

January 31, 2014

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Executive Director and Secretary
Washington Utilities and Transportation Commission
P.O. Box 47250
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RE: Comments of Renewable Northwest Project
Docket UE-131883—*Commission’s December 19, 2013 Notice of Opportunity to File Written Comments on the Investigation of the costs and benefits of distributed generation on utility provision of electric service.*

I. INTRODUCTION

Renewable Northwest Project (“RNP”) again welcomes the opportunity to comment to Washington Utilities and Transportation Commission (“Commission”) on the costs and benefits of distributed generation (“DG”), and how they should be understood with respect to investor-owned utilities (“IOUs”) in Washington State. Given the current levels of distributed generation and net-metering penetration in Washington, RNP does not recommend continuing with this investigation. Washington State should focus on developing policies that encourage customers to take up solar and net-metering, as the balance between the costs and the benefits will be difficult to discern until the state has a higher degree of solar penetration. However, if the Commission decides to continue with this investigation, it will be necessary to undertake a comprehensive evaluation of all the costs and benefits associated with distributed generation in order to determine the balance between them.

RNP will address whether or not this investigation should continue in Section II. If the investigation does continue, RNP makes recommendations for what costs and benefits should be considered in Section III, and the process for such an investigation in Section IV, before concluding in Section V.

II. CONTINUED INVESTIGATION

IMPACT ON RATEPAYERS

In comments dated November 6, 2013, RNP argued that the limited penetration of distributed solar in Washington should be taken into account when considering whether or not this investigation should continue. RNP would like to draw the commission’s attention to the Energy and Environment Economics (“E3”) report evaluating the costs and benefits of California’s net energy metering (“NEM”) that was presented to the UTC on November 13, 2013.

In their most extreme forecasted penetration level, E3 modeled the impact of “Full NEM Subscription”, which amounts to five percent of aggregate customer peak demand (for IOUs), as defined by California Public Utility Commission (CPUC) decision D. 12-05-036.¹ In this decision, the CPUC clarified that—in California—“aggregate customer peak demand” means the sum of individual customer’s non-coincident peak demand. For a given year, the total non-coincident peak demands for all customers in each IOU’s service territory is defined as the sum of each customer’s maximum demand in that year. For each IOU, the value represents the maximum demand for the service territory that would occur if all customers use their maximum load at the same time.² Table 1 shows that even with full NEM subscription in California in 2020 the cost of exports from net-metering is only 1.06% of the utilities annual revenue requirement.

Table 1—Net Cost of NEM Generation Exports in California in 2020 (Millions \$2012/year)³

	2012 Snapshot	Full CSI Subscription	Full NEM Subscription
Residential	\$61	\$85	\$291
Non-Residential	\$18	\$41	\$79
Total	\$79	\$126	\$370
% of Revenue Requirement	0.23%	0.36%	1.06%

In Washington, RCW 80.60.020 states that net-metering shall be made available to electric utility customers until the cumulative generating capacity of net-metering systems equals “0.25 percent of the utility’s peak demand during 1996”, increasing to 0.5 percent on January 1, 2014.⁴ Both the actual metric (sum of non-coincident peak demand) and the percentage (5 percent) are larger in California than in Washington, as the sum of all customers maximum load at any time is greater than peak demand during any particular year.

As can be seen in Table 2, the amount of net-metering capacity available for net-metering in 2014 is 34,550 kW (34.6 MW), of which only 12,046 kW (12 MW) has been met from 2113 Washington customer-generators as of October 31, 2013. In comparison, at the end of 2012, when E3 began their study, California had over

¹ “Legislative Subcommittee Recommendation, AB NEM”, CPUC June 4, 2012

www.cpuc.ca.gov/NR/rdonlyres/F73D09CD-B4F2-4672-809B-285316B75CC9/0/582964v1AB_2514_LEG_MEMO_11239_6712_HIGHLIGHTED_CHANGES.pdf

² “Estimation of Total Non-Coincident Peak Demands”, CPUC NEM Cap Calculation Workshop, Jun 3 25 2012

www.cpuc.ca.gov/NR/rdonlyres/C89C6BF8-9A37-4DF8-BF2E-2A9C8FDD1B8D/0/CPUC_NEM_Workshop_062512C.PPTX

³ “California Net Energy Metering-Ratepayer Impacts Evaluation”, October 2013, p 67

www.cpuc.ca.gov/NR/rdonlyres/75573B69-D5C8-45D3-BE22-3074EAB16D87/0/NEMReport.pdf

⁴ <http://apps.leg.wa.gov/rcw/default.aspx?cite=80.60.020>

150,000 customers totalling 1,300,000 kW (1,300 MW). As can be seen from Table 1, the 2012 level of penetration in California was estimated to cost only 0.23% of utilities' revenue requirement.⁵

