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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Investigation of the Costs and Benefits of Pacificorp's Net Metering Program	**Docket No. 14-035-114** **COMMENTS OF THE ALLIANCE FOR SOLAR CHOICE ON DEVELOPMENT OF AN ANALYTICAL FRAMEWORK TO EVALUATE THE COSTS AND BENEFITS OF THE NET METERING PROGRAM**

Pursuant to *Notice of Comment Period and Scheduling Conference*, The Alliance for Solar Choice ("TASC") respectfully submits these comments addressing certain factual, legal, and procedural considerations facing the Commission in developing an analytical framework to evaluate the net metering program consistent with Utah Code § 54-15-105.1.[1] TASC appreciates the opportunity to submit these comments and proposals and looks forward to working with parties to help the Commission develop a robust tool for fulfilling its statutory duty to ensure that any future rate change affecting net metering customers is just and reasonable.

[1] All statutory references are to the Utah Code, unless otherwise indicated.

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SUMMARY OF RECOMMENDATIONS

To design an objective and useful policy tool to aid the Commission in net metering decisions,

TASC recommends the following:

- Parties should use this proceeding to develop a robust factual record to determine whether there are characteristics of solar customer-generators, and the net metering program generally, that are distinct from the resources currently analyzed under cost-effectiveness or valuation frameworks.
- Legal and policy questions should be separated from factual issues and be addressed on a parallel track to narrow the scope of the evidentiary hearing, where possible.
- Technical conferences should be geared toward identifying or resolving factual issues that will be a part of the forthcoming evidentiary hearing.
- An independent, third-party facilitator should be hired to manage and oversee the technical conference process.
- Specifically, four workshops should be held to cover: 1) The operational characteristics of net metered solar as opposed to larger-scale solar QFs; 2)The interrelationships between utility distribution systems and net metered solar generation; 3) The Company's current data capabilities and estimation techniques relevant to determining possible framework category values; and 4) A discussion of the scope of study that an external analyst would conduct.
- An analytical framework should focus on customer-generator exports to the grid and allow for the consideration of the full range of range of cost and benefits associated with distributed solar, including the factors for determining "just and reasonable" rates under § 54-3-1.
- The framework should be based on best practices in the industry in quantifying and identifying the specific costs and benefits associated with customer generators and the net metering program in the aggregate.
- The Commission should use the updated categories of value to run through the full variety of cost-effectiveness tests currently used to evaluate DSM programs, keeping in mind that no single test is sufficient for the purposes of Utah Code § 54-15-105.1.
- The Commission should consider how the framework might be applied to a cost of service analysis.
- The Commission should establish clear guidelines for how the framework will apply in future proceedings, including minimal filing requirements for situations where the Company intends to use the framework to justify changes in rates or rate structures for net metering customers.
- A Commission-approved framework should be made available as a public toolkit, which parties can use to run their own sensitivities and plug in their own assumptions.

I. INTRODUCTION AND BACKGROUND

A. Description of TASC

TASC leads advocacy across the country for the rooftop solar industry. Founded by the largest rooftop companies in the nation, TASC represents the vast majority of the rooftop solar market. Its members include Demeter Power, Silevo, SolarCity, Solar Universe, Sunrun, Verengo, and ZEP. These companies are responsible for more than 100,000 solar installations serving businesses, residents, schools, churches and government facilities across the United States. TASC member companies have participated in numerous regulatory and stakeholder proceedings in multiple U.S. states that have included policy questions parallel to those posed by the Commission.

B. SB 208 and Rocky Mountain Power's Last General Rate Case

TASC was a party and active participant on the net metering charge proposal in Rocky Mountain Power's ("the Company") last general rate case ("GRC"). The Commission's consideration of the Company's last GRC was complicated by intervening legislation that imposed new duties on the Commission in considering a charge on net metering customers. On January 3, 2014, the Company filed its application for a rate increase with the Commission. This application included a proposed Net Metering Facilities Charge of $4.65 per month that would apply only to the Company's residential net metering customers and did not contain a discussion of the benefits or potential benefits of net metering. On March 26, 2014, Governor Herbert signed Senate Bill ("S.B.") 208, a bill that, among other things, requires the Commission to make a determination of the relative costs and benefits of the net metering program, which includes residential and non-residential participants.

Upon making findings on the costs and benefits of the overall NEM program, SB 208 requires the Commission to consider any change in charge, credit or rate structure in light of those costs and benefits:

Section 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.

On April 16, the Commission issued a Public Notice regarding the "Public Service Commission of Utah Determinations Required by S.B. 208" and provided that "parties that have intervened in Docket No. 13-035-184 may address this topic [i.e., costs and benefits of the NEM program] as part of their written direct testimony on cost-of-service issues, due May 22, 2014." Prior to the Commission's Public Notice, parties did not have notice that the costs and the benefits of the net metering program would be considered within the scope of this proceeding. Upon the Commission's April 16, 2014 Public Notice, parties effectively had 36 calendar days to conduct discovery and prepare testimony on this complex, newly introduced issue.

One of TASC's biggest concerns in the rate case was that the procedural schedule did not provide sufficient time to develop a record upon which the required findings of costs and benefits could be determined. TASC's recommended solution was that the Commission defer the question and open a separate proceeding to develop the type of analytical framework necessary to support cost and benefit findings at a later time. Similarly now,

TASC suggests that it is important not to impose unrealistic timeframes on the development of an analytical framework or on the capabilities that will be required of the Company to fully comply with the framework.

For the latter concern, TASC would urge the Company to take the time it needs to supplement its ongoing load research study with the types of data called for in the Commission's final order in this proceeding. The size of the net metering program is not to such a scale that the Company must urgently file a rate case to address any potential net metering impacts. Likewise, to the knowledge of TASC, there is no indication of a significant change in market trends or increase in net metering adoption from previous years that would signal a sense of urgency. TASC recommends prudency and patience in applying the framework in future proceedings, to ensure that parties do not spend many months and many dollars developing a framework only to see corners cut and the integrity of the process undermined in the name of expediency.

C. Purpose of This Proceeding

When the Commission rejected the Company's proposed net metering charge in Docket No. 13-035-184, it recognized that the ultimate findings required to support a determination that a rate would be just and reasonable required more data than the record produced in that proceeding. As the Commission noted:

> "...the testimony and comments (both written and verbal) provided in this proceeding fall short of providing the Commission the substantial evidence necessary to make the determinations required under Utah Code Ann. § 54-15-05.1(1). Thus, we are unable to determine at this time whether it is just and reasonable to impose a charge or credit, or to alter the current ratemaking structure applicable to net metering customers."[2]

[2] Docket No. 13-035-184, Report and Order ("Order") at pp. 58-59 (August 29, 2014).

To address this insufficiency, the Commission opened this proceeding to establish a framework that will "include the types of analyses that must be performed, the components of costs and benefits to be included in the analyses, and the sources and time period of data inputs."[3] TASC agrees with these objectives and supports defining the scope of this proceeding around them.

D. General Principles for Developing a Cost-Benefit Framework

TASC believes an understanding of the costs and benefits of DG has improved greatly in recent years. Numerous studies provide the Commission with insight into the best ways to understand DG benefits. The most recent studies include:

- California PUC / Energy + Environmental Economics ("E3") 2009-2010 Net Energy Metering Study;[4]
- California PUC / E3 2010 CSI Study;[5]
- California PUC / E3 2013 Net Energy Metering Ratepayer Impact Study;[6]
- Perez/Hoff, Solar in U.S. – "Too expensive or a Bargain?"(2011);[7]
- Austin Energy Value of Solar, Clean Power Research (CPR), Updated in 2012;[8]
- NYSERDA, Solar in NY, January 2012;[9]

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3 Docket No. 14-035-114, Notices of Comment Period and Scheduling Conference ("November Notice") at p.2 (November 21, 2014).

4 "Net Energy Metering Cost Effectiveness Evaluation," E3 Consulting, March 2010. Available at http://www.cpuc.ca.gov/NR/rdonlyres/0F42385A-FDBE-4B76-9AB3-E6AD522DB862/0/nem_combined.pdf.

