending June 2015, or about 2,093 customers each with 12 bills annually on average. RMP has estimated the average residential net metered customer continues to purchase 518 kWh per month from the Company. This represents an increase of about 225 residential net metered customers over a one year period (to the middle of

[3] Direct Testimony of Joelle R. Steward, page 21, lines 463-465.
[4] *Ibid*, page 22, line 496 to page 23, line 498.

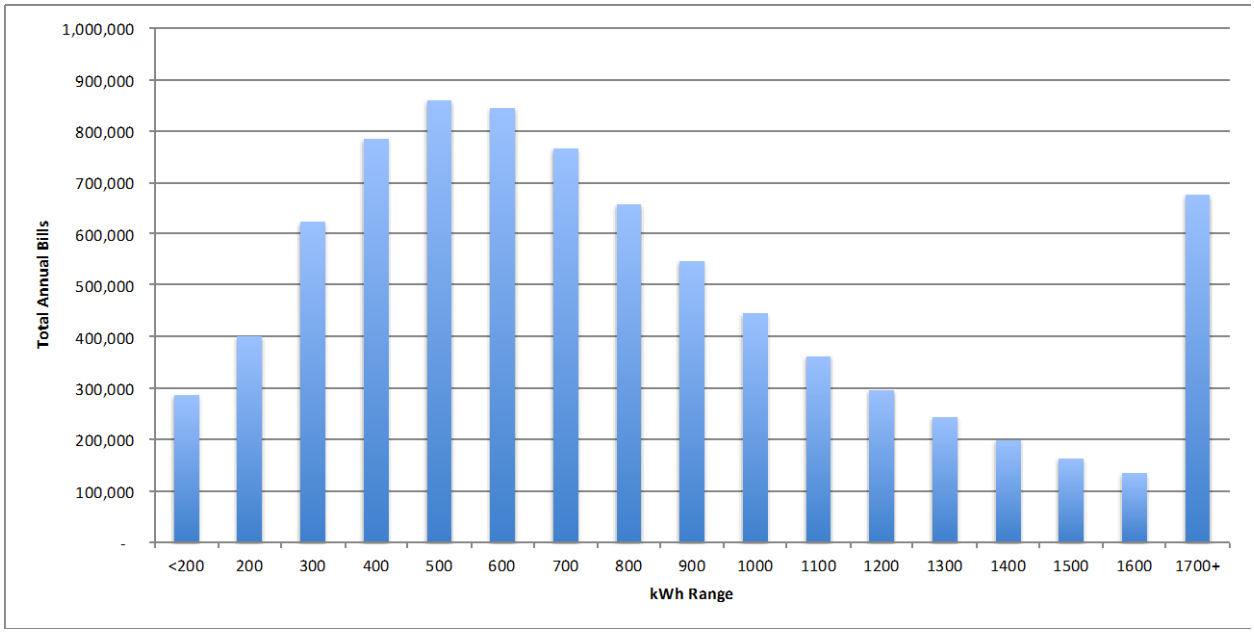
the future test year) – about the same number that were installed in 2010. The same exhibit indicates that the average residential customer uses 698 kWh per month.

Q: Do you believe this forecasted level of net metering activity is cause for alarm requiring action at this time?

A: No. The forecasted residential net metering customers comprise less than 0.3% (25,117 of 8,887,629 monthly bills) of all residential customers, and on average purchase 74% (518/698 kWh/month) of the amount of electricity that the average residential customer purchases. Put another way, RMP projects more than 99.7% of its residential customers in its future test period will not install DSG but continue in their normal electricity purchase patterns. The net metered customers that reduce their purchases from RMP do so in a relatively small way and fall well within the range of *normal consumption* strata. Indeed, when looking at the number of residential customers falling within 100 kWh increments, the residential customer group that uses 500-600 kWh on average per month is *the largest*, as seen in *Chart 2*, below.[5] Treating net metering customers differently than similarly situated customers without a net metered system is improper and discriminatory, as on average both contribute about the same towards the fixed costs of the utility.

