BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR AUTHORITY TO INCREASE ITS RETAIL ELECTRIC UTILITY SERVICE RATES IN UTAH AND FOR APPROVAL OF ITS PROPOSED ELECTRIC SERVICE SCHEDULES AND ELECTRIC SERVICE REGULATIONS	))))))))	**DOCKET NO. 13-035-184** **DPU Exhibit 11.9 REB-COS**

COST OF SERVICE

(RATE DESIGN)

REBUTTAL TESTIMONY OF STAN FARYNIARZ

ON BEHALF OF

THE UTAH DIVISION OF PUBLIC UTILITIES

June 26, 2014

I. INTRODUCTION

Q. What is your name and business address?

A. My name is Stan Faryniarz. I work for La Capra Associates, headquartered at One Washington Mall, Boston, MA 02108.

Q. Have you testified previously in this proceeding?

A. Yes, I presented direct testimony on behalf of the Utah Division of Public Utilities (Division) on May 22, 2014.

Q. What is the purpose of your rebuttal testimony?

A. I am commenting on the sufficiency of the record in this proceeding concerning the costs and benefits of the RMP Net Energy Metering (NEM) program, as well as statements regarding net metering in the testimony of Mssrs. Gilliam and Mulvaney on behalf of Utah Clean Energy (UCE) and the Sierra Club respectively. I have not attempted to address every potential issue raised by intervenors in testimony. Silence on an issue does not necessarily signal agreement.

Q. What areas will your testimony address?

A. I will address the following:

- Claims regarding the Rocky Mountain Power's (RMP or the Company) failure to prepare a complete cost benefit analysis.
- The cost - benefit analyses prepared by Mr. Gilliam and Mr. Mulvaney.

- How the current treatment of net metering may prevent the Company from collecting revenues to recover the entirety of fixed costs.

Q. Please summarize your conclusions.

A. My conclusions are as follows.

- The Division agrees that RMP failed to provide a full cost - benefit analysis of its net metering program of the type required by SB 208 in its application in this proceeding. Notably, the legislative changes were enacted after RMP's application in the case. Likewise, other intervening parties have failed to provide an adequate analysis to satisfy the requirements under SB 208 as outlined in the Commission's notice of April 16, 2014. While certain of the costs cited in RMP's application may be supportable, further analysis is likely needed before imposing a charge or credit in accordance with SB 208's new provisions. The Division does not oppose the suggestion that further inquiry occur, either under the current docket or a separate proceeding.
- The cost benefit analyses discussed in Mr. Gilliam and Mr. Mulvaney's direct testimonies do not make a conclusive case that the benefits of net metering clearly outweigh the costs for residential customers.
- Mr. Gilliam's statement that power exported to the grid from net metering customers does not result in a loss of cost recovery by RMP is misleading. RMP may not be recovering the full fixed costs of the distribution system from residential net metering customers.

II. SUFFICIENCY OF THE RECORD TO DETERMINE NEM BENEFITS & COSTS

Q. Do you believe that the record is sufficient in this proceeding to allow the Commission to make appropriate findings pursuant to Utah Senate Bill (SB) 208?

A. No. As I stated in direct testimony and as other parties have as well, RMP has not produced enough evidence on the benefits or the costs of the NEM program.

Other parties to this proceeding provide reference to various studies conducted in other states purporting to show overall benefits, and a net benefit, of net energy metering and solar distributed generation in those states. However, given the schedule in this GRC proceeding, it has not been possible to rigorously evaluate that evidence.

Q. RMP has yet to provide an appropriate analysis, but other parties have offered evidence of a net benefit associated with the NEM program. Is the totality of the evidence produced so far compelling enough to allow the Commission to make findings consistent with the requirements of SB 208?

A. At this point, no. As noted in the legislation itself, SB 208 provides 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.

Upon review of direct testimony by some of the parties that have purported to demonstrate a net benefit, I have found certain problems with either basic assumptions or the analysis itself. For this reason, I believe the record is insufficiently developed with regard to item (1) above, for costs and benefits.

I discuss some of these issues below.

III. REBUTTAL OF THE DIRECT TESTIMONY OF MR. GILLIAM

Q. Did Mr. Gilliam discuss the costs and benefits of net metering?

A. Yes. Utah Clean Energy (UCE) contracted with Clean Power Research (CPR) to provide an estimate of the benefits of solar power. Mr. Gilliam compared these benefits to the costs of net metering from lost revenues to RMP, and the results are presented in Table 2 on page 22 of his direct testimony.

