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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 2.0 (DT) [COS + RD]

DIRECT TESTIMONY OF SARAH WRIGHT

ON BEHALF OF

UTAH CLEAN ENERGY

[COST OF SERVICE AND RATE DESIGN]

May 22, 2014

INTRODUCTION

Q: Please state your name and business address.

A: My name is Sarah Wright. My business address is 1014 2nd Ave, Salt Lake City, Utah 84103.

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

A: I am the Executive Director of Utah Clean Energy, a non-profit public interest organization whose mission is to lead and accelerate the clean energy transformation with vision and expertise. We work to stop energy waste, create clean energy, and build a smart energy future.

Q: On whose behalf are you testifying?

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

Q: Did you file testimony in the revenue requirement phase of this rate case?

A: Yes.

Q: Please review your professional experience and qualifications.

A: I am the founder and director of Utah Clean Energy. Through my work with Utah Clean Energy over the last 11 years, I have been involved in a number of regulatory dockets, including Integrated Resource Planning, rate cases, tariff filings, and other dockets relating to energy efficiency, renewable energy, and net metering. I serve on Rocky Mountain Power's DSM Steering Committee and both Rocky Mountain Power's and Questar Gas Company's DSM Advisory Committees.

I have over 13 years of energy policy experience working on state, local, and national energy policy, providing expertise and policy support for renewable energy and energy efficiency. I have served on numerous energy policy working groups and

taskforces, including the Energy Efficiency and Energy Development Committees supporting Governor Herbert's Energy Task Force and Ten Year Energy Plan; the Governor's Utah Renewable Energy Zone Task Force; Governor Huntsman's Energy Advisory Council and Blue Ribbon Climate Change Advisory Council; Utah's Legislative Energy Policy Workgroup, and Salt Lake City's Climate Action Task Force. I also served on the State of Utah, Division of Air Quality PM2.5 State Implementation Plan workgroup.

Currently, I serve on two committees for Governor Herbert's Your Utah Your Future Project (the Utah Clean Air Action Team and the Energy and Emergency Preparedness committee). Additionally, I serve on Mayor Becker's local Climate Committee that supports his membership on the White House Task Force on Climate Preparedness and Resilience. I serve on the Board of Directors for Interwest Energy Alliance and the Interstate Renewable Energy Council Regulatory Advisory Board for the US Department of Energy Sunshot Initiative.

For15 years prior to founding Utah Clean Energy, I was an occupational health and environmental consultant, working on occupational health and ambient air quality issues for a wide variety of commercial, industrial, and governmental clients across the west. I have a BS in Geology from Bradley University in Peoria, Illinois and a Master of Science in Public Health from the University of Utah in Salt Lake City.

OVERVIEW AND CONCLUSIONS

Q: What is Utah Clean Energy's interest in this phase of the rate case?

A: Utah Clean Energy prioritizes a more efficient, cleaner, and smarter energy future. We envision and enable increased utilization of energy efficiency, distributed generation and utility-scale renewable energy. Our long-range vision of the smart energy future includes a more modern, agile, diversified and secure energy system that can readily take advantage of new capabilities for saving energy and expand the use of electric vehicles, distributed generation, demand response, energy storage and use of information and control technologies.

Rate design decisions have a direct influence on consumers' utilization and adoption of energy efficiency and distributed generation technologies. In order to facilitate a smooth, cost conscious and orderly transition to a smarter energy future, and given the impact today's decisions have over the long-term, it is important that this Commission approve rate designs that send appropriate price signals to ratepayers and maintain and effect clean energy in Utah.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to support residential rate design that promotes smart, efficient and distributed energy use in the interests of mitigating costs and risks for ratepayers. I also acknowledge and address the Company's concerns over fixed cost recovery and net energy metering (NEM). Utah Clean Energy witness Rick Gilliam will respond to the Company's proposed NEM fee.

Throughout direct testimony, Company witnesses reference the concept of an "energy services" utility. RMP President Rich Walje explains that the Company's role is

changing from a producer and seller of electricity to a "facilitator of energy services from customers and third parties."[1] I will address this transition and recommend that the Company develop a plan for this transition, rather than a piecemeal approach that targets specific customer groups for making personal investments that utilize competitive demand-side opportunities (in this case net metering customers).

Q: Please provide a brief outline of your testimony.

A: I address the following issues in order: residential rate design principles, the monthly customer charge, net energy metering issues (including costs and benefits) and the residential minimum bill.

Q: Pleas summarize your conclusions and recommendations.

A: I make the following conclusions and recommendations:

- UCE continues to support the Commission-approved methodology for calculating the monthly customer charge.
- No net metering charge should be implemented without consideration of a full cost/benefit analysis across all customer classes.
- The minimum bill should be eliminated as it is not cost-justified and prevents NEM customers from receiving fair value for the benefits they provide.
- The Commission should work with stakeholders to conduct a full analysis of the costs *and benefits* of net metering and other valuable customer demand side choices to ensure that any new rate designs fairly value utility services and value and compensate customer choices that benefit all ratepayers.

[1] Direct Testimony of A. Richard Walje at lines 26-28.

RESIDENTIAL RATE DESIGN

Introduction

Q: What is Utah Clean Energy's general position with regard to residential rate design?

A: Utah Clean Energy views residential rate design as an important component of smart energy policy. Residential rate design affects the information, including price signals consumers receive from their energy bills and can influence customer choices and energy consumption. Residential rate design implicates many issues (directly or indirectly): cost causation, cost recovery, customer contribution to peak, price signals for consumers, etc. As the utility and customers transition to more efficient, cleaner and distributed energy system (and as the utility transitions to an "energy services" utility), it is important to be clear and accurate in designing residential rates in order to send appropriate price signals while also facilitating appropriate cost recovery for the utility.