[5] Source: RMP response to Discovery Request OCS-5.6.

Chart 2. Residential Bill Frequency Distribution 2012

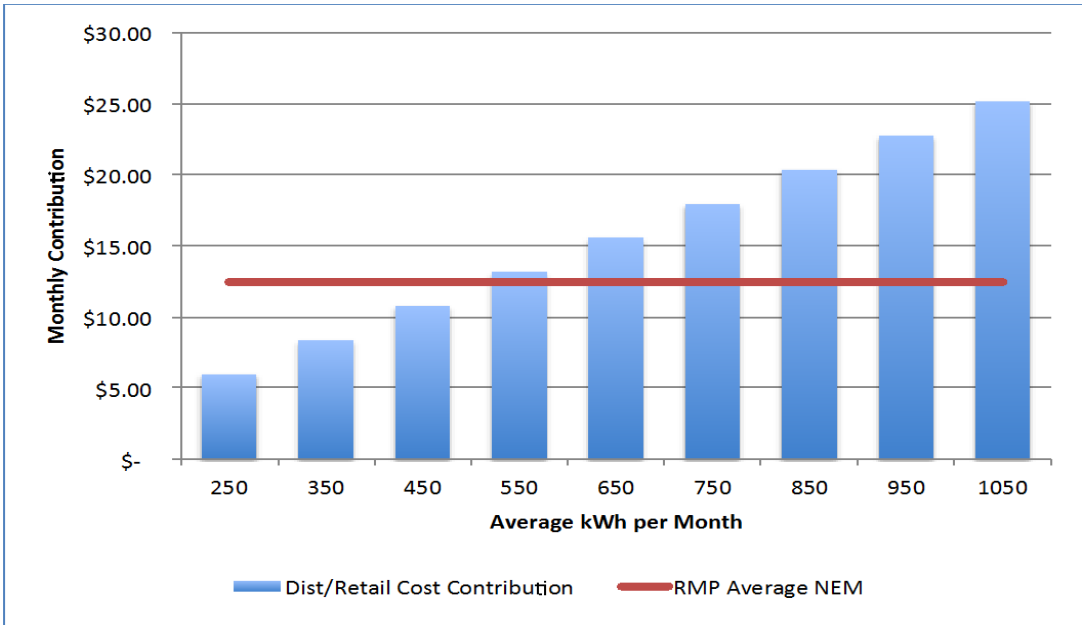


Q: Please describe how RMP determined the basis for the charge.

A: Exhibit RMP__(JRS-8) determines that the average residential customer consuming 698 kWh/month contributes $16.72 each month towards the "distribution and retail fixed costs" of RMP. The exhibit then calculates that the average net metered residential customer using 518 kWh/month contributes $12.46. The difference between these two values, or $4.25, is RMP's proposed net metering facilities charge.

This is not an indication that net metered customers are not contributing their fair share. It is simply a mathematical calculation of the contribution each month towards "distribution and retail fixed costs" by any residential customer consuming 518 kWh/month. *Chart 3* illustrates a similar calculation for residential customers at the midpoint of a variety of the consumption strata shown in *Chart 2*. These strata represent nearly 80% of all residential customers.

Chart 3. Residential Contribution to "Distribution and Retail Fixed Costs" by Consumption Strata



Q: Please describe the concerns you have with the Company's net metering facilities charge.

A: RMP's proposed net metering facilities charge is improper because (1) it does not properly distinguish between solar energy consumed on the customer's premises and that exported off-site, (2) it fails to consider the benefits provided to the grid by distributed solar as required by Utah's Net Metering statute, (3) its application is inconsistent with its rationale and (4) it discriminates against customers that invest in DSG.

(1) RMP's NEM fee is improper because it does not properly distinguish between exported solar energy and solar energy consumed on-site.

Q: Please explain the relevance to the net metering facilities charge of distinguishing solar energy consumed on-site from *exports*.