5 "CSI Cost-Effectiveness Evaluation," E3 Consulting, April 2011. Available at ftp.cpuc.ca.gov/gopherdata/energy_division/csi/CSI%20Report_Complete_E3_Final.pdf.

6 "California 2013 Net Energy Metering Ratepayer Impacts Evaluation," E3 Consulting, October 2013. Available at http://www.cpuc.ca.gov/NR/rdonlyres/75573B69-D5C8-45D3-BE22-3074EAB16D87/0/NEMReport.pdf.

7 "Solar Power Generation in the US: Too Expensive, or a Bargain?," Perez, R., Zweibel, K., Hoff, T., Energy Policy 39, 2011. pp. 7290-7297. Available at http://cleanpower.com/wp-content/uploads/Solar-Power-Generation-in-U.S.-too-expensive-or-a-bargain.pdf.

8 "Designing Austin Energy's Solar Tariff Using A Distributed PV Calculator," Rabago, K., Norris, B., Hoff, T., Clean Power Research & Austin Energy, 2012. Available at http://www.austinenergy.com/About%20Us/Newsroom/Reports/solarGoalsUpdate.pdf.

9 "New York Solar Study: An Analysis of the Benefits and Costs of Increasing Generation from Photovoltaic Devices in New York," New York State Energy Research and Development

- Value of Solar DG in PA and NJ, CPR, November 2012;[10]
- State of Vermont, January 2013 Net Energy Metering study;[11]
- Crossborder Energy, California Net Energy Metering Study, January 2013;[12]
- Crossborder Energy, Cost-Benefit Study of Solar DG in Arizona Public Service (APS) territory, May 2013;[13]
- SAIC, APS Net Energy Metering Study, May 2013;[14]
- Crossborder Energy, Idaho Power testimony, May 2013;[15]
- Crossborder Energy, The Benefits and Costs of Solar Generation for Electric Ratepayers in North Carolina, October 2013;[16]
- Crossborder Energy, Benefits and Costs of Solar Distributed Generation for the Public Service Company of Colorado, December 2013;[17]

Authority (NYSERDA), January 2012. Available at http://www.nyserda.ny.gov/Publications/Program-Planning-Status-and-Evaluation-Reports/Solar-Study.aspx.

10 "Designing Austin Energy's Solar Tariff Using A Distributed PV Calculator," Rabago, K., Norris, B., Hoff, T., Clean Power Research & Austin Energy, 2012. Available at http://www.austinenergy.com/About%20Us/Newsroom/Reports/solarGoalsUpdate.pdf.

11 "Evaluation of Net Metering in Vermont Conducted Pursuant to Act 125 of 2012," Vermont Public Service Department, January 15, 2013. The staff of the Vermont PSC performed an extensive literature search in its January 2013 Evaluation. The report, along with a matrix of other studies it reviewed is available at http://publicservice.vermont.gov/sites/psd/files/Topics/Renewable_Energy/Net_Metering/Act%20125%20Study%2020130115%20Final.pdf .

12 "Evaluating the Benefits and Costs of Net Energy Metering in California," Crossborder Energy, January 2013. Available at http://votesolar.org/wp-content/uploads/2013/07/Crossborder-Energy-CA-Net-Metering-Cost-Benefit-Jan-2013-final.pdf.

13 "The Benefits and Costs of Solar Distributed Generation for Arizona Public Service," Crossborder Energy, May 8, 2013. Available at http://www.seia.org/sites/default/files/resources/AZ-Distributed-Generation.pdf.

14 "2013 Updated Solar PV Value Report, Arizona Public Service," by SAIC Energy, Environment and Infrastructure, LLC. Available at http://www.solarfuturearizona.com/2013SolarValueStudy.pdf.

15 "Direct Testimony of R. Thomas Beach" for the Idaho Conservation League, May 10, 2013. Submitted in Case No. IPC-E-12-27. Available at http://www.puc.idaho.gov/fileroom/cases/elec/IPC/IPCE1227/intervenor//IDAHO%20CONSERVATION%20LEAGUE/20130510BEACH%20DIRECT.PDF.

16 "Benefits and Costs of Solar Generation for Ratepayers in North Carolina," Crossborder Energy, October 18 2013. Available at http://energync.org/assets/files/Benefits%20and%20Costs%20of%20Solar%20Generation%20for%20Ratepayers%20in%20North%20Carolina%282%29.pdf.

17 "Benefits and Costs of Solar Distributed Generation for the Public Service Company of Colorado," Crossborder Energy, updated December 2, 2013. Available at http://www.oursolarrights.org/files/5513/8662/3174/Crossborder_Study_of_the_Benefits_of_Distributed_Solar_Generation_for_PSCo.pdf.

- RMI, Solar Valuation Meta-Study, July 2013;[18]
- The Interstate Renewable Energy Council (IREC) and Rábago Energy, LLC, "A Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation," October 2013 ("Regulator's Guidebook");[19]
- Synapse Energy Economics "Net Metering in Mississippi: Costs, Benefits and Policy Considerations," September 2014;[20] and
- E3, Nevada Net Energy Metering Impacts Evaluation, July 2014.[21]

Review of these studies shows significant variation in the methodologies used to evaluate the resources being studied. Good starting points on understanding the differences between these studies are the Rocky Mountain Institute's recent comparative, meta-analysis of the main distributed solar generation cost-benefit studies completed in the last several years and the detailed literature review that the Vermont Commission assembled in support of its January 2013 net metering study.22 In addition, the Interstate Renewable Energy Council, Inc. ("IREC") and Rábago Energy, LLC recently published a guide to assessing the costs and benefits of solar distributed generation. In this guide, the authors present a standardized approach to assessing the various benefits and costs of DG solar with an

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18 "A Review of Solar PV Benefit & Cost Studies," Rocky Mountain Institute, 2013. Available at http://www.rmi.org/Knowledge-Center/Library/2013-13_eLabDERCostValue.

19 "A Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation," Keyes, Jason B., Rábago, Karl R., Interstate Renewable Energy Council, Inc. and Rábago Energy, LLC, October 2013. Available at http://www.irecusa.org/wp-content/uploads/2013/10/IREC_Rabago_Regulators-Guidebook-to-Assessing-Benefits-and-Costs-of-DSG.pdf

20 "Net Metering in Mississippi: Costs, Benefits and Policy Considerations," Synapse Energy Economics, September 19, 2014, Mississippi Public Service Commission Docket No. 2011-AD-2. Available at http://votesolar.org/wp-content/uploads/2014/10/Synpase-MS.pdf.

21 "Nevada Net Energy Metering Impacts Evaluation," E3 Consulting, July 2014. Available at http://puc.nv.gov/uploadedFiles/pucnvgov/Content/About/Media_Outreach/Announcements/Announcements/E3%20PUCN%20NEM%20Report%202014.pdf?pdf=Net-Metering-Study.

22 "A Review of Solar PV Benefit & Cost Studies," Rocky Mountain Institute, 2013. Available at http://www.rmi.org/Knowledge-Center/Library/2013-13_eLabDERCostValue. "Literature review summary for Vermont Act 125 evaluation of net metering," September 17, 2012, Vermont Public Service Department. See http://publicservice.vermont.gov/sites/psd/files/Topics/Renewable_Energy/Net_Metering/NM%20Lit%20Review%20011513.pdf.

explanation of how to calculate them that builds off all of the studies done to date. An excerpt of that guide—a checklist for designing a cost-benefit framework for net metering—is attached to these comments as Attachment A.

A review of these studies leads to a number of conclusions that should inform any inquiry into the benefits of net metering: (1) any cost-benefit framework should follow best practices; (2) diverse perspectives should be utilized to evaluate benefits and costs; (3) a long-term perspective on DG value is important to fully capture the benefits that net metering resources bring to the grid over their useful life; (4) there is a significant value in having a qualified, independent consultant perform any analysis using the approved framework.