Q: What principles of rate design support Utah Clean Energy's rate design position?

A: Residential rate design is an exercise in balancing policies and objectives while recovering the Company's residential revenue requirement. The Commission has recognized numerous policy objectives in establishing residential rate designs, including intra-class equity, cost-based rates, revenue stability, gradualism, rate stability, appropriate energy price signals, and incentives for energy conservation. In developing Utah Clean Energy's position on residential rates, I tried to account for and balance these rate design objectives.

Customer charge

Q: What is Utah Clean Energy's position with regard to the residential monthly customer charge?

A: The customer charge is the proper mechanism for requiring that each customer pay for the costs they impose upon the system regardless of energy usage.[2] I recommend a customer charge based on costs caused by each customer each month regardless of energy consumption. Utah Clean Energy supports the customer charge method established by the Commission in Docket No. 82-057-15, implemented for Rocky Mountain Power in Docket No. 84-035-01 and reaffirmed in Docket Nos. 90-035-06, 97-035-01, 06-035-21, and 09-035-23.

In Docket 82-057-15 (a natural gas case) the Commission found that "a customer charge does require each customer to pay those costs that he imposes upon the system regardless of whether or not he uses any gas" and concluded that "expenses that should be included in the customer charge calculation are those expenses which are caused by every customer each month. Costs that generally increase with the number of customers, but are not caused by each customer should be excluded from the customer charge and instead be included within the commodity portion of Mountain Fuel's rates."[3] I agree with the clear intention of this language that the customer charge is not the proper

[2] Docket No. 82-057-15, In the Matter of the Application of Mountain Fuel Supply Company for a General Increase in Rates and Charges Incident to Natural Gas Service Rendered, *Report and Order on Rate Design and Cost Allocation* (Issued July 1, 1985) (hereinafter *08-057-15 Order*), page 27. *See also* Docket No. 84-035-01, In the Matter of the Application of Utah Power and Light Company for Approval of its Proposed Electric Rate Schedule and Electric Service Regulations, *Report and Order on Rate Design and Spread Issues*, pages 11-12 ("The Commission has previously made the finding that a customer charge results in the payment by each customer of those costs that he imposes upon the system, which are independent of actual energy consumption during a given month" (citation omitted).

[3] *82-057-15 Order*, page 27.

mechanism for recovering costs that are not caused by customers each month and costs that vary with usage.

This is appropriate because different levels of consumption contribute different demands on Rocky Mountain Power's system: higher consumption and load drive more costs relative to lower consumption and load. For example, distribution system investments are sized according to demand, so it is consistent with cost causation to collect revenues associated with distribution system investments volumetrically from customers—either through volumetric energy rates alone or through energy and demand charges together.

In Docket No. 09-035-23, the Commission found that recovering costs for local distribution facilities in the customer charge, that is, equally from all customers regardless of usage, was not equitable because it ignored differences in peak use.[4] Additionally, setting the customer charge consistent with the Commission-approved method allows energy rates to be set with consideration of long run marginal costs—that is, in a way that captures the longer-term cost impacts of energy use.[5]

[4] Docket No. 09-035-23, 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, *Report and Order on Rate Design* (Issued June 2, 2010), page 30.

[5] Another reason for setting energy rates consistent with long run marginal costs is the following:

> If retail prices are lower than long-run marginal costs, NEM [net energy metering] will give the seller less compensation than the value of his or her product. In this situation, simply avoiding a (low) retail rate provides the NEM customer with less compensation than the NEM resource brings to the grid, and will lead to less than the optimal amount of NEM resources being developed. If the NEM supplier is providing power to the grid at less than long-run marginal costs, then the "have-not" customers are receiving the benefit of that power at a price lower than the utility would otherwise incur to acquire that power. One solution to this is for the utility regulator to raise end-block energy rates, and to reduce grid access fixed charges and initial black rates, in order to align tailblock rates with long-run marginal costs. If this is done, the NEM customer will receive fair compensation through avoidance of the tailblock retail rate.

Carl Linvill, John Shenot and Jim Lazar, *Designing Distributed Generation Tariffs Well—Fair Compensation in a Time of Transition* (Regulatory Assistance Project, November 2013), page 35.

Q: What is the Company's proposal for the residential monthly customer charge?

A: As described in the testimony of Company witness Steward, the Company has proposed raising the customer charge from $5.00 to 8.00 per month and collecting the balance of the rate increase through proportional increases to the volumetric energy charges. It is the Company's position that distribution and retail costs (as classified in the Company's cost of service study) are "fixed" costs that should be included in the monthly customer charge. Based on my review of Witness Steward's testimony, it appears that the Company is defining "fixed costs" as any demand-related embedded costs. These "fixed costs" (embedded costs) are not customer-related costs caused by *each customer each month* regardless of usage or demand.

The Company argues that the cost of service study supports a customer charge of $25.00, and possibly that a customer charge of $56.00 would be appropriate in order to recover the "fixed costs" associated with generation and transmission.[6] The company argues that an increase of $3.00 in the customer charge is a "reasonable and balanced step."[7] Further, the Company argues that it is inappropriate to recover "fixed costs" (embedded costs) through the variable energy components of rates because the utility then has an incentive to sell more kWh.

Q: What is your response to the Company's proposal?