A: The Company's rationale for the net metering facilities charge is the alleged shifting of costs from net metered residential customers to other residential customers. RMP witness Ms. Steward discusses in more detail mechanically how she believes costs are shifted in the Q&A that begins on line 503:

> **Q. Please explain how net metering customers shift costs to other customers.**
>
> A. Net metering customers continue to have energy requirements during times when their facility is not generating electricity or when their facility is not generating enough electricity to offset their usage. The net billing process, however, credits every kWh generated by the customer facility in excess of usage (i.e., the kWh fed back onto the grid) against usage at other times during the billing period, or even future billing periods. As a result of the kWh credits, the customer may not pay for all usage they have taken from the Company. Since the full retail rate that the customer is able to offset recovers both variable energy costs along with a significant portion of fixed costs, the net metering customer is not contributing to fixed cost recovery through the usage that the customer's excess generation is credited against. Since these fixed costs are not recovered from net metering customers, they increase the burden on other customers. (emphasis added)

Thus, the Company does not appear to have cost-shifting concerns related to the times when solar generation is consumed on-site, i.e. the generation is either zero (e.g. at night) or less than the customer's consumption as the customer continues to contribute towards "fixed cost recovery" for energy purchased from RMP. Clearly, the Company is rationalizing this charge on those times during which solar generation *exceeds* consumption. It is the excess generation credited against usage "at other times during the billing period" or during "future billing periods" for which fixed costs are not recovered from the host customer under the current rate structure

that "increase the burden on other customers," according to Ms. Steward. RMP does not make similar claims with respect to solar energy consumed on-site.

Q: Do you agree with Ms. Steward's characterization?

A: In part, yes. The rationale for RMP's proposed net metering facilities charge is tied to excess generation, not to on-site consumption of self-generation. As described above, the retail customer has the right to use as much or as little grid-supplied energy as it so chooses. Installation of DSG may result in certain times of day during which generation exceeds consumption, and net metering has been widely adopted as a simple and fair means of treating such excess generation. This is especially true when the full set of benefits provided by DSG is considered.

Q: Do you agree then that crediting excess generation to other periods results in a loss of fixed cost recovery, and puts a burden on other customers?

No. This perspective overlooks the fact that the energy generated by a solar facility in excess of the host's consumption flows into a neighboring home or business and is consumed there. That neighboring customer, not knowing the source of the energy, *pays full retail rates to RMP* as if RMP supplied the power. As a result, RMP receives full cost recovery.

Q: Has the Company acknowledged that it continues to receive full fixed cost recovery in its direct case in any way?

A: No, it hasn't.

Q: Does the Company know the amount of energy exported from net metered generation systems?

A: RMP provided the total kWh fed back to the grid from net metered systems in response to Discovery Request OCS15.5. However, because this data includes part year information for systems installed during the three years, it doesn't have an *annualized* level of exports for any given year. Moreover, it includes systems deployed within six customer classes, not just residential. In other states we have found that the load patterns of commercial customers tends to correlate more closely with solar generation patterns than does residential, so it would be difficult to parse this data to individual customer classes.

(2) RMP's proposed net metering facilities charge is improper because it fails to consider the benefits provided to the grid by distributed solar as required by Utah's Net Metering statute.

Q: With respect to your next point, why should the Commission consider the benefits provided to the grid by distributed solar?

A: Senate Bill 208 provides, in pertinent part, that the Commission shall

> (1) determine, after appropriate notice and opportunity for public comment, whether costs that the electrical corporation or other customers will incur from a net metering program will exceed the benefits of the net metering program, or whether the benefits of the net metering program will exceed the costs; and
>
> (2) determine a just and reasonable charge, credit, or ratemaking structure, including new or existing tariffs, in light of the costs and benefits.

Clearly, the costs and benefits of net metered solar generation need to be reviewed and understood before the Commission can determine a just and reasonable charge, credit, or ratemaking structure. The Commission acknowledged its responsibilities in this area in its Public Notice of April 16, 2014.