An accurate and transparent analysis of the costs and benefits of DG, and net metering, requires careful consideration of the issue to be studied and the best practices for doing so. In investigating the issues identified in this docket, it is important that the Commission take notice of a number of conclusions from the numerous DG cost-benefit studies completed in recent years:

1. Net metering policy is not the same as policy regarding a solar qualifying facility ("QF") under PURPA since the former is a billing policy and the latter is a resource that may or may not be located near customer loads;
2. A diverse set of perspectives should be utilized to fully evaluate net metering resources, including the perspective of society, participating ratepayers, non-participating ratepayers and the utility;
3. A long-term perspective on the value of net metering resources is important to fully capture the benefits distributed solar resources bring to the grid over their useful life; and
4. A comprehensive set of costs and benefits is essential to accurately valuing net metering resources.

E. Organization of TASC's Comments

TASC's comments are organized to address factual, legal, and procedural issues that are ripe for consideration in this proceeding. TASC's hope is that these comments help start a conversation about how the proceeding can be organized to efficiently and sequentially address a range of important and complex topics. TASC offers some specific recommendations for each of these aspects and looks forward to dialogue with parties to explore how technical conferences will be designed and sequenced to help narrow the scope of issues that will litigated through the scheduled evidentiary hearing.

In **Section II** (**Factual Issues**), TASC identifies several categories of factual issues that will need to be addressed to provide the Commission a basis of supporting its choices about the appropriate categories, inputs and assumptions in the framework. TASC does not present an exhaustive list of factual issues, but merely identifies several key issues necessary to consider in developing a framework that addresses the specific characteristics of net metering customers.

In **Section III (Legal Issues)**, TASC identifies several statutory requirements that should inform the parameters of the framework. TASC recommends that legal and policy questions be separated from factual issues and be addressed on a parallel track and kept out of the scope of the evidentiary hearing where possible.

In **Section IV (Use of Multiple Cost-Effectiveness Tests)**, TASC addresses the various cost-effectiveness tests that the Commission and other jurisdictions have employed to evaluate demand-side programs. TASC recommends that the Commission use all tests to weigh in any determination on rates, but suggests that no single test is sufficient for the purposes of Utah Code § 54-15-105.1.

In **Section V (Procedural Issues and Application Considerations)**, TASC addresses several procedural issues and issues related to the application of the framework approved here to future proceedings. TASC discusses why considering how the framework will be applied is necessary at this stage in order to ensure that the framework will accomplish its objective of creating a more substantial record to support findings of costs and benefits of the net metering program.

II. FACTUAL ISSUES

Choosing the appropriate analyses, value categories, and data inputs will depend on specific factual determinations. The Commission needs to consider many elements particular to the nature of the net metering program, including the operating characteristics of customer-generators relative to the utility grid. While the choice of approach will be informed by such factual findings, TASC suggests that it is prudent for parties now to explore a variety of approaches as we work our way through the technical conference phase of this proceeding. TASC suggests that the Commission should be informed of the available options in determining the appropriate types of analyses, the potential range of categories to feed in to those analyses, and the necessary data to accurately perform those analyses. Accordingly, TASC agrees with the suggestion of the Company and OCS that evidentiary hearings are required to establish the factual basis for the Commission's ultimate choice of which framework, inputs and assumptions are appropriate in light of the evidence in the record.

In developing the appropriate types of analyses and identifying the sources of data required to complete such analyses, however, TASC suggests that there are a number of embedded factual issues that must be addressed in developing a sufficient record to support

any framework. TASC proposes the three general considerations in building a record to inform the Commission's choices:

- What are the specific characteristics of solar customer-generators or aspects of the net metering program (e.g., differences between residential and commercial) that must be accounted for to evaluate the potential benefits or costs?
- What data capabilities are currently available to RMP and to what extent are those capabilities sufficient to quantify whether the characteristics of solar customer-generators create any costs or benefits for the grid or for other customers? Are additional studies needed to develop the needed data?
- Do current methods for evaluating the value of solar as a grid resource account for the specific characteristics of solar customer-generators or of other aspects of the net metering program (e.g., aggregate impacts of net metering if considered as a fleet of distributed solar or the potential demand-side benefits of solar related to reducing customer demand from the grid by serving load onsite)?

While more elaboration of issues within these broad considerations follows below, it is important to highlight that this class of factual issues is technical in nature and involves many novel concepts. TASC suggests that technical workshops/conferences are the appropriate venue for parties to come together and to collaboratively propose answers to such novel technical questions. It is TASC's expectation that parties can find common ground on how it might be determined that a benefit or cost exists, even where they will differ on whether a benefit or cost actually does exist for a particular category.

The question of which factual questions need to be addressed is complex, and TASC suggests that technical conferences are required to adequately explore the potential issues that will impact the choice of appropriate framework. There has been much recent activity addressing the costs and benefits of solar and net metering across the country, as detailed above. Accordingly, the potential range of cost and benefit categories are well-established

and should be quite familiar to the utility industry. Without pre-ordaining any list of categories as appropriate, TASC suggests that it is prudent to start with the broadest possible set of categories and to begin to refine the list based on parties exploration and discussion of these topics at and outside of technical conferences.[23] TASC strongly emphasizes that agreeing to a method of **how values can be calculated**, and identifying the data and metrics that are necessary to do so, does not presuppose an outcome and is not the same thing as agreeing that those values should be calculated.

For issues that require policy or legal determinations (e.g., inclusion of societal benefits, limitation of costs to electricity exports), TASC proposes that the Commission address these issues outside of the context of evidentiary hearings, to the extent that establishment of some fact is not required to enable to the Commission to make an informed judgment about the appropriateness of any analytical approach, category of value, or data source. TASC suggests that the Commission could establish a scope for the evidentiary hearings based on a list of factual issues that arise throughout the technical conferences. If the record on legal and policy issues needs to be developed further to assist the Commission, TASC recommends establishing a separate track for legal briefing to address such issues, in parallel with the currently established procedural schedule for evidentiary hearings. The goal of this proposal is to set up a process that will narrow the issues of factual dispute—that directly relate to the Commission's task at hand—and give additional direction to making effective use of parties' time at the technical conferences.

[23] TASC attached a list of the full range of cost-benefit categories to its opening testimony in the Company's last GRC and has included that attachment to these comments as Attachment C.

In sum, TASC recommends that parties use this proceeding to develop a robust factual record to determine whether there are characteristics of solar customer-generators and the net metering program generally, which are distinct from the resources currently analyzed under cost-effectiveness or valuation frameworks (i.e., PURPA) and which should be formally recognized to justify a new framework designed to evaluate that program. These factual questions directly relate to the inadequacy of the record before the Commission in the last GRC. TASC respectfully suggests that a determination on the distinct characteristics of solar customer-generators and the net metering program will be the lynchpin to any analytical framework.

A. Factual Issues Related to the Application of Existing Valuation Approaches to Solar Customer-Generators

In legal briefing immediately following the evidentiary hearing in the Company's last GRC, TASC discussed the legal distinctions between PURPA QFs defined by federal law and customer-generators defined by state law. As TASC noted, there are physical distinctions between QFs, which can be sized up to 80 MW and be located without serving a host load, and residential net metering systems, which are limited in size to just 25 kW and are required to be sited on the premises of the participating customer and to be intended to meet all or part of the customer's electricity needs.[24] These differences have a direct impact on the relative value created by QFs and net metering systems, when examined at the program level. Accordingly, it is necessary to adapt the traditional avoided cost categories (avoided cost and avoided capacity) to recognize the important physical and technological differences associated with net metering systems. As discussed below, in subsection II.B, TASC expects

[24] Utah Code Section 54-15-102(3).

many of these differences to be covered by categories that consider the impacts on the distribution system.

Additionally, one of the key distinctions is that QFs tend to be valued as supply-side resources and the avoided cost benefits that flow from onsite consumption—of a cogeneration customer, for example—are not necessarily considered or reflected in the avoided cost rate. Because the function of net metering is to facilitate precisely that—a means for customers to use solar onsite and reduce demand on the grid—it is relevant to consider whether the net metering program, in the aggregate, is responsible for demand reduction at peak times. TASC recommends that this topic could be discussed at the technical conference examining the impacts of net metering on the grid (positive or negative).