A: The Company is in a tricky position. While PacifiCorp's IRP indicates that more energy efficiency than the Company plans to acquire will reduce costs (and risks) for

[6] Direct Testimony of Joelle R. Steward, lines 278-82.
[7] Direct Testimony of Joelle R. Steward, lines 289-90.

ratepayers,[8] the Company has an incentive to sell *more* electricity to maintain profitable revenues. To address this, the Company has proposed to recover more of its embedded costs through the monthly customer charge. The Company's proposal to raise the customer charge as "a step" is concerning, because it is unclear what the Company's ultimate goal is: a $25.00 customer charge, a $56.00 customer charge or something else.

What is clear is that the Company is abandoning the Commission-approved customer charge methodology in favor of revenue stability and "fixed"/embedded cost recovery. However, abandoning the Commission-approved customer charge method, while addressing revenue stability, is inconsistent with cost-causation, promoting efficiency and conservation, minimizing customer impacts (and treating customers equitably and fairly) and mitigating long-term costs and risks.

Q: Why is abandoning the Commission-approved customer charge method inconsistent with cost-causation?

A: The need for distribution (and generation and transmission) investments *does* vary with usage, so, while the Company's distribution investment costs may be embedded in the cost of service study and allocated as demand-related, distribution (and generation and transmission) costs *do* vary in the long run according to consumption and demand and are not "fixed" such that they are appropriate to include in a monthly customer charge. The Company's proposal to include distribution (and apparently transmission and generation) costs in the customer charge is a fundamental policy shift away from the long

[8] Based on IRP modeling results, PacifiCorp committed, in its Action Plan, to accelerate its acquisition of demand-side management resources in the best interest of ratepayers. *See* PacifiCorp, *2013 IRP, Volume 1*, page 222 and 248-49.

approved method that a customer charge is based on customer-specific, monthly costs rather than embedded costs that are affected by energy consumption and demand.

The Company's arguments for "fixed cost" recovery depend on an inaccurate assumption that all residential customers contribute to system costs to the same degree. This is absolutely not the case. For example, picture two neighborhoods—one with new, very efficient homes or apartments and one with inefficient, leaky homes (possibly with oversized or multiple air conditioners, if you want to make the example more pronounced). The distribution system investments (as well as transmission and generation investments) the Company must make to serve these two neighborhoods will vary by size and cost. The Company may invest less capital to serve the lower needs of the efficient neighborhood. Distribution and other capital investments, on a per customer basis, for the efficient neighborhood will be less expensive than investments in the overly-air conditioned, high use neighborhood.

Customer usage and demand impact utility system costs. Therefore, recovering all "fixed"/embedded costs through a monthly *customer* charge sends inaccurate information to customers about utility cost drivers, including costs caused by different consumption levels and different contributions to peak demand. Departing from the Commission-approved customer charge methodology is therefore not cost-justified.

Q: Why is abandoning the Commission-approved customer charge method inconsistent with energy conservation and efficiency?

A: Increasing the customer charge blunts price signals to conserve energy. A higher fixed fee limits the ability to send price signals to conserve energy through volumetric charges and inclining block rates. Particularly at a time when it is important to raise

customer awareness about the cost and risk impacts associated with inefficient and wasteful energy consumption, this is an inappropriate price signal to send to customers.

Take the "two neighborhoods" example above. If all customers paid the same amount each month in their fixed, monthly customer charge for investments driven by consumption levels and variable monthly demand, customers in the low-usage neighborhood would pay for costs caused by the high-usage neighborhood. In other words, high-usage customers would be subsidized by low-usage customers. This sort of cost shift benefits inefficient electricity consumption and penalizes efficient customers. So in addition to being inconsistent with cost-causation, it is inconsistent with state policy objectives prioritizing efficiency[9] and Utah law requiring rates to promote efficient consumption and conservation of resources in order to be "just and reasonable."

Q: Why is abandoning the Commission-approved customer charge method inconsistent with minimizing customer impacts and treating customers equitably?

A: A high customer charge disproportionately raises the bills of low energy users compared to high energy users,[10] and therefore only minimizes customer impacts for higher usage customers. And it is inequitable to the extent that costs are shifted from efficient, low-usage customers to inefficient, high usage customers.

Q: Why is abandoning the Commission-approved customer charge method inconsistent with mitigating long term costs and risks?

A: PacifiCorp's IRP indicates that *more* energy efficiency than the Company

[9] Docket No. 11-035-200, Direct Testimony of Sarah Wright on behalf of Utah Clean Energy, lines 346-447. Utah Clean Energy filed extensive testimony in Docket No. 11-035-22 outlining the state policies that prioritize energy efficiency as a resource. An excerpt from this testimony is provided as *UCE Exhibit 2.2 (DT) [COS + RD].*

[10] *See, e.g.* Docket No. 11-035-200, UCE Exhibit 1.2D (showing disproportionate bill impacts on low-usage customers associated with increasing the customer charge).

currently plans to acquire will reduce costs (and risks) for ratepayers.[11] Sending price signals that reduce customer incentives for efficiency and conservation limit the utility and all ratepayers from being able to realize the cost and risk reducing benefits of increased energy efficiency. Furthermore, as the utility transitions to an "energy services" utility, it is increasingly important to be more accurate, not less, in terms of information customers receive through rate design and bills about the longer term impacts—both costs and risks—of higher versus lower energy consumption.

Q: What is your recommendation for the monthly residential customer charge?

A: I recognize the importance of allowing the Company to recover prudent embedded costs without unreasonable revenue volatility, but this objective must be balanced with maintaining appropriate and accurate price signals for consumers and result in just and reasonable rates. The monthly customer charge, which is calculated independent of energy usage, should not be the vehicle through which the Company recovers "fixed"/embedded costs that are proportionally contributed to and driven by different levels of energy consumption and demand.