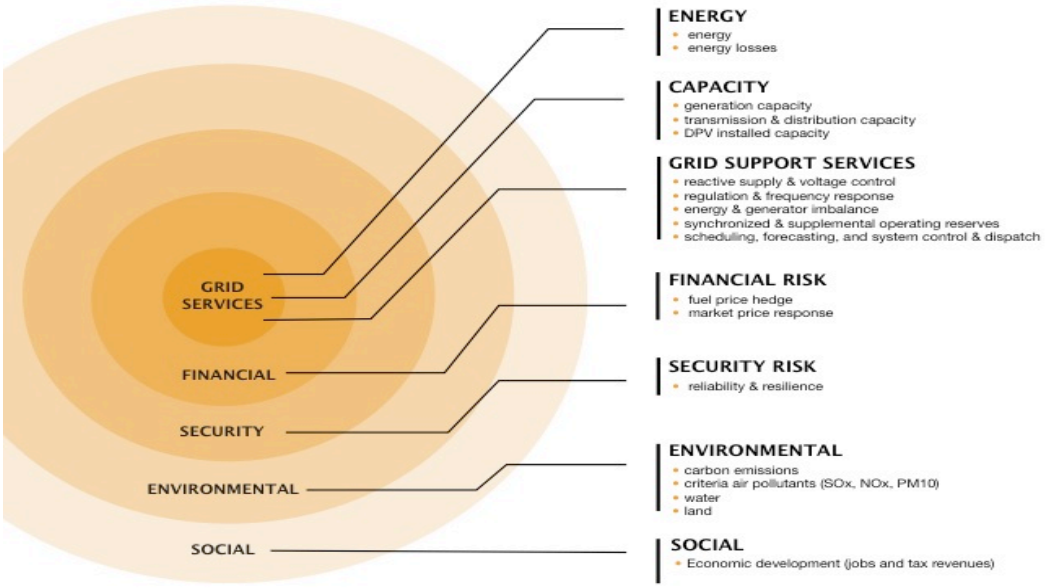
Q: How can this Commission determine the relationship between the costs and benefits of the RMP net metering program in this proceeding?

A: To start, the Commission can look to work done in other states. There are a number of studies that have been performed that compare the costs and benefits in other states, which can inform the Commission in its thinking on this matter. In addition, as described in the testimony of its witness Sarah Wright, UCE commissioned a solar value analysis in 2013, based on data from RMP. Ultimately however, due to the complexity of determining the costs and benefits of net metering programs, this Commission should consider convening a formal stakeholder process to examine each of the components of such an analysis. Several states have either recently gone through this type of process (e.g. MN, CA), or are embarking on this path (e.g. AZ, CO, NV).

Q: Please describe some of the studies that have already been performed in this area.

A: A good reference report was published in April 2013 by the Rocky Mountain Institute (RMI) entitled, *A Review of Solar PV Benefit & Cost Studies* ("Review") and can be found at www.rmi.org/elab_emPower. The broad categories of values or benefits provided by DSG are delineated in figure 1:

Figure 1: Benefit and Cost Categories



Among the Review's insights, RMI found that many studies agree on the broad categories of benefits and costs. It also found a significant range of estimated value across studies, driven primarily by local differences, input assumptions, and methodological approaches, and admonished that "comparing results across studies can be informative, but should be done with the understanding that results must be normalized for context, assumptions, or methodology."[6] Broadly speaking however, it is fair to say that most of the studies indicated a set of benefits that equal or exceed the retail rate.

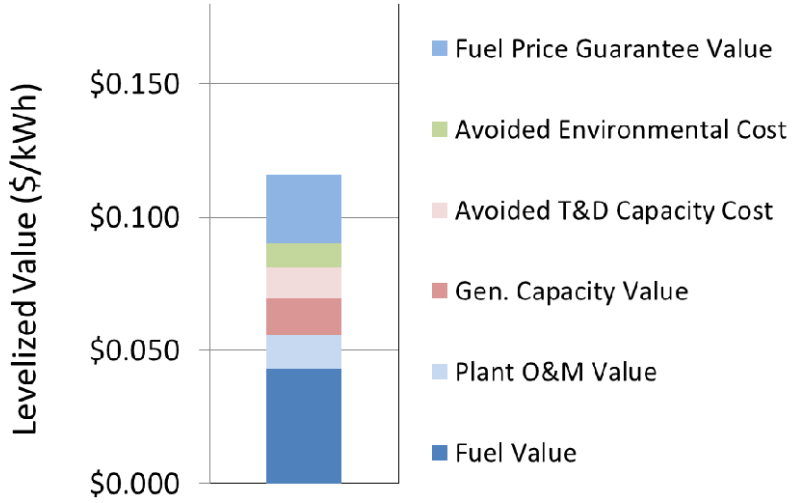
Q: Please describe the value of solar study performed for UCE.