B. Factual Issues Related to the Characteristics of Solar Customer-Generators Relative to the Grid

During the last rate case, numerous factual disputes arose concerning the characteristics of customer-sited solar generation and how those resources interact with the grid. For example, parties disputed whether net metering provided similar demand-side benefits to energy efficiency. In most cases, parties supported arguments on either side with conclusory opinions and did not present actual data or evidence to corroborate such statements. Additionally, several parties made allegations that any grid benefits that might be associated with net metered solar would be offset by integration challenges. Again, parties were unable to present any data or substantial evidence relative to actual net metering customers showing that net metering customers were having a positive or negative impact on the grid. It is only through generic snapshots, as the Commission observed, that the comparison between the average residential load profile and that same load with the expected generation profile from solar netted out “shows a reduced contribution to the distribution

peak for this generic rooftop solar facility."[25] TASC suggests that these considerations, among others that are likely to be identified through other parties' comments and the forthcoming workshops, should be incorporated into the framework to ensure that the characteristics of actual net metering customers are accurately reflected in framework.

C. Factual Issues Related to the Current Data and Analytic Capabilities of the Company

The Company's last GRC revealed a lack of actual data regarding the characteristics of its customer-generators. This data void will need to be deliberately addressed to meet the needs of the analytical framework. To address issues of rate design, and whether it is appropriate to single customers out for distinct treatment, the Company proposed that it undertake a load research study to obtain a "statistically valid analysis of net metering customer loads…."[26] As TASC and other "solar parties" previously commented in this docket, the Company is too narrowly construing the purpose of its load study to be about future rate design and is avoiding the larger question of data sufficiency to satisfy any analytical framework. In its Order, the Commission noted that "PacifiCorp does not provide the test period quantity of kWh for total net metered production" and that the Company had estimated the total production of residential net metering customers in response to a data request from OCS.[27] Accounting for the actual data of net metering customers will drive a number of factual issues.

1. Do new data capabilities and estimation techniques need to be developed to determine total net metered production and the amount and timing of electricity exports?

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25 Order at p. 61.
26 Order at p. 60.
27 Order at p. 64.

TASC suggests that total net metered production data is necessary to inform several aspects of the analytical framework. TASC and the solar parties called for the broadening of the purpose of the load research study to include a measurement of total production from systems (i.e., to measure gross production and gross customer consumption for each customer). It would be useful to know, from a benefit perspective, whether net metering customers are reducing their load at times of system peak and to know when and how much electricity is being exported. Additionally, if the Commission determines that the statute requires the framework to focus on the value of electricity exports, not behind the meter generation, then a lack of actual data could undermine the ability to satisfy statutory requirements to accurately analyze the heart of the net metering mechanism: the value customers receive for electricity exports.

As a factual matter, the total number of kWh that are actually produced by net metering customers is a matter for future proceedings. What is relevant and ripe for determination now is whether it is appropriate to estimate total production and the amount of total electricity production that can be expected to be exported for a particular class of net metering customers. If it is appropriate to estimate, as providing actual production data for all net metering customers would be prohibitively expensive, there is a live factual issue regarding the assumptions that will feed into this estimation technique (i.e., how do the range of residential load profiles impact the expected amount and timing of electricity exports?).

TASC is unsure that the Company will be able to derive total production data from a statistically sufficient number of customers to support a reliable estimation of total net-metered production or exports. This data, or reliable estimation technique, should be in place before it attempts to present a case using the analytical framework. Accordingly, TASC

would oppose any effort to hastily use incomplete or statistically insignificant load research data to support any case for a rate change that depends upon findings using the analytical framework. Thus, it is important to establish a factual basis of what data is necessary and what estimation techniques are adequate to meet the task at hand. Such a finding could inform how the Company supplements its load research study going forward to make it more relevant and informative to the framework developed here.

2. *Does the Company have sufficient data about where its net metering customers are located, relative to circuit and substation peaks, to properly evaluate the ability of net metering customers to reduce demand at peak times on the distribution system (at specific locations and system-wide)?*

Another key issue at the hearing was the sufficiency of information about grid benefits of net metered solar, in terms of allowing the Company to avoid expensive distribution system upgrades. As TASC and others pointed out through hearings and in surrebuttal testimony, the Company's evidence that solar does not contribute to reducing local distribution system demand at times of peak was totally insufficient to give it a basis to extrapolate the results from that single circuit to the Company's entire distribution system. For TASC, there is a question of whether the Company has compiled the data of how much net metered capacity is located at specific points on its distribution system and whether those systems are contributing to reductions in local or system demand at peak times. As TASC put forward it its testimony, a report from Sandia National Laboratories suggests that, when adding 2 MW of solar PV systems to three of the Company's distribution feeders, there is no

appreciable negative impact on the distribution grid and that solar PV tends to reduce overall peak demand on distribution feeders.[28]

TASC does not suggest that this proceeding is the appropriate time to look throughout the Company's system at each individual distribution circuit and substation to find specific benefits. Rather, the question before the Commission is: what "source and time period of data inputs" would be required to determine whether there are distribution systems benefits associated with the net metering program, in the aggregate? TASC suggests that an appropriate matter for this proceeding is an exploration of the techniques to evaluate whether distributed generation provided under net metering provides an aggregate benefit. TASC proposes that a technical conference be convened to investigate issues around identifying and quantifying distributed solar benefits to the distribution system.

3. Does the company have information about net metering customers to accurately estimate production profiles?

The characteristics of a solar facilities installation can have a significant impact on its generation profile. For example, differences in system size, component parts, tilt, azimuth, and local shading conditions, in addition to whether a system is fixed axis or capable of tracking, will account for different total amounts of output and will impact the time of day when solar generation is most productive. If the Company is not currently tracking such information for any other purpose, it would be too cumbersome to retroactively collect to reflect actual conditions. However, TASC suggests that a survey of a representative sample of customer-generators might provide for reliable extrapolation about the general

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28 "Technical Analysis of Prospective Photovoltaic Systems in Utah," Jimmy E. Quiroz and Christopher P. Cameron, SAND2012-1366, February 22, 2012. Available at http://energy.sandia.gov/wp/wp-content/gallery/uploads/121366.pdf.

characteristics of the net metering fleet. To the extent the Company will rely on estimation to arrive at a total production number for net metering customers, it is important to establish the factual record to support any assumptions made in that estimation as reasonable.

4. How does the Company distinguish between interconnection costs associated with upgrades caused by solar net metering customers and distribution system integration costs? (i.e., what analyses and data are required to show that net metering customers have a negative value to the grid?)

In arguing against the need to even investigate potential grid benefits, the Company claimed that the cost of integrating solar into the distribution system, as penetration levels increase, would offset any benefit.[29] However, the record was not developed in the rate case to demonstrate precisely what types of costs these would be and how they could be differentiated from the costs a customer would face when going through the interconnection process. There is a live factual issue of whether there are potential negative impacts of solar interconnection that are not captured and adequately addressed by the state interconnection standards. TASC recommends that this issue be addressed within a technical conference within the discussion of potential positive grid impacts.

D. Recommendations for Workshops

TASC supports the current schedule of approximately four technical workshops to address issues directly relevant to developing the factual foundation necessary to support the Commission's choices of inputs, assumptions, and framework cost-benefit categories. TASC recommends that four workshops be held to cover the following subjects:

- The operational characteristics of net metered solar as opposed to utility-scale solar QFs;

[29] Docket 13-035-184, Direct Testimony of Joelle R. Steward at pp. 23-24 (January 3, 2014).

- The interrelationships between utility distribution systems and net metered solar generation;
- The Company's current data capabilities and estimation techniques relevant to determining possible framework category values; and
- A discussion of the scope of study that an external analyst would conduct, including a discussion of the appropriate cost-benefit categories to include.

TASC certainly expects the general topics and subtopics to evolve after parties complete comments and meet to discuss on March 16th, but strongly recommends that technical conferences be geared to identifying or resolving factual issues that will be a part of the forthcoming evidentiary hearing.