I recommend maintaining the Commission-approved customer charge methodology as the most cost-justified and equitable treatment of customer-associated costs. This recommendation alone, however, does not address the Company's concerns over "fixed cost recovery" or a fair valuation of the distribution services provided by the utility.

[11] IRP modeling results indicated that portfolios that accelerated acquisition of demand-side management resources were less costly and less risky than PacifiCorp's referred Portfolio. PacifiCorp, *2013 IRP, Volume 1*, page 222.

Q: Do you have a recommendation for addressing "fixed cost recovery" or fairly collecting costs associated with the utility's distribution services from all residential customers in rate design?

A: As discussed above, the Commission has found that recovering costs for local distribution facilities in the customer charge, that is, equally from all customers regardless of usage, was not equitable because it ignored differences in peak use.[12] This is an important point in setting equitable rates: in order to make cost recovery for "fixed" costs equitable, non-customer charge fees should be based on consumption and demand to better reflect contributions to peak and cost causation. In non-residential customer classes, customers pay a demand charge—a monthly fee based on metered kW demand. Residential customers aren't equipped with meters that allow the Company to measure monthly peak kW demand, which makes assessing a per kW demand charge less feasible for that class.

However, because the Company is concerned about its fixed cost recovery, and because it is inequitable to ignore differences in peak use when setting a monthly customer charge, I recommend that the Commission investigate practicable options for designing and implementing residential rate designs that facilitate RMP's becoming an "energy services" provider and address the Company's fixed cost recovery concerns while simultaneously resulting in fair, equitable, cost-justified and just and reasonable rates for residential customers. Because demand response, energy efficiency and

[12] Docket No. 09-035-23*,* 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, *Report and Order on Rate Design* (Issued June 2, 2010), page 30.

distributed solar generation all happen behind the meter, this analysis should be conducted in conjunction with a cost benefit analysis and stakeholder process for NEM costs and benefits, as described below.

Q: Why are you recommending this investigation as a solution in the current rate case?

A: The Company has expressed a concern about "fixed cost" recovery, and has proposed residential rates designed to begin to address that concern. The Company has also expressed an interest in becoming an "energy services" utility. While the Company has not explicitly defined this concept, I take it to mean that the Company has an interest in facilitating the energy choices of its customers, including energy efficiency and distributed generation. I support this transition, but think the Company's residential rate proposal is inconsistent with an intention to become a facilitator of energy services, in addition to cost causation, mitigating risks, promoting efficiency and conservation and customer fairness.

The common-sense implications of the Company's residential rate design proposal will be counterproductive in the utility's transition into a facilitator of energy services. High monthly fixed fees that do not reflect differential contribution to peak demand are inaccurate, inequitable and blunt price signals that do not communicate to customers the importance of cost saving, risk mitigating and energy efficient decision-making.

In order to facilitate the Company becoming an energy services utility and to promote smart residential energy consumption, we need to address residential cost recovery issues in a new way. The Company's actions, including the rates it sets and the rate designs it implements to recover costs, need to be consistent with the utility's

objective of being an energy services utility while valuing and rewarding smart customer choices. This is a new frontier for this utility and should be investigated seriously, without the time constraints associated with rate cases. That is why I am recommending a Commission investigation into residential rate components designed to recover, in an equitable manner, the fair value of the Company's services while also allowing residential customers to receive the fair value of the benefits their energy choices bring to the Company and ratepayers. If residential bills are headed in the direction of greater complexity, it should not be at the expense of clarity, fairness or accuracy.

The Company should be able to recover the costs of its prudent investments through just and reasonable rates that encourage smart energy consumption. Smart and engaged energy efficient and rooftop solar customers are the type of customer we want to encourage, rather than undermine, in order to reduce long run costs and risks. This type of customer is increasingly important as we transition to a cleaner, smarter energy future and as the utility transitions to an energy services utility. That is why I am recommending a Commission investigation into residential rate mechanisms designed to reflect and recover costs while maintaining consistency with fairness, cost causation, reducing risk and promoting efficiency and conservation.

Q: Do you have anything to add about the Company's incentive to sell more electricity?

A: Yes, revenue decoupling is one mechanism that would address what is commonly referred to as the through-put incentive.

Net Energy Metering (NEM)

Q: What is the Company's proposal regarding residential NEM customers in this case?

A: The Company has proposed a new $4.25 monthly fee for all residential net metered customers, regardless of the size of their rooftop solar systems. Further, they have proposed a $15 minimum bill. UCE witness, Rick Gilliam provides testimony that responds more specifically to the Company's NEM fee proposal while I address NEM policy (costs and benefits evaluation) more generally. I will then address the proposed minimum bill.

Q: What is your response to the Company's NEM fee proposal?

A: Any net metering-specific rate design changes must be based on an evaluation of costs *and benefits*. This is both a sound principle and a requirement of Utah law. In the interest of fairness to all customers, the foundational principle underlying Utah Clean Energy's net metering position is, "If it ain't broke, don't fix it." This principle is consistent with Utah's net metering law as well as the Commission's practice of basing its rulings on substantial evidence.

RMP's NEM proposal is inconsistent with both the state's NEM law at the time the application was filed, and the current law. While the Commission has requested cost benefit analysis in the current case, RMP has provided no evaluation of benefits (or even unique costs) associated with net metering. The Company's proposal suggests a fee for residential net metering customers based on their lower than average consumption as a group. UCE witness Rick Gilliam addresses this proposal but recommends that the Commission initiate a new proceeding to address the costs and benefits of the Company's entire net metering program, as there is neither enough time nor evidence to provide a full evaluation in this case.