UCE contracted with Clean Power Research (CPR) to estimate the benefits of solar in Utah for RMP's service territory. While many other studies have examined a more broad set of values

[6] See RMI Review, page 22.

provided by solar generation, this study looked at the values provided in six common categories of utility cost. The findings of benefits in the study are summarized in Chart 4 below.

Chart 4. Levelized Value of Solar ($/kWh)



It's important to note that the estimated values above are levelized over a 25 year (PV-life) time frame beginning in 2014, and based on a discount rate of 6.882% and a general escalation factor of 1.9%. Note also that for ease of comparison, all costs have been reduced to a "per kWh" rate.

Q: Does the Utah CPR Study look at costs to the utility of its net metering program?

A: No, the Utah CPR analysis just looks at the value of solar provided by DSG.

Q: What are the costs to the utility of net metering?

A: In general, the cost side of the benefit/cost equation is represented by the costs incurred by the utility for which revenue is not received due to, in this case, net metering exports. Broadly, costs are generally classified as (1) fixed customer-related costs which are a function of the existence of the customer and do not vary with consumption or demand; (2) variable energy related costs which vary with the amount of energy consumed by the customer; or (3) demand

related costs which vary with the maximum load of the customer. Once classified, individual customer classes are assigned cost responsibility on these same bases.

The fixed customer related costs are recovered through a non-bypassable monthly customer charge and are unaffected by net metering, thus these costs will continue to be recovered at a constant rate even as net metering (or other factors) reduce consumption or load.

The variable energy related costs are commonly recovered through a charge tied to the energy (kWh) consumption of the customer, thus as customer consumption varies, cost recovery varies as well, albeit not always in close relationship with the underlying cost as discussed above regarding marginal and average costs.

The demand related costs are recovered through a volumetric charge (i.e. consumption) for residential and small commercial customers, but on the basis of peak monthly load, or demand, for larger commercial and industrial customers.

Q: Did you estimate costs to RMP of its net metering program?

A: Yes. For this estimation, I selected the three rate classes in which 92% of DSG systems and 86% of DSG MW are currently deployed, i.e. Rate Schedules 1, 6, and 8. The results are summarized in Table 2. Note that the residential cost in Table 2 is based upon the analysis performed by witness Sarah Wright and contained in her Direct Testimony (on rate design). For Rate Schedules 6 and 8, I use Exhibit RMP__(JRS-5), pages 9-11 as a starting point.

The first step in determining the cost to the utility of sales and load reductions is to exclude customer related fixed costs that will continue to be recovered from net metered customers. Next, we adjust the demand rate to account for continued recovery of 90% of the underlying

costs, and reduce the remaining 10% to a per kWh rate for year one - 2014. Similarly, we weight the tiered energy rates based on the quantity of energy consumed for the class within each tier to acquire a single rate for year one. Next, the energy rate is escalated over a 25 year time frame (through 2039) at the same rates as the natural gas cost in the CPR study. While this likely overstates actual fuel escalation due to the much higher proportion of coal costs over natural gas costs in the total fuel costs, we felt it better to be conservative.

The demand rate was escalated over the period at the 1.90% factor obtained from RMP in Docket No. 11-035-104 (via the 2013 IRP) and used in the CPR study, representing the Company's expected general escalation rate. The year by year result of these escalations were added together to represent the revenue reduction per kWh under present rates in each year. The net present value of these rates was determined and the levelized value found. These levelized values are depicted in Table 2 below.