III. LEGAL ISSUES

An analytical framework to examine the costs and benefits of net metering must be built upon a solid foundation, with the assumptions and choices made during this process passing the threshold test of consistency with statute. TASC anticipates that legal questions will arise periodically in this process; through workshops, comments, or through the testimony of witnesses, the Commission may discover issues that call for legal interpretation. TASC suggests that the Commission identify legal issues at the outset and supports an early resolution of legal issues that impact the development of the analytical framework within this proceeding. To the extent statute informs the parameters of any cost or benefit category or the overall approach to assessing the net metering program, as contemplated by the November Notice requesting comments, addressing these issues now should prove to be far more efficient than deferring the issues for continual litigation and argument. Of course, not every legal issue can be anticipated from this vantage point, and some issues will have to be addressed in future contexts as they arise.

TASC suggests there are several threshold legal issues that should be considered at the outset of this process, before the mold is set for any analytical framework. As the November Notice requests, it is important to consider, at this time, "the consistency of any proposed analysis with the statutory definition or requirements of the net metering program."[30] TASC suggests that the legal issues that need to be determined through this proceeding include, but are not limited to:

- Does the "just and reasonable" standard in Utah Code § 54-15-105.1(2) inform the sufficiency of evidence or data required under § 54-15-105.1(1) to support a determination of the relative costs and benefits of the net metering program?
- Does the broad scope of "just and reasonable" in Utah Code § 54-3-1 require the Commission to consider the impact that net metering has on "the well-being of the state of Utah…and means of encouraging conservation of resources and energy" in applying the relative costs and benefits to determine a just and reasonable charge under § 54-15-105.1(2)?
- If § 54-15-105.1(2) does require the Commission to consider the full range of factors relative to the "just and reasonable" standard in § 54-3-1, is the Commission required to include consideration of societal benefits in any analytical framework?
- Alternatively, if the interplay of § 54-15-105.1(2) and § 54-3-1 does not require consideration of societal benefits in any analytical framework, does the statute allow the Commission to consider societal benefits in addition to the framework approved here?
- Do the definitions in § 54-15-102 contemplate that the net metering program is a mechanism for valuing energy exports?

TASC recommends that the Commission resolve these questions in favor of an analytical framework that focuses on customer-generator exports and allows for the

[30] November Notice at p.4

consideration of the full range of range of cost and benefits associated with distributed solar, including the factors for determining "just and reasonable" rates under § 54-3-1, even if those factors are given qualitative consideration.

A. The "Just and Reasonable" Standard Requires Substantial Evidence of Cost and Benefits to Support any Determination of Costs and Benefits.

TASC expects that the framework developed through this proceeding will primarily be a ratemaking tool to help the Commission comply with the statutory requirements of § 54-15-105.1. Accordingly, the framework must be capable of producing results that satisfy the evidentiary standard of the setting where it is most likely to be applied. In the context of rate setting, the framework must be capable of providing the Commission substantial evidence upon which to base its factual determinations on the costs and benefits of the net metering program. As with all rates charged to customers, § 54-15-105.1(2) requires the Commission to ensure that any additional charge or credit for net metering customers passes the just and reasonable standard. The weight of the evidentiary burden that will be faced in future proceedings should inform the development of the framework with a goal of empowering the Commission to meet its statutory duty in ensuring just and reasonable rates.

To ensure that the framework produces sufficient evidence to support Commission findings, TASC recommends that the framework should be based on best practices in the industry in quantifying and identifying the specific costs and benefits associated with customer generators and the net metering program in the aggregate. Moreover, even with a comprehensive and logical framework to evaluate costs and benefits, the Commission cannot hope for a different outcome if the Company does not make advances in its data capabilities and in its presentation of relevant information to the Commission. As discussed at more length in the section on application and procedural issues, TASC suggests that developing

minimum filing requirements for the Company in a proceeding where the framework will be used is a practical means of ensuring that the hard work and time invested into developing this framework will pay dividends when it comes time for the framework to perform its intended purpose of providing the Commission sufficient information upon which to base its findings.

B. The "Just and Reasonable" Standard Allows the Commission to Consider the Full Spectrum of Costs and Benefits, Including Societal Benefits or Qualitative Considerations of How a Thriving Rooftop Solar Market Impacts the Well-Being of Utahns.

In addition to the question of the sufficiency of data that will be plugged into the framework, TASC suggests that it is important to also consider what impact the "just and reasonable" standard has on the scope of impacts that can be considered in this respect. Section 54-15-105.1(2) unambiguously provides that, after determining the costs and benefits of the net metering program, the Commission shall "determine a **just and reasonable charge, credit, or ratemaking structure**, including new or existing tariffs, in light of the costs and benefits." The Commission's duty to determine a "just and reasonable" rate is well established and is guided by § 54-3-1.

The Utah Code establishes the Commission's duty to ensure just and reasonable rates and regulations pertaining to utility service to the public, but also provides the scope of what the Commission should consider in exercising its discretion in fulfilling that duty. Section 54-3-1 provides that:

> "[t]he scope of the definition 'just and reasonable' may include, but shall not be limited to, the cost of providing service to each category of customer, economic impact of charges on each category of customer, and on the well-being of the state of Utah; methods of reducing wide periodic variations in demand of such products, commodities or services, and means of encouraging conservation of resources and energy."

Parties may have factual disputes as to whether net metering customers improve the well-being of the state of Utah, help reduce wide periodic variations in demand, or provide an effective means of encouraging conservation of resources and energy, but it is indisputable that the Commission has a basis to consider these broad factors in performing its statutory duty.

TASC recognizes that casting too wide a net will be impractical and overburden the framework, but suggests that it is relevant and important to consider the real and foreseeable societal consequences of a thriving rooftop solar market. Most tangibly, a rooftop solar market means local economic activity that creates jobs, investment, and increased tax base for the state. There are a number of widely used modeling techniques to estimate the economic impact of distributed solar growth and it is entirely reasonable to consider the economic impact of the continuing growth of the solar market on the "well-being of the state of Utah" and "conservation of resources and energy." Consideration of economic drivers in setting appropriate rates is consistent with the Commission's statutory duty.

Additionally, the just and reasonable standard gives the Commission the ability to consider the full suite of positive social impacts that distributed solar energy can unlock. Quantifying the benefits of improved air quality and improved visibility, due to incrementally offsetting polluting sources of electricity, may be outside of the Company's core competency, but may be nonetheless appropriate for consideration in determining whether a rate is just and reasonable. TASC does not propose that the Company should be forced to hire public health consultants to prove or disprove such benefits, but suggests that benefits such as this that are less consistently valued by utilities should be included in the framework. At a minimum, parties should remain free to present a variety of evidence that

speaks to whether rates are just and reasonable, even if it is not expressly adopted in the analytical framework in this proceeding.

C. The Commission's Order on RMP's Rate Case Correctly Characterized the Net Metering Mechanism as One that Concerns the Value Recognized for Electricity Exports from Customer-Generators.

In addition to setting the right categories of value and determining the appropriate scope of consideration for any framework, the Commission must account for the fact that the net metering program essentially does one thing for participating customers: it provides a mechanism for realizing value for energy that is exported to the grid and is not consumed instantaneously. From a cost perspective, TASC suggests that evaluating the net metering program is essentially an analysis of what impact that recognizing a specified value for energy exports (i.e., a 1:1 kWh rate credit) has on non-participating ratepayers and on the utility's ability to recover its cost of providing service. As the Commission recognized:

> "It is unclear from the record whether PacifiCorp believes the cost of the net metering program is the retail rate times total net metered customer generation or times just the excess or exported customer generated electricity that gets credited against consumption, **as provided under Utah Code Ann. § 54-15-104**. [*emphasis added*]
>
> If PacifiCorp intends this alternative view of net metering program cost to apply the retail rate to total net metered customer generation, it is not readily apparent how the production and consumption of net metered power on the customers' side of the meter harms or causes costs to other residential customers. Further, such an approach does not appear to be consistent with the statutory definition governing charges or credits for 'net electricity.' Indeed, the Net Metering Code excludes the amount of the net metered customers' production and consumption behind the meter in the definition of electricity eligible for credit.[31]

TASC suggests that the appropriate cost of the net metering program for customer-generated electricity is only the value that customers receive for exported kWhs. In other

[31] Order at 64-65.

words, the proper framework will look at the value of exports—as that is the statutory focus of net metering—and will not assign the cost of lost revenues due to behind-the-meter consumption. While a look at behind-the-meter consumption might be valuable to consider the overall impact of net metering on reducing demand and forecasting long-term trends in load growth—which may also have a cost or benefit component to it—it should not be the primary focus of any framework and should be appropriately distinguished when discussing the costs purely assignable to the net metering mechanism.