Table 2—Net-metering data from Washington utilities⁶

	2014 NM Cap (kW)	# WA Customers	WA kW	# ID Customers	ID kW	NM Cap Met
Avista	7,600	177	991	38	347	14%
PSE	22,400	1,810	10,182	-	-	45%
Pacific Power	4,550	126	873	-	-	19%
Total	34,550	2,113	12,046	38	347	

Given the fact that Washington currently has far less net-metering than California—and that the costs calculated in California are small—RNP recommends that Washington State should not undertake its own investigation into the costs and benefits of distributed generation. Instead, Washington should focus on developing and aligning policies to increase the penetration of distributed generation. Even assuming that a net cost shift were occurring in Washington at this stage—which RNP does not—the magnitude would be extremely small at the current penetration levels and would not justify continuing the investigation.

LOCAL DISTRIBUTION RELIABILITY

The Small Generator Interconnection Procedures (“SGIP”) were adopted by the Federal Energy Regulatory Commission (“FERC”) in 2005, and apply to distributed energy resources up to 20 MW in capacity that fall under federal jurisdiction. The interconnection procedures that were developed were also intended to be a model rule for consideration by state public utility commissions.

Most state interconnection procedures allow for expedited interconnection without additional technical studies if the proposed interconnection passes a series of technical screens. In 1999, before FERC set the SGIP, the CPUC established a 15% capacity threshold to identify situations where the amount of distributed generation capacity on a line section exceeds 15% of the line section’s annual peak load. This 15% threshold was subsequently adopted by FERC for the SGIP. Penetrations above this threshold trigger the need for supplemental studies.

Given the rapid growth and widespread deployment of solar PV system embedded

⁵ ibid p4

⁶ Comments on behalf of Avista , PSE, Pacific Power submitted to the UTC in Docket UM 131883 on 11/06/2013 www.utc.wa.gov/docs/Pages/DocketLookup.aspx?FilingID=131883

in distribution grids across the country, the National Renewable Energy Laboratory (“NREL”) undertook a review of the SGIP in order to ensure they were as streamlined as possible so as to avoid unnecessary studies, costs and delays.⁷ NREL observed that there are many circuits across the United States and Europe with PV penetration levels well above 15% where system performance, safety, and reliability have not been materially affected, suggesting the existing 15% screen is indeed conservative. For comparison, noting that the 2014 net-metering cap in Washington is 0.5%, Table 2 shows penetrations of 0.07% for Avista, 0.23% for PSE, and 0.10% for Pacific Power, making it very unlikely that the amount of distributed generation capacity on a line section exceeds 15% of the line section’s annual peak load.

III. ISSUES TO BE ADDRESSED IN A CONTINUED INVESTIGATION

Notwithstanding the very low levels of distributed generation and net-metering penetration in Washington, if the UTC decides that this investigation should continue it is imperative that a comprehensive study—taking into account all costs and benefits—should be undertaken. Such an investigation into the balance between all the benefits and costs associated with distributed resources would enable allegations of cross-subsidization between non-participating and participating customers to be resolved. Even at the current low penetration levels, the cross-subsidization allegation is persistently brought up as a barrier when renewable energy and environmental advocates try to advance solar policy in Washington.

Incentive programs for distributed solar lead to numerous, smaller sources of local generation across the state. Beyond the clean energy it generates for the host, distributed generation has many benefits that accrue to both participating and non-participating customers: it keeps energy dollars local; it encourages in-state economic development and the creation of jobs; it enhances security and reliability of the electric grid by reducing outages caused by natural disasters; it reduces electric line losses by siting generation where the power is used; it reduces air pollution and greenhouse gas emissions, and; it leads to greater energy independence. These benefits can be comprehensively quantified, as has been demonstrated in other states.

As RNP discussed in comments dated November 6, 2013, the Interstate Renewable Energy Council (“IREC”) has collected together the lessons learned from 16 distributed solar generation regional and utility-specific studies, from which they have developed a proposed standardized valuation methodology for public utility

⁷ Updating Interconnection Screens for PV system Integration, U.S. Department of Energy, National Renewable Energy Agency, 2012
energy.sandia.gov/wp/wp-content/gallery/uploads/Updating_Interconnection_PV_Systems_Integration.pdf

commissions to consider.⁸ Among IREC’s major conclusions on distributed solar generation, three stand out: solar DG primarily offsets combined-cycle natural gas plants, and this should be accounted for in avoided energy costs; the solar resource is sufficiently predictable that it should be included in utility forecasts of generation that meets capacity needs, and should therefore be credited with a capacity value; and, the societal benefits, such as economic development, environmental and health benefits should be included in valuations, as these were likely drivers behind the original distributed generation policy.