Table 2. Comparison of DSG Costs and Benefits for Select Rate Classes

Cost/Benefit	Residential Schedules 1 & 3	General Service Schedule 6	Large General Service Schedule 8
Levelized Value of Distributed Solar	11.6¢/kWh	11.6¢/kWh	11.6¢/kWh
Levelized Net Revenue Reductions	11.9¢/kWh	5.9¢/kWh	5.8¢/kWh
Net Benefit or (Cost)	(0.3¢/kWh)	5.7¢/kWh	5.8¢/kWh

While this comparison is admittedly not intended to be precise, it illustrates a result that is similar to that found in studies performed for other states and utilities. The differences in rate structure between residential and commercial rates results in the residential benefits approximately equaling the revenue reduction, and the benefits of DSG on commercial customers very clearly outweighing such revenue reductions by a significant margin. The

inescapable conclusion is that benefits are likely to outweigh the costs, and no justification exists for imposition of a new fee at this time.

(3) RMP's proposed net metering facilities charge is improper because its application is inconsistent with its rationale.

Q: Is RMP's application of its proposed net metering facilities charge consistent with the Company's stated basis for the charge?

A: No. RMP proposes that the charge apply to solar customers "regardless of whether the Customer provides excess net generation during the month,"[7] although RMP's stated basis for imposing a charge is the virtual use by the host customer of exported energy at times other than when it was generated. Imposing the proposed charge to any residential solar customer regardless of exports (even if it never exports *any* excess solar generation) is inconsistent with the stated rationale for its imposition. Furthermore, the NEM fee calculation is based entirely on average consumption of net metered customers as compared to average consumption of all residential customers, which too is inconsistent with the Company's stated rationale for imposing a fee.

(4) RMP's proposed net metering facilities charge is improper because it discriminates against customers that invest in DSG.

Q: How is the net metering facilities charge discriminatory against solar customers?

A: The net metering facilities charge singles out a single customer behavior in a single customer class for a supplemental fee, when many other behaviors and lifestyle changes can

[7] Exhibit RMP___(JRS-7) Page 1 of 1.

yield the same result. This is discriminatory treatment. As noted above, residential customers that install more efficient lighting or a refrigerator, or have a shrinking household are not subject to supplemental fees. RMP has proposed no corresponding credit for residential customers that *increase* their consumption. The same rationale would result in commercial NEM customers receiving a supplemental credit, but none is offered. The effects of simple differences in consumption levels on cost recovery in the residential class are clearly depicted in Chart 3 (above).

Changes in the consumption of individual customers that occur between rate cases is nothing new – increases and decreases of individual customer consumption will continue to occur and be addressed in rate proceedings along with the corresponding changes to cost responsibility. To do otherwise without full consideration of similarly situated customers and the benefits provided by DSG represents discriminatory treatment.

Q: Do you have any other comments regarding the net metering facilities charge?

A: Yes. In addition to the benefits reflected in the solar value study, there are other effects related to the deployment of DSG not captured by RMP. For example, DSG provides capacity (albeit at less than nameplate rating) that is coincident with many of the monthly system peaks. This capacity reduces RMP's overall contribution to the Pacificorp coincident peak resulting in lower cost responsibility for all RMP customers. It also reduces cost responsibility for the customer classes within which it is deployed, thus benefiting all customers in the class.

These benefits to other customers have not been considered in the Company's proposal to impose a net metering facilities charge.

Q: Please summarize your recommendations.

A: I recommend the net metering facilities charge proposed by RMP be rejected because:

- It is unsupported by facts or evidence, cost causation principles, and is discriminatory;
- It is inconsistent with the rationale RMP uses for its justification; and
- RMP has not reviewed the benefits provided by net metered solar generation as required by SB208 and UCE's general review of the benefits finds no net cost. Indeed, a credit for customers hosting net metered solar generation may be appropriate.

I further recommend institution of a Commission-led or facilitated stakeholder process with the goal of producing an updated cost and benefit analysis of the net metering program across all customer classes.

Q: Does this conclude your testimony?