Q: What do you mean "the states NEM law at the time the application was filed, and the current law"?

A: After the Company filed its proposed NEM fee in the rate case, it went to the legislature to propose a change in Utah's net metering law. So the law at the time the Company proposed the fee in the current rate case was different than the law is now.

Q: How is the Company's proposal inconsistent with the net metering law in place at the time the Company filed its application?[13]

A: The Company's proposal includes costs (lost revenues) that net metering customers impose on the system, but it did *not* include analysis of the benefits that solar brings to the system and ratepayers, nor did it address whether public policy would be served by imposing a net metering-specific fee. Therefore, the Company's proposal is inconsistent with the net metering statute in place when the Company filed the rate case.

[13] Utah Code Ann. § 54-15-105 (2008):

No additional fee or charge without governing authority approval -- Exception.

(1) An electrical corporation administering a net metering program may not charge a customer participating in the program an additional standby, capacity, interconnection, or other fee or charge unless the governing authority, after appropriate notice and opportunity for public comment:

(a) determines that:

(i) the electrical corporation will incur direct costs from the interconnection or from administering the net metering program that exceed benefits, as determined by the governing authority, resulting from the program; and

(ii) public policy is best served by imposing a reasonable fee or charge on the customer participating in the net metering program rather than by allocating the fee or charge among the electrical corporation's entire customer base; and

(b) after making its determination under Subsection (1)(a), authorizes the additional reasonable fee or charge.

(2) If a cost of a net metering program is allocated among the electrical corporation's entire customer base, Subsection (1) may not be construed to prohibit an electrical corporation from charging a customer participating in the net metering program for that cost to the same extent that the electrical corporation charges a customer not participating in the program for that cost.

[Amended by Chapter 244, 2008 General Session]

Q: How is the Company's proposal inconsistent with the current net metering law?

A: In 2014, Section 54-15-105 was replaced with the following (which took effect on May 13):

> 54-15-105.1. Determination of costs and benefits -- Determination of just and reasonable charge, credit, or ratemaking structure.
> The governing authority 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.

The current net metering law has similar provisions to the previous net metering law, requiring the Commission to determine whether the costs that the utility or other customers incur from the net metering program exceed the benefits or whether the benefits exceed the costs. The law and fairness demand that the Commission accept the possibility of either scenario (costs exceeding benefits or benefits exceeding costs) before implementing a rate design decision. This threshold issue of evaluating costs and benefits first is critical because you don't want to "fix" an alleged cost shift that doesn't exist.

Again, RMP's proposal only includes their view of costs associated with the residential net metering program, but does not include any analysis of the benefits that distributed solar energy brings to all ratepayers.

Q: Has the Commission responded to the newly enacted NEM law?

A: Yes. On April 16, 2014, the Commission issued a Public Notice regarding its obligations under the newly enacted net metering law. The Commission explained that

the determinations referenced in the law will be accomplished in the context of this rate case and invited public comment and written testimony on the matter.

Q: How do the changes to the net metering law enacted during the 2014 legislative session impact the Company's proposal?

A: Given that both the 2008 and the 2014 statues require a process to review the costs and benefits, there is not a significant change. Both the 2008 version of the statute and the enrolled 2014 statute require analysis and public input regarding the costs and benefits of net metering before Commission approval of any additional fees. However, there are a couple important points I would like to make. First, the NEM law deals with the Company's entire NEM program while the Company's proposal impacts residential customers only. Second, the 2014 statute includes reference to a *credit* for net metering customers if NEM program benefits outweigh costs. Finally, the new law includes a specific reference to just and reasonable ratemaking treatment in conjunction with net metering rate design.

Q: Has Rocky Mountain Power evaluated and presented evidence on costs that net metering customers pose to the system?

A: Rocky Mountain Power calculated and included in testimony an evaluation of revenues that are not collected from net metering customers as a group, on average, compared to non-net metering customers. Importantly, efficient customers without solar have the same or a greater impact on utility revenues. (UCE witness, Rick Gilliam addresses this issue in his testimony.) Rocky Mountain Power's presentation of costs associated with net metering customers does not reflect costs that are unique to net metering customers, but rather is an illustration of revenues lost through lower than

average consumption, which may be achieved through means other than net metering (including having a small house or investing in energy efficiency).

Q: Does UCE provide evidence on the costs and benefits of net metering in this docket?

A: Yes, Utah Clean Energy is presenting evidence in order to address the Company's NEM fee proposal and in response to the Commission's invitation to address this issue in direct testimony. Last year, UCE Commissioned Clean Power Research to conduct an evaluation of the value of solar in Utah, intended for an evaluation of the Utah Solar Incentive Program, but relevant to the issues raised by the Company in this docket and responsive to the Commission's request for comment on this issue in the current rate case. I introduce this study and UCE witness Rick Gilliam uses the inputs and results to make some initial conclusions about the costs and benefits of the Company's net metering program. Additionally, I introduce evidence from PacifiCorp's 2013 Integrated Resource Plan illustrating the value of distributed solar (and efficiency) in Utah.

Q: What are benefits provided by distributed generation/rooftop solar?