The Minnesota Department of Commerce Division of Energy Resources (“Minnesota Commerce”) is currently undertaking a value of solar study, the results of which will be submitted to the Minnesota Public Utility Commission for review by January 31, 2014. Minnesota Commerce was joined by the energy consultancy Clean Power Research (“CPR”) to explore the framework of methodologies used in a typical study into the value of solar. CPR identified the following solar value components that are typically considered, many of which stem from avoided energy costs, but some of which are unique to distributed generation:⁹

- Avoided fuel costs—from displacing traditional fossil fuel plant generation. In situations where utilities’ generation portfolios are dominated by hydropower, distributed generation frees up more of the utilities limited tier 1 resources.
- Avoided traditional power plant operations and maintenance costs.
- Avoided generation capacity cost—by reducing the amount of generation required to meet peak load.
- Avoided reserve capacity cost—by reducing the amount of generation required to meet planning margins and ensure reliability.
- Avoided transmission capacity cost—locally generated distributed energy reduces the need to make use of the transmission system, as well as avoiding line losses.
- Avoided distribution capacity cost—power produced and consumed on-site means less use is made of the distribution grid.
- Avoided environmental cost—if the utility gets to keep the Renewable Energy Credit by the distributed solar.

⁸ “Calculating the Benefits and Costs of Distributed Solar Generation”, IREC, October 2013. www.irecusa.org/wp-content/uploads/2013/10/IREC_Rabago_Regulators-Guidebook-to-Assessing-Benefits-and-Costs-of-DSG.pdf

⁹ “Table of Value Components Identified in the Oct.1 CPR/Commerce Presentation”, Minnesota Department of Commerce Division of Energy Resource <http://mn.gov/commerce/energy/images/VOST-Questions-responses-100813.pdf>

- Fuel price guarantee—displacing fossil fuels such as natural gas means reduces the amount utilities need to spend on hedging against changes in the natural gas price.
- Credit for local manufacturing and/or assembly—as distributed solar generation is inherently local, there is an increase in local tax revenue tied to solar jobs.
- Credit for high value distribution locations—distributed generation can have more value to the system in certain locations on the grid than others, and this can be incentivized accordingly.
- Voltage control—future inverter designs will enable distributed solar to contribute to voltage stability on the grid.
- Market price reduction—as distributed solar generation leads to a reduction in power demand, in perfect markets this would lead to a reduction in the cost of wholesale power.
- Disaster recovery—modern inverters present the possibility of distributed generation assisting the grid in times of stress, helping maintain the grid and avoiding cascading power cuts. Distributed generation’s contribution to disaster recovery will be even more significant as energy storage solutions become more common.

IV. THE PROCESS FOR A CONTINUED INVESTIGATION

When deciding what procedure to take RNP recommends that the following principles are borne in mind: firstly, it would be premature for the Commission to bind itself to a procedure that requires rulemakings or findings of fact; and secondly, that the chosen procedure allow for the development of evidence records. RNP recognizes that no current procedure allows for both of these criteria to be met, but understands that the Commission are considering new procedural designs as part of the update to procedural rules. If this investigation is to go ahead, this may be an appropriate time to consider using a new vehicle to meet the two principles mentioned above.

Towards that end, the Commission should consider opening up a hybrid-vehicle for this investigation, such as a generic docket, the outcome of which would not be policy action or rule making. Instead, the docket should aim to develop and record an examination of the above issues and deliver an interpretive statement. RNP believes it will also be important to ensure that either the Commission or a hired consultant will need to be able to gather data and information from the utilities and share it with interested stakeholders.

IV. CONCLUSION

Washington State should continue to develop policies that encourage customers to take up solar and net-metering, as the balance between costs and benefits will be difficult to discern until the state has a higher degree of solar penetration. Even assuming that a net cost shift were occurring at this stage—which RNP does not—the magnitude would be too small to justify the resources commitment necessary to continue the investigation. Washington should focus on aligning its policies to achieve a more significant penetration of DG solar.

If the Commission decides that the investigation should continue, the study should be a comprehensive, quantitative analysis of all the cost and benefits associated with distributed generation. The Commission should consider opening up a generic docket that would record and examine the costs and benefits, as well as ensuring that utilities make available the necessary data. The result of such a docket should be a policy statement or interpretative statement, rather than policy action or rulemaking.

RNP appreciates this opportunity to comment and looks forward to engaging with the Commission and other stakeholders on the issues discussed in UE-131883.

Sincerely,

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