A: Yes.

ATTACHMENT A

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Professional Employment

January 2012 to Present: Program Director, DG Regulatory Policy, Vote Solar. Managing the distributed solar generation policy research, development and implementation for Vote Solar, and engaging in related state, regional, and national regulatory processes.

March-April 2012: Solar Energy Industries Association - Under a short term and part time contract with SEIA to participate in an Xcel Energy distributed solar generation Technical Review Committee and to manage consulting support also under contract to SEIA.

January 2007 to January 2012: SunEdison, LLC - Various solar policy related positions beginning with Director of Interior West Policy to Managing Director of Western Policy (July 2007), to Vice President of North American Government Affairs (July 2009) to Global Policy Advisor (July 2011). In each of these roles, directed and managed policy research, development and implementation for the company for the various geographies identified at the regulatory and legislative levels.

June 2011 to December 2011: Chair of the Solar Alliance Board.

Dec 1994 to Jan 2007: Senior Energy Policy Advisor, Western Resource Advocates (formerly the Land and Water Fund of the Rockies), Boulder, Colorado. Develop innovative clean energy and air quality public policies within the economic and cultural framework unique to this region. Lead environmental advocate in development of Arizona Environmental Portfolio Standard, Nevada Renewable Portfolio Standard implementation rules, Colorado Renewable Energy Standard legislative proposals, and the 2003 Utah Renewable Energy Standard legislative proposal. Principal author of Colorado's Amendment 37 and lead advocate for related PUC rule development.

Jan 1983 to Dec 1994: Director of Revenue Requirements, Public Service Company of Colorado, Denver, Colorado. Primary responsibility for development of formal rate-related filings for this investor-owned utility for electric, gas, and thermal energy service in two states and the FERC. Developed and responded to a variety of proposed mechanisms to encourage the use of energy efficiency technologies, including innovative rate design approaches.

Dec 1976 to Dec 1982: Technical Witness (Engineer), Federal Energy Regulatory Commission, Washington, D.C. Testified as expert witness on behalf of the FERC in wholesale rate filings on technical, accounting, and economic issues related to rate design, pricing, and other issues.

Education

Masters, Environmental Policy and Management, University of Denver, Denver, Colorado

Bachelor of Science, Electrical Engineering, Rensselaer Polytechnic Institute, Troy, New York

Relevant Publications

Gilliam and Baker, "Green Power to the People," *Solar Today*, July/August 2006.

Dalton & Gilliam, "Walking on Sunshine: Energy Independence on the Rez," *Orion Afield*, Summer, 2002.

Gilliam, Rick, "Revisiting the Winning of the West," *Bulletin of Science, Technology & Society*, April 2002.

Blank, Gilliam, and Wellinghoff, "Breaking Up Is Not So Hard To Do: A Disaggregation Proposal," *The Electricity Journal*, May 1996.

Recognition

Recipient of First Annual Larson-Notari Award, Colorado Renewable Energy Society, June 2005.

Named one of Metro Denver's Top Business Newsmakers, September 2005, Denver Business Journal

Recipient of University of Colorado Wirth Chair Community Award, June 2006.

Summary of Formal Testimonies and Rulemaking Participation

Representing the Vote Solar Initiative

- Public Service Company of CO Docket 13AL-0958E: QF Rate methodology for small QFs
- Public Service Company of CO Docket 13A-0836E: 2014 RES Compliance Plan
- Public Service Company of CO Docket 13AL-0695E: Line Extension Policy
- Idaho Power Company, Case No. IPC-E-12-27, Net Metering Service
- Arizona Public Service, et al., Docket No. E-01345A-10-0394, et al., RES Compliance
- New Mexico PRC Case No. 11-00218-UT: RPS Reasonable Cost Threshold
- Tucson Electric Power Co., Docket No. E-01933A-12-0291: TEP Rate Case – rate design