A: In the last general rate case, Utah Clean Energy provided testimony on benefits of distributed solar which I include here:

> Most of the distributed generation in Utah comes from solar PV. In addition to providing energy in summer peak daytime hours, distributed solar generation also provides value beyond this energy benefit. Studies from other states show that distributed solar provides additional value in line loss savings, generation capacity savings, protection against fuel price volatility, a hedge against economic risks associated with environmental regulations, [transmission and distribution] capacity savings, energy security benefits, job creation/economic development benefits, and environmental/health benefits, including water savings and reduced air pollutants and greenhouse gases. While current market penetration of all electric and plug-in hybrid vehicles is low, distributed solar has the potential to provide additional transportation and air pollution benefits if applied to electric

vehicle charging as that market grows and expands. For maintenance and non-attainment areas for EPA air pollution standards (such as most of northern Utah), this affiliated transportation/air quality benefit could be significant. Additionally, a study that evaluated how distributed PV would impact the need for demand response for three utilities, Rochester Gas and Electric, SMUD and Consolidated Edison showed that PV has the potential to dramatically reduce the need for demand response.[14]

Q: Do you have updated information about studies evaluating the benefits of rooftop solar?

A: Yes, since I filed testimony in the last rate case, numerous solar evaluation studies have been performed across the country. In his direct testimony, UCE witness Rick Gilliam discusses a meta-study that summarizes 15 of these recent evaluations.

Q: Since you filed testimony in the last rate case regarding the benefits of rooftop solar, has there been additional analysis on the benefits of rooftop solar in Utah?

A: Yes. As mentioned above, UCE commissioned a study of the value of distributed solar by Clean Power Research (CPR). Clean Power Research is a well-respected consulting firm that specializes in distributed solar valuation software. I believe Rocky Mountain Power uses some of CPR's software for its solar incentive programs in Oregon and Utah. With data provided by Rocky Mountain Power and Utah Clean Energy, CPR used its DGValuator™ V2 platform to perform this study. According to CPR, "DGValuator is a tool that models hourly PV production, calculates line losses and loss savings, and determines value components based on user input data. It has been designed

[14] Docket No. 11-035-200, Direct Testimony of Sarah Wright on behalf of Utah Clean Energy, lines 316-39.

to: (1) enable objective and transparent analysis; (2) employ established methodologies; (3) embody correlated solar data; and (4) empower end-users."[15]

Q: What are the results of the CPR Analysis?

A: The CPR analysis showed a levelized distributed solar PV value of $0.116/kWh when solar offset a combined cycle gas plant. Please see UCE Exhibit 2.1 for the full report

Q: Does the CPR analysis reflect Utah conditions?

A: Yes, data inputs for the study reflect RMP's system. Wherever possible we provided CPR with RMP data for their analysis. These inputs included RMP hourly load data from 1/1/2012, 12:00 am to 12/31/2012, 12:00 am, generation capital costs, years until new generation resources are needed, fuel costs, heat rates, reserve margins, discount rate, etc. This information was obtained from the 2013 IRP and a series of data requests to the Company. (Please see UCE Exhibit 2.1 for all inputs.) In order to evaluate environmental benefits associated with distributed generation, we used avoided carbon regulation costs (in $/kWh) based on the Company's middle case IRP carbon cost assumptions. No other environmental costs were included in the analysis.

Q: Has CPR conducted similar analysis for other states and/or utilities?

A: Yes, RMI[16] summarized 15 recent studies, four of which CPR conducted. Additionally, CPR just completed a stakeholder process and value of solar analysis for the state of Minnesota.

[15] UCE Exhibit 2.1 (DT): Clean Power Research, *Value of Solar in Utah* (January 7, 2014), page ii.
[16] *A Review of Solar PV Benefit and Cost Studies*, Rocky Mountain Institute Electricity Innovation Lab (April 2013), available at www.rmi.org/elab_emPower.

Q. How does CPR's levelized value of solar for Utah compare to residential rates?

A: The CPR levelized value of solar for Utah is close to the 25 year levelized average Utah residential rate. I calculated the average residential rate using both current rate structure and RMP's proposed rate structure. For this comparison, I calculated the levelized residential energy rate assuming a 2% rate increase each year.[17] Please see the summary table below. Inputs for the average residential rate estimations were from RMP Exhibit JRS-4.

Comparison of CPR 25 Year Levelized Cost of Solar to 25 Year Estimated Levelized Average Residential Rate

	Current Rate Structure	Proposed Rate Structure
Ave. 25 Year Levelized Res. Rate	$ 0.1187	$ 0.1211
25 year Levelized Value of Solar[1]	$ 0.1160	$ 0.1160
Difference	**$ 0.0027**	**$ 0.0051**

Q. What conclusions do you draw from the CPR value of solar analysis for Utah?

A. I conclude that distributed solar PV provides demonstrable value to the system and all ratepayers. The results are compelling and indicate that the value of solar is in line with residential rates, which indicates that solar customers are *not* being subsidized by other customers.

[17] Based on historical increases since 1992, as tracked by the Public Service Commission, available at http://psc.utah.gov/utilities/electric/Rate%20Changes/Rate%20Changes%20Electric%20November%201%202013.pdf.

Further, the levelized value of solar (11.6 cents per kWh) is only very slightly less than the calculated levelized average residential energy rates (between $0.0027/kWh and $0.0051/kWh, assuming the current rate structure and RMP's proposed rate structure, respectively). This analysis shows that the value that distributed solar brings to the system is in line with the average, 25-year levelized residential rates. This indicates that the costs that solar customers may impose on the system do not exceed the value that solar brings to the system. The results undermine the Company's net metering fee proposal and, at the very least, warrant further investigation before imposing a NEM fee.

Q: Are you aware of PacifiCorp or RMP analysis that indicates that distributed rooftop solar brings value to ratepayers?