Q. Please summarize the issues with Mr. Gilliam's analysis.

A. I have not done a thorough analysis of all the assumptions in CPR's estimate of the 25-year levelized value benefit of solar power, but it appears that CPR takes an expansive view of the benefits, including items beyond the traditional avoided costs of energy, capacity, transmission, and distribution and related power supply costs. To these avoided cost benefits, CPR adds fuel price guarantee value and avoided environmental cost.

Notably, even with this expansive view of the benefits, Mr. Gilliam's analysis does not show a clear net benefit from residential net metering. Table 2 in his testimony shows that the 25-year levelized value of solar is 11.6 cents/kWh, compared to a cost from foregone RMP average rate revenue of 11.9 cents/kWh.

Q. What other issues do you have with Mr. Gilliam's direct testimony?

A. Starting at line 270 of Mr. Gilliam's direct testimony, he states 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."

I disagree with this statement.

Q. Please elaborate.

A. It may be easiest to show why Mr. Gilliam's statement is misleading with a simple example involving two customers in each of the following scenarios:

A. Each customer is being served fully by power from the grid.

B. One customer with solar NEM generation and one without, but with no export of solar power from one customer to another.

C. One customer with solar NEM generation and one without, and with export of solar power from one customer to another and net metering.

For simplicity, assume the full retail rate of electricity is 10 cents/kWh and each customer consumes 1000 kWh/month, resulting in a $100 monthly bill for each customer. Again for simplicity, assume that the $100 is used to recover $50 in energy-related variable costs and $50 in fixed costs, including distribution system costs.

In **Scenario A**, each customer pays the utility $100/month, and so the utility receives $200 to generate 2000 kWh, and recovers all of its costs.

For **Scenario B**, assume the solar generation system generates 500 kWh of energy. In this case, the utility receives $100 to generate 1000 kWh from the customer with no solar generation, and still recovers all of its costs to serve this customer. However, for the customer with solar generation, the utility receives only $50, which is enough to cover variable costs, but only half of the fixed costs. There is $25 in unrecovered costs by the utility.

Finally for **Scenario** C, assume the solar generation system generates 1500 kWh of energy. This is enough to cover all of the solar host's energy use and half of the other customer's energy use. The utility still receives $100 from one of the customers, but half of that flows back to the customer with the solar generation under the net metering paradigm. The utility has therefore received only $50 to generate 500 kWh, which is not enough to cover the utility's fixed costs of $100 for the month, and in fact, after variable costs are taken into account, total unrecovered costs are $75/month for Scenario C.

These cases are illustrated in the table below.

Table 1 – Net Energy Metering Cost Recovery

	Scenario A		Scenario B		Scenario C	
	Customer 1	Customer 2	Customer 1 (w/Solar)	Customer 2	Customer 1 (w/Solar)	Customer 2
Energy Use (kWh)	1000	1000	1000	1000	1000	1000
Solar Generation (kWh)	0	0	500	0	1500	0
Monthly Bill or (Net Credit)	$100	$100	$50	$100	($50)	$100
Utility Generation (kWh)	1000	1000	500	1000	0	500
Utility Variable Costs	$50	$50	$25	$50	$0	$25
Utility Fixed Costs/Customer	$50	$50	$50	$50	$50	$50
Utility Revenues	$100	$100	$50	$100	($50)	$100
Unrecovered Costs (Net Credit)	$0	$0	$25	$0	$100	($25)

What this simplified example illustrates is that revenues from customers served by distributed solar facilities are not enough to ensure full utility cost recovery, even though both NEM and non-NEM customers are paying for some amount of power at the utility's full retail rate.

In actuality, the amount of potential unrecovered costs for the utility would depend on the amount of especially distribution fixed costs being recovered from energy rates, and in this example the amount of solar NEM generation on the system.

In any case, as the NEM program grows further, the resulting cost under-recovery will grow so long as fixed costs continue to be recovered in energy rates to some degree.