Representing Sun Edison

- Public Service Co of New Mexico Case No. 10-00037-UT 2010 Procurement Plan
- Public Service Company of CO Docket 09A-772E: 2010 Compliance Plan
- Public Service Company of CO Docket 09AL-299E: 2009 Rate Case Phase 2
- Public Service Company of CO Docket 08A-532E: 2009 Compliance Plan
- Colorado PUC Rulemaking Docket 08R-424E: Renewable Energy Standard Rules
- New Mexico PRC Case No. 08-00084-UT: Reasonable Cost Threshold Rulemaking
- Nevada PUC Docket No. 07-10007: Petition for Declaratory Order re 3rd party ownership
- Public Service Company of CO Docket 07A-447E: 2007 Resource Plan
- Public Service Company of CO Docket 07A-462E: 2008 Compliance Plan
- New Mexico PRC Case No. 07-00157-UT: RPS Rulemaking; diversity standard
- Public Service Company of CO Docket 06A-478E: 2007 Compliance Plan
- Public Service Company of CO Docket 06A-534E: Approval of Alamosa Contract

Representing large commercial customers

- Nevada Power Company Docket No. 02-11037: Electric Tariff Rule related to loss factor associated with metering secondary service at primary level
- Nevada Power Company Docket No. 02-5044: Electric Tariff Rule related to metering

Representing Western Resource Advocates (formerly the Land and Water Fund of the Rockies)

- CO: PSCo Docket 06S-234EG: 2006 Rate Proceeding - Windsource issue
- CO: PSCo Docket 05A-112E: Renewable Energy Standard Rulemaking
- CO: PSCo Docket 05A-288E: Electric Quality of Service Monitoring & Reporting Plan
- CO: PSCo Dockets 06S-016E: Renewable Energy Service Adjustment
- CO: PSCo Consolidated Dockets 04A-214E, 215, 216E: Least-cost Resource Plan
- CO: PSCo Docket No. 04S-164E: Windsource Program & Net Metering in GRC Phase 2
- CO: PSCo Docket 02S-315EG: 2002 Rate Proceeding - Windsource issue
- NV: Nevada Power Company Docket No. 01-7016: Demand-side Management Programs
- UT: PacifiCorp Rate Case Docket No. 01-035-10: Demand-side Mgt Cost Recovery
- CO: PSCo Docket No. 00A-008E: IRP - DSM & Wind Resources
- UT: PacifiCorp Rate Case Docket No. 99-035-10: System Benefit Charge Proposal
- AZ: Arizona Restructuring Rulemaking Docket No. 99-205: Renewable Portfolio Standard
- CO: PSCo Docket No. 98A-511E: Air Quality Improvement Rider
- AZ: Arizona Restructuring Rulemaking Docket No. 94-165: Stranded Cost Proceeding
- NV: Nevada Power Company Docket No. 94-7001 (Refiled): Integrated Resource Plan
- NM: Southwestern Public Service Case No. 2678: Merger Proceeding
- CO: PSCo Docket No. 95A-531EG: Merger Proceeding

Representing Public Service Company of Colorado

- PSCo Rate Revenue Requirements Proceeding Docket No. 93S-001EG
- PSCo Demand-side Management & Decoupling Proceeding Docket No. 91A-480EG
- PSCo Incentive Regulation Investigation Docket No. 93I-199EG
- PSCo Rate Proceeding Docket No. 91S-091EG
- PSCo Fort St. Vrain Supplemental Settlement Agreement Docket No. 91A-281E
- Various PSCo FERC rate proceedings, and subsidiary rate proceedings

Representing the Staff of the Federal Energy Regulatory Commission

- Connecticut Light & Power Company, Docket ER 82-301
- Kentucky Utilities Company, Docket ER 81-341
- Philadelphia Electric Company, Docket ER 80-557, et al.
- Minnesota Power & Light Company, Docket ER 80-5
- Boston Edison Company, Docket ER 79-216, et al.
- Connecticut Light & Power Company, Docket ER 78-517
- South Carolina Electric & Gas Company, Docket ER 78-283
- Minnesota Power & Light Company, Docket ER 78-245
- New England Power Company, Docket ER 78-78
- New England Power Company, Docket ER 77-97