A: Yes. PacifiCorp's 2013 IRP analyzed distributed PV as a potential resource in the 20-year resource acquisition plan. PacifiCorp used the System Optimizer model to create least-cost portfolios under a range of different scenarios. Utilizing projected load over the 20 year planning period and a variety of assumptions and scenarios, the System Optimizer model created least cost portfolios for each scenario, which were then run through risk analysis to arrive at the "preferred portfolio." These scenarios include variation in load, gas price, environmental regulation and carbon prices. PacifiCorp provides the model with load forecasts, supply curves, capital costs and fuel and O&M cost assumptions for a variety of energy resources, including coal, natural gas plants, wind, nuclear, etc.

In the 2013 IRP, PacifiCorp included the Utah Solar Incentive Program (utility cost) for distributed PV as a resource in Utah. To ensure that the model did not select more distributed PV than could reasonably be installed, PacifiCorp capped the amount of

distributed solar that the model could select each year based on its then most recent DSM potential study. What is extremely compelling is that in each year of the 20 year planning horizon, for each and every scenario (low gas, high gas, low carbon prices, high carbon prices, etc.), the model selected all of the distributed solar resource that it could: close to 300 MW of distributed solar over the 20 year planning horizon, or about 20 times the amount installed at the end 2013. This distributed solar resource is part of PacifiCorp's 2013 preferred portfolio.

Q: What do take away from the IRP distributed solar findings?

A: The IRP's selection of all the available distributed solar in in every scenario is a clear indication that distributed solar brings value and benefits to all ratepayers and indicates that distributed solar has the potential to be an important part of our resource portfolio going forward. Given this potential, compounded by the fact that distributed solar is in its infancy in Utah, it is in the best interest of ratepayers to carefully evaluate the full benefits of distributed solar and costs of the NEM program *before* implementing a new rate structure that may undermine and inhibit private investments in distributed solar.

Q: Do private investments in distributed solar generation, energy efficiency and demand response provide energy services while mitigating risks for all ratepayers?

A: Yes, definitely. In my revenue requirement testimony in this case, my testimony in the recent avoided costs docket (No. 12-035-100), in comments on the 2013 IRP and other dockets, I discuss at length the risks that ratepayers face with respect to climate change, carbon regulation, environmental regulation and fuel volatility. Leveraging private investments in pollution-free and fuel-free energy resources is an extremely cost-

effective way to mitigate risks while reducing the need for rate-based resources. Further, in the IRP, PacifiCorp ran a scenario where they doubled investments and acquisition of DSM in the near term. The resulting portfolio had the lowest revenue requirement and was the least risky. As discussed above, I recognize the need to protect ratepayers and provide adequate cost recovery for the utility, but we definitely don't want to implement a rate design that undermines lower cost, risk mitigating resources that benefit all ratepayers, and that customers acquire, in large part, at their own personal expense.

The Regulatory Assistance Project in its recent publication, *Designing Distributed Generation Tariffs Well – Fair Compensation in a Time of Transition* makes this point clearly:

> Energy efficiency and demand response resources have become accepted as the most cost effective resource in many states and the scope of services these resources provide is expanding as electricity markets and institutions catch up with information, communications and electric control system capabilities. Add to these the possibilities for storage and it seems clear that the quantity and scope of the services that customer sited resources will provide is becoming a cornerstone in the power sector of the future. Given the central role of customer side of the meter resources, regulators need to be proactive in ensuring that they are fairly compensated. Failure to recognize the value of services provided will impede their maturation, *lead to unnecessary investment in redundant resources and thus impose unnecessary costs on all electricity customers*. At the same time, the electricity grid will continue to provide important services to customers, and regulators will need to ensure that utilities are adequately compensated for these services.[18]

Q: Do you think the Company has provided sufficient data for the Commission to approve additional fees specifically for NEM customers?

[18] Carl Linvill, John Shenot and Jim Lazar, *Designing Distributed Generation Tariffs Well—Fair Compensation in a Time of Transition* (Regulatory Assistance Project, November 2013), page 4 (emphasis added).

A: No. The evidence of cost shifting provided by RMP applies to any customers with lower than average consumption, not just net metered customers. Accordingly, the Company has failed to tie its allegations of cost shifting in a non-discriminatory way to net metering customers. Further, the Company has provided no discussion of benefits in addition to costs, as required by Utah law. Finally, because Utah Clean Energy has provided evidence on the benefits that distributed solar brings to the system and ratepayers, at a minimum, this issue warrants further study and stakeholder input.

Q: Do you think the Commission needs to act immediately on this issue?

A. Not at all. We have time to get this right. Utah has a *very low* penetration of residential solar customers. UCE witness Rick Gilliam shows that approximately 0.3% of residential customers will have solar in the forecast year and that, on average, these customers still use 74% of the average residential customer's energy consumption. This indicates that we have time for a more thorough investigation and thoughtful cost benefit analysis process.

Q: What are your recommendations regarding RMP's proposed NEM fee?

A: As will be discussed further in the testimony of Rick Gilliam, Utah Clean Energy recommends not implementing a net metering fee in the current case because the threshold issue of establishing that there is, in fact, a cost shift (when considering costs and benefits) has not been demonstrated.

Q: What are your recommendations regarding the Commission's evaluation of the costs and benefits of the Company's NEM program in Utah?

A: Because the evidence does not support that there is a cost shift one way or another from or to net metering customers, the Commission should not implement a net metering

rate change in this rate case. In order to fulfill its obligations under Utah's new net metering law, the Commission should investigate the Company's net metering program in a separate investigative proceeding. Such an investigation implicates many of the issues the Company raised regarding the residential customer charge, and in the interest of time and efficiency, it may be appropriate to consolidate investigations in order to design tariffs to fairly value both utility services and benefits provided by customers. The Commission would not need to reinvent the wheel, as it were, because many other states are going through the same process, and there are many resources available from entities such as the Regulatory Assistance Project,[19] the Rocky Mountain Institute[20] and the Interstate Renewable Energy Council[21] to assist states and utilities who are in the process of transitioning to energy services utilities.