TASC recommends that the Commission require the framework to focus on customer-generator exports in determining the costs[32] associated with the net metering program, consistent with § 54-15-104.

D. Section 54-15-105.1 Requires the Commission to Consider Net Metering at the Program Level.

Utah currently has a fair balance of residential and non-residential net metering customers, but only residential net metering customers have been the subject of the Company's discussion regarding changes to rates. As presented by Utah Clean Energy in the Company's last rate case, residential customers accounted for approximately 87% of all net metering customers, but represented only 41.5% of all net metered capacity It is clear that a significant amount of net metering system capacity, accounting for a consequential amount of overall program capacity, is attributable to commercial customers. According to UCE's testimony, there is a significant possibility that commercial NEM customers provide a net

[32] As discussed elsewhere, TASC recommends that the total costs of the net metering program will be the value that customers receive for electricity exports plus any incremental administrative or operational costs specifically attributable and identifiable to the net metering program.

benefit to the grid.[33] Those benefits should not be left off the table and should be considered together with residential net metering.

While there is a factual question of whether residential and non-residential net metering customers are distinct in terms of the cost of service and the respective benefits provided by each, there is a legal question of whether the benefits associated with particular classes must be considered in a silo (e.g., residential net metering costs solely considered against residential net metering benefits). TASC suggests that the plain language of the statute asks the Commission to consider the costs and the benefits of the net metering program on the whole. As provided in § 54-15-105.1(1), the Commission's determination is to be based on "whether costs that the electric 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 cost." [*emphasis added*]. TASC suggests that the statute is clear that paragraph (1) of § 54-15-105.1 (requiring a determination of costs and benefits), is to be applied at the programmatic level (i.e., the aggregate costs and benefits of <u>all</u> customer-generators).

Moreover, the statute does not distinguish between "customers" to require the Commission to examine intra-class subsidies or inter-class subsidies as part of its paragraph (1) determination. Rather, a plain language reading of the statute supports the interpretation that the Commission's determination on the "costs" of a utility's net metering program is meant to look at the total costs that the utility or non-participating customers will incur on a system-wide, aggregate basis. Paragraph (2) then allows the Commission to look at the total program from an equitable perspective and to address any cross-subsidies that might exist

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[33] Docket No. 13-035-184, Direct Testimony of Rick Gilliam at p. 21 (May 22, 2014).

within or between classes due to the rate design applicable to specific classes of net metering customers. But that consideration of specific classes of net metering customers, again, should be just and reasonable in light of the costs and benefits of the entire net metering program, as determined in paragraph (1).

TASC would agree that in the determination of rates for a specific class of customers, a class-specific analysis of the cost to serve that customer class will be an integral part of determining a just and reasonable rate. What is significant about paragraph (2), however, is that it calls for the just and reasonable determination to be made "in light of the costs and benefits." This suggests that before imposing either a charge on a single class or changing the net metering tariff that applies to all classes, the Commission should consider the relative benefit of net metering on the whole. If the overall program results in a net positive to ratepayers and improves the well-being of the state, then it would appear to be the Commission's obligation to deny any charge that would have a negative impact on the net metering program.

TASC proposes that the Commission interpret § 54-15-105.1(1) to require a determination on the aggregate benefits and costs in respect to the utility system and all other non-participating customers. A cost-benefit framework that fails to consider the big picture that the legislature envisioned will unnecessarily handcuff the Commission from using its broad discretion to ensure that a just and reasonable rate results from the inquiry.

IV. USE OF MULTIPLE COST-EFFECTIVENESS TESTS

Many of the questions and issues that TASC has outlined are novel in nature, as the Commission will need to make several new factual determinations regarding the characteristics of solar customer-generators, in addition to legal clarification of how the

statute impacts the contours of the overall framework. As the Commission noted in the November Notice, there is a policy question of whether the existing, traditional cost test approaches (e.g., utility cost test, total resource cost test, ratepayer impact measure test, and the participant test) "can and should be applied to examining the costs and benefits of PacifiCorp's net metering program."[34]

This question suggests that its resolution is also embedded in the important factual determinations needed here: Is the cost and benefit determination required in § 54-15-105.1(1) distinct from the evaluation of other resources and programs because solar customer-generators and the net metering program, generally, have unique characteristics that should inform the evaluation? To the extent that the resources and programs have distinct factual characteristics, it is a matter of policy of how the Commission chooses to address those differences (if at all).

TASC recommends that it is appropriate to address the differences between utility-sponsored incentive programs and a customer-driven program like net metering, but that it may make sense to run the new categories or new approaches to valuing existing avoided cost categories through the traditional cost-test perspectives (i.e., from the utility's perspective, the customer-generator's and non-participating customer's perspective, and from society's perspective). Given the purpose of the framework—it is to assist in ensuring just and reasonable rates and is not intended to serve as a "go, no go" for net metering—it is also reasonable for the Commission to not require that net metering pass all of the various tests in order to be determined just and reasonable.

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[34] November Notice at p. 3.

Indeed, this raises the larger issue about the framework and the context that it should be viewed within. TASC urges the Commission to resist efforts to rely on the framework mechanically as a proxy for what is just and reasonable. If the costs of net metering exceed the benefits, the Commission could and should still weigh other factors in determining whether a particular charge or credit is just and reasonable. Rather, the framework is ultimately a tool to (1) accomplish the cost and benefit determination required by § 54-15-105.1; and (2) weigh on balance whether a specific rate change proposal is just and reasonable in light of those costs and benefits.

To the extent the framework will largely be used as a justification for rate changes on net metering customers, TASC recommends that the Commission consider how the framework might be applied to a cost of service analysis, as was recently performed in California.[35] In regards to the traditional cost tests—for the current purposes of designing a framework that examines and informs rates and rate structures—TASC suggests that the total resource cost test and societal cost test may provide the most relevant perspective, though there remain shortcomings with each DSM cost-effectiveness approach in addressing the task at hand.

A. A Cost-Effectiveness Approach Can Inform the Framework, But None Are Ideal for Addressing the Requirements of § 54-15-105.1.

As a demand-side resource, distributed generation programs have often faced cost-effectiveness tests to determine their overall value to different participants in the system. Specifically:

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35 *See generally* E3 2013 Net Energy Metering Study, *supra*, fn 6 (analyzing net metering customers on a cost of service basis and finding that net metering customer, in the aggregate, pay sufficient bills to cover the utility average cost of service).

- The Participant Test measures the economic viability of a DG facility to the developer or customer installing the facility;
- The Ratepayer Impact Measure (RIM) Test measures the relative costs and benefits of a DG project or program from the standpoint of utility ratepayers.;
- The Total Resource Cost (TRC) Test measures the relative costs and benefits of a DG project or program to both participants and non-participants, i.e., to society at large. A variant of the TRC test is the Societal Test; and
- The Program Administrator (PA) Cost Test measures the net costs incurred by the PA for incentive programs, including incentive costs, but excluding any net costs incurred by the program participants.

Any individual test on its own would be insufficient to fully characterize the value of distributed resources but, when considered together, these tests can be useful in helping to portray a more complete picture of how costs and benefits are distributed among various groups or individuals. As such, this suite of cost-effectiveness tests is now being adapted to analyses of net metering and demand-side distributed generation more broadly, as state commissions recognize that evaluating the costs and benefits of all demand-side resources – energy efficiency, demand response, and distributed generation – using the same cost-effectiveness framework will help to ensure that all of these resource options are evaluated in a fair and consistent manner.