IV. REBUTTAL OF THE DIRECT TESTIMONY OF MR. MULVANEY

Q. Did Mr. Mulvaney discuss the costs and benefits of net metering?

A. Yes. Mr. Mulvaney testifies on behalf of the Sierra Club, highlighting numerous studies performed in other states on the benefits of net metering both at a microeconomic level, and from the perspective of a customer facing an investment in an NEM installation. After providing an analysis of the total benefits of net metering in avoiding costs of energy, capacity, transmission, distribution and ancillary services, he finds "the benefits provided by residential net metering customers far outweigh any revenues that the new charge would take in."[1]

Q. Does the analysis presented by Mr. Mulvaney provide a proper benefit – cost portrayal of NEM?

A. No. While I have not been able to thoroughly evaluate his analysis of all avoided cost benefits, his comparison is misleading. He compares his calculation of the benefits of all "currently installed" NEM facilities ($1.4 million), to the revenues recovered from RMP's proposed new residential net metering facilities charge based on a $4.25 per customer per month charge ($107,000). Reduced to a per customer basis, he compares his finding of a benefit of $56.27 per NEM customer per month, to the proposed charge of $4.25 per month.

[1] Mulvaney Direct Testimony, p. 5, lines 8-9.

Q. What is missing from this analysis?

A. There is no consideration at all of the foregone RMP retail rate revenues as a cost that is either not recovered or paid by other customers, or from the NEM customer perspective, the value of the retail energy rate avoidance as a credit. If one recognizes that the program allows an NEM customer to offset up to all of the energy charges he or she would otherwise face, because NEM facility production is credited at the full retail energy rate, it is clear his analysis is incomplete. It ignores the NEM customer compensation and foregone RMP revenues effects of the program.

Q. Mr. Mulvaney's analysis of benefits associated with NEM facilities considers the Federal Energy Regulatory Commission's (FERC) Avoided Cost Rule, and the practices of other utility commissions, suggesting these are "widely accepted methodologies for estimating their value."[2] Do you believe there is an industry-accepted standard to valuing the benefits of NEM facilities?

A. No. Even as noted by Mr. Mulvaney, "[d]ifferent utility commissions have accepted various methodologies that include different elements of avoided costs." He describes a number of examples.

Q. Is Mr. Mulvaney's analysis consistent with the Utah Commission method?

[2] Mulvaney Direct Testimony, p. 6 lines 9 – 10 and 25 - 26.

A. It is unclear. As I understand the Commission's approved approach for determining avoided costs for smaller Qualifying Facilities (QFs) under Schedule 37[3], the methodology reflects the costs of energy during "resource deficiency and sufficiency periods" coupled with the capacity costs associated with the next plant to be built or bought as identified in the Company's latest integrated resource plan (IRP).

In any case, because Mr. Mulvaney's analysis appears to rely on a review of embedded costs associated with RMP's fleet of *existing* natural gas plants, and not a marginal cost analysis of new capacity, I could not determine how consistent his approach is with the Utah Commission approved avoided cost architecture.

Q. Are there any other analyses conducted by Mr. Mulvaney with which you take exception?

A. At least one. As noted earlier in my testimony, in addition to certain microeconomic analysis of the benefits and costs of NEM facilities, Mr. Mulvaney discusses in Section 6 of his testimony the eroded incentives to invest in NEM associated with fixed cost charges. Specifically, these include longer payback periods due to not only the life-cycle cost effect of the proposed net metering facilities charge, but also the proposed increase to the customer charge.[4]

[3] Docket No. 94-2035-03, Docket No. 03-035-T10, June 1, 2004, Docket No. 12-035-T10, November 28, 2012, and Docket No. 12-035-100, August 16, 2013.
[4] Mulvaney Direct Testimony, pp. 35 - 37.

Q. What is wrong with that approach?

A. It is misleading to include increased customer charges in the NEM facility investment decision. Under the net metering program, customers who install NEM can avoid paying the retail energy rate, but not customer charges, which under the Utah Commission approved method should contain only the costs that vary with the number of customers. Put another way, whether a customer decides to invest in and install an NEM generation facility or not, it will still pay the customer charge developed to recover the costs associated with customer-related services. While there may well be an eroded incentive from the net metering facilities charge, there is no diminished incentive to install NEM associated with increases to the Company's monthly customer charge, because the customer would pay that charge regardless of whether or not it invests in an NEM facility.

Q. Does this conclude your testimony?

A. At this time, yes.