Minimum bill.

Q: What is the Company's proposal for a minimum bill in the current case?

A: Although the Company has proposed eliminating the minimum bill in previous cases, the Company is proposing to retain and increase the minimum bill "at this time," for fixed cost recovery from low use customers, rather than a higher customer charge for all residential customers. The Company has proposed increasing the minimum bill from $7 to $15.

[19] Carl Linvill, John Shenot and Jim Lazar, *Designing Distributed Generation Tariffs Well—Fair Compensation in a Time of Transition* (Regulatory Assistance Project, November 2013), available at http://www.raponline.org/press-release/designing-distributed-generation-tariffs-well-ensuring-fair-compensation-in-a-time-of.
[20] *A Review of Solar PV Benefit and Cost Studies*, Rocky Mountain Institute Electricity Innovation Lab (April 2013), available at www.rmi.org/elab_emPower.
[21] *A Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation*, Interstate Renewable Energy Council, Inc. (October 2013), available at http://www.irecusa.org/2013/10/experts-propose-standard-valuation-method-to-determine-benefits-and-costs-of-distributed-solar-generation/.

Q: What is Utah Clean Energy's position with regard to a residential monthly minimum bill?

A: Utah Clean Energy supports elimination of the minimum bill. It is a confusing rate structure that is not cost-justified in terms of customer costs, energy costs or demand costs. Additionally, to the extent that it is greater than the customer charge, a minimum bill prevents net metering customers from receiving the fair value of the benefits they bring to the utility and other ratepayers. The minimum bill is an unnecessary sort of "band aid" rate structure that does not send meaningful price signals to consumers.

Q: How does the monthly minimum bill impact net metering customers?

A: The monthly minimum bill impacts net metering customers in the same way as non-net metering customers—that is if net consumption falls below a certain level in a given month, the net metering customer will pay the minimum bill. However, given that solar customers provide value to the Company and other ratepayers, the minimum bill prevents them from receiving fair compensation for that value to the extent that (1) the customer charge collects proper customer-related costs and (2) the minimum bill is set higher than the customer charge.

In 2009, in Docket No. 08-035-78, the Commission declined to exempt net metering customers from application of a minimum monthly bill which was set at a level less than the Commission-approved customer charge methodology indicated was appropriate to recover customer-related costs. The Division calculated the customer charge, utilizing the Commission's methodology, to be $3.75 while the minimum bill was $2.00. Therefore, the customer charge did not fully recover customer-related costs of service. The Commission found, "While parties indicate the benefits associated with net

metering, in our view these benefits are not related to the costs recovered by the minimum bill… Therefore, we find it reasonable to apply the minimum bill to net metering customers who provide net excess generation during a month and direct the Company to continue using the current minimum bill for all customers."[22]

At that time, the Commission did not rule on the value of the energy and non-energy benefits of distributed generation, but rather found that there are customer-related costs independent of these benefits that are properly recovered from all customers regardless of usage: "Even though a net metering customer provides net excess generation in any given month…a net metering customer still imposes costs on the Company independent of the customer's consumption or generation." However, to the extent that the minimum bill is *greater* than the customer charge, it is no longer linked to costs that are independent of usage, and impacts the compensation of net metering customers and the valuation of costs and benefits (to and from the utility) associated with net metering customers.

Q: What is your recommendation regarding the monthly residential minimum bill?

A: I recommend elimination of the minimum bill. To the extent that the minimum bill is greater than the customer charge it discriminates against net metering customers by denying them fair compensation for the benefits they provide to the utility and other ratepayers.

[22] Docket No. 08-035-78, In the Matter of the Consideration of Changes to Rocky Mountain Power's Schedule No. 135 – Net Metering Service, *Report and Order Directing Tariff* Modifications (Issued February 12, 2009), page 28.

CONCLUSION

Q: Please summarize your recommendations.

A: For the reasons described herein, I make the following recommendations:

- I recommend re-affirming the Commission-approved method for calculating the residential monthly customer charge.
- I recommend not implementing any net metering fee in the current rate case because the threshold issue of establishing that there is, in fact, a cost shift (when considering costs and benefits) has not been demonstrated**.**
- I recommend institution of a Commission-led or facilitated stakeholder process with the goals of (1) examining residential rate designs that fairly value both utility services and the benefits of demand-side customer investments and (2) producing an updated cost and benefit analysis of the Company's net metering program across all customer classes.
- I recommend elimination of the minimum bill.

Q: Do you have any final remarks?

A: Utah Clean Energy's mission is to lead and accelerate the clean energy transformation with vision and expertise. The vision guiding our work is "healthy, thriving communities empowered and sustained by clean energy." Energy efficiency and distributed solar generation are not only important components of a future where communities are empowered and sustained by clean energy, they are more and more what customers want. It appears that Rocky Mountain Power recognizes this and is beginning to think about how to become an energy services utility that is responsive to customer choice. Utah Clean Energy supports Rocky Mountain Power becoming a utility that facilitates and benefits from risk mitigating, cost reducing customer investments in energy efficiency and distributed clean energy, and my recommendations in the current rate case are based on a desire to help the utility make this transition and to ensure that customers are treated in a just and reasonable manner.

Q: Does that conclude your testimony?

A: Yes.