The tests are only as good as the variables and values that comprise them.[36] A

[36] California Public Utilities Commission ("CPUC") Decision 09-08-026, the Decision Adopting Cost-Benefit Methodology For Distributed Generation (August 20, 2009), *available at* http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/105926.PDF. This decision includes a lengthy discussion of variables and methodology to be included in cost-effectiveness tests. For example, this decision required that all relevant environmental benefits currently used in evaluation of energy efficiency programs should be included in the cost benefit models, whether or not their impacts result from regulation or compliance with state or federal law.

seminal CPUC decision found that DG programs should be analyzed using three tests described in the California Standard Practice Manual, namely, the Participant Test, the TRC Test (including its variant, the Societal Test), and the Program Administrator Cost Test.[37] The RIM test was not required to analyze distributed generation because, at the time, the Commission did not rely on it in the context of cost-effectiveness evaluation of utility energy efficiency programs.[38] There is a question of the appropriateness of relying too heavily on the RIM test for evaluating distributed generation programs.

As an example of one such critique, the benefit-cost study conducted by Synapse Energy Economics for the Mississippi Public Service Commission criticizes the use of the traditional RIM test as applied to NEM programs. In particular, the Synapse study notes:

> Utility lost revenues are not a new cost created by the net metered systems. Lost revenues are simply a result of the need to recover existing costs spread out over fewer sales. The existing costs that might be recovered through rate increases as a result of lost revenues are (a) not caused by the efficiency program themselves, and (b) are not a new, incremental cost. In economic terms, these existing costs are called "sunk" costs. Sunk costs should not be used to assess future resource investments because they are incurred regardless of whether the future project is undertaken. Consequently, the application of the RIM test is not valid for analyzing the efficacy of net metered or distributed resources as it is a violation of this important economic principle.[39]

TASC raises this critique to urge caution in relying too heavily on the RIM test as a ratemaking tool in the context of the net metering analytical framework, as there is some reasonable debate regarding its efficacy in addressing net metering resources.

Indeed, the traditional, DSM cost-effectiveness tests may also lack certain other

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37 *Id.* at 3.

38 Decision 09-08-026 at 26.

39 Mississippi Synapse Study, Footnote 41, pp. 31-32, available at http://votesolar.org/wp-content/uploads/2014/10/Synpase-MS.pdf.

components that are specific to distributed generation. For example, these tests generally do not account for the potential of distributed generation to provide differential avoided distribution infrastructure costs based on the location of the system.

B. A Long-Term Perspective is Critical to Accurately Assessing the Costs and Benefits of DG Resources Especially When Considering Deferred T&D Costs.

When assessing the benefits and costs of solar net metering resources, it is important to use a time frame that corresponds to the useful life of solar resources, which are typically 20 to 30 years. A long-term analysis is necessary in order to treat solar net metering resources equally with other utility resources, both demand- and supply-side. When a utility assesses the merits of adding a new power plant, or a new energy efficiency program, the company will look at the costs to build and operate the plant or the program over their useful lives, compared to the costs avoided by not pursuing other resource options. Thus, a key factor is that the analysis of solar or net metering in Utah must cover the full 20- to 30-year life of typical DG resources.

As noted above, there is a factual issue of whether solar net metering resources can reduce peak demands on the utility grid, and thus make it possible for the utility to avoid or defer long-term investments in transmission and distribution ("T&D") infrastructure. Accordingly, this is a relevant consideration for any cost-benefit framework. However, utilities often do not typically assess the impacts of demand-side resources with 20 to 30-year useful lives on their long-term need for T&D infrastructure capacity. For example, although integrated resource plans for generation typically look ahead for 15 to 30 years, utility transmission and distribution plans often have a much shorter time horizon of 3 to 5 years. Accordingly, it is often useful to use calculations of long-term marginal T&D costs to

determine the T&D capacity costs that can be avoided if DG resources reduce peak utility loads.

V. PROCEDURAL ISSUES AND APPLICATION CONSIDERATIONS

TASC suggests that the development of any analytical framework cannot be done in a vacuum, without practical considerations of how the framework will be applied. To the extent that the Commission would like to have a framework in place that will serve to build a sufficient record to support a determination on the costs and benefits of the net metering program, it would be practical to include certain considerations related to the application of any analytical framework within the scope of this proceeding. The development of an analytical framework, standing alone, does not provide guidance on how applications to the Commission that seek to apply the framework for some legitimate ratemaking purpose should be presented.

TASC envisions that there will be multiple issues of how the framework will be applied that are relevant to and appropriate for resolution in this proceeding:

- When applying to the Commission to seek a charge, how does the Company's burden of proof bear on its need to establish that a particular category in the framework has a positive, negative or neutral value? In other words, will the Commission hold the company to a minimum standard of sufficiency of evidence for each cost and benefit category?
- Should the framework be considered the exclusive means of showing any benefit or cost in a future proceeding or should it be left flexible to include emerging technologies and evolving circumstances that impact the value of solar customer-generators and the net metering program to the grid?
- What minimum filing requirements should be set to ensure that the framework can be adequately utilized to provide sufficient evidence in a future proceeding?

- Should an independent, third-party consultant be used to apply the Commission's framework in future proceedings?
- Is there benefit to having an independent, third-party facilitator to oversee the technical conferences in order to manage the process and steer parties toward areas of common ground and agreement on technical approaches to calculating values for specific framework categories?

TASC recommends that the Commission hire an independent, third-party facilitator to manage and oversee the technical workshop process and that the Commission establish clear guidelines for how the framework will apply in future proceedings by providing clarity and establishing: (1) minimum filing or data requirements for the Company if it seeks to use the framework to justify a change in rates; (2) how the Company's burden of proof relates to the specific framework categories; (3) whether intervenors in future proceeding may present evidence of additional benefits or costs that fall outside of the Commission-approved framework and that such evidence will be considered in making a determination on costs and benefits and whether rates are just and reasonable; and (4) how an independent, third-party consultant could be utilized to apply the framework to assist the Commission in making any determination in future cases.

A. If the Company Seeks to Use the Framework to Justify a Change in Rates, It Should Bear the Burden of Proof that a Value Is Positive or Negative for All Categories within the Framework.

A key legal issue in RMP's last GRC was whether RMP had carried its burden of proof to justify its proposed NEM charge. As the Commission held, there was simply insufficient information in the record to satisfy the requirement to make a determination on the costs and benefits of the net metering program. One of the Commission's objectives in opening this docket was to develop a framework that would avoid such problems in the

future and "bring to light the information necessary to fulfilling our statutory responsibilities."[40] TASC agrees that the framework should result in a tool to provide the Commission with the substantial evidence it needs to enter the findings required by statute in order to consider whether a particular rate proposal is just and reasonable, or if existing rate structures are most appropriate.

With an established framework in place, the quality of the results should not be wholly dependent on the diligence of intervenors to conduct discovery. Consistent with Utah Supreme Court precedent regarding the burden of proof of a utility when it is seeking rate relief, the Company must carry the burden of populating the framework with the necessary data to support Commission findings:

> In the regulation of public utilities by governmental authority, a fundamental principle is: the burden rests heavily upon a utility to prove it is entitled to rate relief and not upon the commission, the commission staff, or any interested party or protestant to prove the contrary.[41]

TASC expects that the Company will need to carry that burden on each category in the framework, including costs and benefits (i.e., including factors that cut against their requested relief and factors that support that relief). TASC does not believe that the intent in developing a comprehensive framework is to allow the Company to cherry-pick which categories suit its needs and to provide data and substantial evidence of only those things that are helpful to their cause. Further, the purpose of developing a framework to honestly assess the real costs and benefits of the net metering program is undermined if the Company is not willing to take the measures necessary to develop the data inputs or to compile the information that is relevant for the inquiry.

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40 Order at 60.

41 *Utah Department of Business Regulation v. Utah Public Service Commission*, 614 P.2d 1242, 1245, 1246 (Utah 1980).

A robust framework without a significant responsibility to provide meaningful data, will produce a perverse incentive for the Company to be willfully blind to the benefits of net metering that are not captured under their current metrics for evaluating supply-side or demand-side resources. TASC hopes that the technical conferences and the hearings will produce an objective picture of what is possible and what is feasible in terms of identifying the type of data required to determine whether there is a positive or negative value in any category. TASC suggests that it is important to keep in mind that the Company will bear the burden of proof if it seeks to use the framework to justify a solar-specific rate design as just and reasonable.

Accordingly, TASC raises its concerns about the Company's data capabilities, and its willingness to improve those capabilities to provide the Commission a more accurate picture of the net metering program through the framework, as an entirely relevant consideration that should be kept in mind as the framework is being developed. TASC looks forward to working with all parties to identify current data gaps and to help fashion practical solutions that will balance the value that complete data will provide the Commission in its future considerations with the practical considerations of the rigors of compiling the necessary data or developing new technical and analytical capabilities.

B. The Commission Should Consider Minimum Filing Requirements Where the Framework Will Be Used to Change Rates to Ensure that the Framework Will Provide Maximum Value in Future Proceedings.

Emerging from the discussion of the balance between the value of data and the expense and difficulty of procuring it, TASC proposes that the parties work toward developing minimum filing requirements for the Company in any future proceeding where the framework will be used to verify existing rates or justify a rate change. Minimum filing

requirements should establish a baseline of confidence in the utility of the framework in a particular application, but will not necessarily satisfy the burden of proof for each category that the Commission deems a necessary part of the framework.

Even the best analytical framework will not provide the Commission an adequate record if it lacks the necessary inputs. TASC recommends that the Commission develop minimal filing requirements for situations where the Company intends to change rates for net metering customers, thereby triggering the cost and benefit determinations of § 54-15-105.1(1).

C. The Framework Should Remain Flexible to Account for Emerging Technologies and to Allow Parties to Present Substantial Evidence of Benefits or Costs that Are Not Included Within the Framework Approved in This Proceeding.

In addition to minimum filing requirements, it is important for the framework to remain flexible to adapt to emerging technologies that may supplement the value of net metering to the grid and to other ratepayers. For example, in the not so distant future, residential energy storage will be increasingly prevalent and, when paired with net metering and demand response programs, could provide physical assurance of demand reduction at key times. Additionally, as technical standards continue to evolve, the functionality of so-called "smart inverters" may provide significant voltage regulation benefits. The framework should not be conceived so rigidly that it only recognizes the state of affairs existing today and is ignorant to the technological advances that are making customer-sited generation an ever more valuable asset to the grid and other ratepayers.

TASC suggests that the framework, and the categories of value (positive or negative) that will be incorporated, could be thought of as the base minimum that must be shown to support a Commission determination in future proceedings. Where new categories emerge,

due to technological advances or new approaches to grid or resource planning, parties should be free to present evidence of these values that fall outside of the pre-ordained list of categories. When issuing orders applying the framework, the Commission could adopt new categories into the standard framework.

Moreover, TASC recommends that the Commission-approved framework be made available as a public toolkit, which parties can use to run their own sensitivities and plug in their own assumptions. A similar public tool is underway in the California Public Utilities Commission's NEM 2.0 proceeding, where parties will be able to modify the values within categories and change assumptions to use in their own presentations to the Commission.[42] In particular, the proposed tool would allow societal costs and benefits to broken out into several sub-categories, that parties would be able to populate, including the avoided societal cost of carbon, health benefits, and improved energy security. By design, the tool leaves flexibility to allow parties the ability to develop evidence to justify benefit categories. TASC supports the development of a public tool in Utah with similar user-modifiable functions. Such a tool would provide transparency and would provide a common format for parties to use in presenting evidence to the Commission.

D. An Independent Consultant Would Provide an Objective Perspective and Be a High Value in Assisting the Commission in Making Cost and Benefit Determinations in Future Proceedings.

As the Commission contemplates the merits of technical conferences, TASC strongly recommends that the Commission consider hiring a third-party facilitator to oversee the

[42] Information on the CPUC's public valuation toolkit is *available at* http://www.cpuc.ca.gov/PUC/energy/DistGen/NEMWorkShop04232014.htm.

process and further recommends that the Commission consider utilizing a neutral third-party contractor to perform any analysis in future rate proceedings.

TASC believes a rigorous examination of costs and benefits of net metering is best accomplished by using an unbiased analysis conducted either by an independent, consultant with the following qualifications:

- Prior experience in conducting cost-benefit evaluations of demand-side programs, preferably prior experience conducting net metering/DG cost-benefit or benefit-alone studies;
- A deep knowledge of the technological, operational and policy elements of customer-sited generation; and
- A significant track record of consulting for state regulatory commissions on complex public policy issues.

The most crucial qualification for a consultant is independence. The Commission should ensure that any third party consultant it chooses has no on-going or planned projects, or other business relationship, with any jurisdictional utilities, or those utilities' affiliates, subsidiaries or parent companies.

It should be recognized that customer self-generation can result in a long-term reduction in utility sales and long-term changes in the role and scope of the utility as a business, which can bias utility views against a full recognition of solar net metering benefits. In TASC's experience, relying on parties to provide a cost-benefit analysis can undermine the desired outcome of the process, as most parties have an agenda to advance and it can be difficult to separate advocacy from technical objectivity. Moreover, if an analysis has a perceived bias, it can be difficult to obtain stakeholder buy in and to get the general public to trust the results. A study that all parties, and the public, can trust is of paramount importance.

1. An independent facilitator will enhance the outcome of technical conferences

For purposes of the technical conferences, TASC hopes and expects that parties will maintain an atmosphere of cooperation and objectivity in addressing the subject matter of these conferences. Even so, TASC sees significant value in putting safeguards in place to make sure that conversation does not get shut down based solely on differences in advocacy positions. The technical conferences should not be a forum for making specific factual assertions about the specific costs or benefits of solar for any category. Rather, TASC believes the focus of the technical conference is to ask these objective questions:

- How do we approach, as a technical matter, the question of whether a certain category of value can be determined and quantified? Is the approach consistent with how this category or analogous considerations are evaluated in industry practice?
- What data or information is needed to determine whether there is a positive or negative value for this category?
- What is the confidence level in the quantification from an industry perspective, given the data (or lack thereof) and the method of calculation, if based on projection, modeling or estimation?

The task of the technical conference—and for this proceeding—is not to determine whether a specific value is positive or negative, but to establish the means of making that determination.

Given the delicate balance between advocacy and objectivity in approaching these types of questions, it would be helpful to have a third-party evaluator to facilitate the conferences and to keep parties on task in seeking the technical best practices in designing the evaluation for each category.

2. An independent contractor performing any future analysis will enhance the Commission's confidence in the objective application of the framework

TASC strongly recommends that the Commission consider hiring a respected independent firm with technical expertise and experience in evaluating net metering programs to perform any future analysis using the framework. While a robust framework will provide some degree of confidence that the record will contain the right types of evidence to support a Commission determination, it does not guarantee the necessary quality of evidence to support a rate making determination as just and reasonable. In the hands of an independent party performing the analysis in a transparent manner, the information that comes out of the objective framework developed here will have more inherent credibility. The Commission would have more confidence in the contractor's assessment of whether the data that was provided to perform the analysis was sufficient, according to industry standards and best practices. TASC suggests that having an independent consultant or contractor performing any analysis in the future will add weight and credibility to the outcome of the analysis.

VI. CONCLUSION

TASC appreciates the opportunity to submit these comments and looks forward to working with parties to develop a robust analytical framework to analyze the costs and benefits of the net metering program. TASC respectfully suggests that the Commission adopt its recommendations to provide an independent facilitator to manage the technical conference process and to help the Commission narrow the scope of issues to be addressed through the evidentiary hearing.

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CERTIFICATE OF SERVICE

I hereby certify that I will cause a true and correct copy of the foregoing **COMMENTS OF THE ALLIANCE FOR SOLAR CHOICE ON DEVELOPMENT OF AN ANALYTICAL FRAMEWORK TO EVALUATE THE COSTS AND BENEFITS OF THE NET METERING PROGRAM** to be filed with the Utah Public Service Commission on February 6, 2015 and to be served via email on that day upon the following persons:

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Dated February 6, 2015 at Cary, North Carolina.

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