BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 2011

In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, General Capacity Investigation.	Second Comments of Renewable Northwest **January 13, 2019**

I. INTRODUCTION

Renewable Northwest is grateful to the Oregon Public Utility Commission ("the Commission" or "PUC") for the opportunity to comment on Commission Staff's second set of questions to "help refine and narrow the broad categories of resource attributes that might be considered 'capacity'" in this General Capacity Investigation docket.[1]

II. BACKGROUND

Under ORS 756.040(2), the Commission has the broad "power and jurisdiction to supervise and regulate every public utility and telecommunications utility in this state, and to do all things necessary and convenient in the exercise of such power and jurisdiction." ORS 756.515(1) further gives the Commission authority to open an investigation into any matter relating to public utilities. Following conversations across a number of Commission dockets, the Commission issued Order No. 19-155, opening a general capacity investigation. The Staff Report forming the basis for the Commission's order observed that "[t]here have been several methodologies used to establish capacity values based on resource type, such as distributed generation, utility-scale generation, energy efficiency and other upcoming technologies such as energy storage and demand response."[2] Thus the Commission opened this investigation in the hope that "[a] holistic investigation into … issues related to capacity could lead to a harmonization of some of these disparate approaches."

[1] Oregon Public Utility Commission, Docket No. UM 2011, *Phase III, Capacity Valuation -- Request for Public Comment* at 3 (Nov. 15, 2019) (hereinafter "Request for Comment").
[2] Oregon Public Utility Commission, Docket No. UM 2011, Order No. 19-155 at Appx. A, p. 2 (Apr. 26, 2019).

Accordingly, Staff held a series of workshops designed to explore stakeholders' understandings of capacity -- how it is defined, why and how it is acquired, and how the concept of capacity is evolving in concert with a modern grid. In coordination with the most recent workshop, Staff released a request for comment, specifically seeking responses to questions oriented around two broad topics: "(1) Questions that help refine and narrow the broad categories of resource attributes that might be considered 'capacity,' and (2) Questions that address how to calculate and assign a value to capacity."[3] Following the workshop, Staff broke these questions into two separate comment opportunities. Renewable Northwest filed its Initial Comments on December 16, 2019; these Second Comments of Renewable Northwest address only the questions that fall into the second topic, which questions are set forth in Part B of the Request for Comment.

III. COMMENTS

Renewable Northwest has structured these comments around the questions presented in Staff's Notice, responding to the prompts in Part B of the notice as requested. Where we have no comment on a particular item at this time, we so indicate below.

6. Does capacity value compensation require a capacity resource to be available to meet all reliability needs in all time frames?

No. While a load-serving entity ("LSE") must be able to meet all reliability needs in all time frames, such an entity may rely on diverse resources to meet different needs at different times. Even "clean energy portfolios" comprising resources designed to work in tandem to meet reliability needs may still meet only part of an LSE's overall needs. In fact, under some circumstances, procuring resources designed to meet all reliability needs in all time frames could constitute a system overbuild passing unnecessary costs onto customers.

a. *Can a dedicated physical asset qualify to meet all reliability needs, or does it need to be supplemented with other resources?*

Again, a dedicated physical asset *can* qualify to meet all reliability needs, but that does not mean it *should*. The best solution is to seek least-cost, least-risk resources or resource portfolios tailored to meet identified system needs. Clean energy portfolios are emerging as a strong candidate to serve reliability needs at the least cost and least risk.[4]

[3] Request for Comment at 3.
[4] Rocky Mountain Institute, *The Growing Market for Clean Energy Portfolios* (2019), *available at* https://rmi.org/insight/clean-energy-portfolios-pipelines-and-plants/; for more information *see also* Rocky Mountain Institute, *The Economics of Clean Energy Portfolios* (2018), available at https://rmi.org/insight/the-economics-of-clean-energy-portfolios/.

b. *Can a portfolio of resources that meet the availability requirement qualify for the same or better compensation than a dedicated physical asset?*

Yes. As discussed above, clean energy portfolios are emerging as least-cost reliability resources, and because a portfolio is likely better able to mitigate risk than a single asset (think, for example, of a gas peaker on a winter-peaking system) better compensation is a reasonable possibility.

c. *Can a financial contract qualify for the same or better compensation than a physical asset?*

A financial contract could bring the same or better reliability value to a system than a physical asset, depending on what obligations the contracting entity has to deliver to the system. Given that reliability determinations are generally probabilistic in nature, it is possible

7. Regarding the capabilities listed in question 4 above, what should be the qualification criteria for determining if a resource can meet these needs, assuming the information, communications and control systems are in place to support development of qualification criteria?

It is Renewable Northwest's understanding that a resource or resource portfolio's contribution to resource adequacy is generally best quantified through effective load carrying capability, or ELCC, which reflects the resource or portfolio's contribution to achieving a target loss of load probability ("LOLP") and reducing a system's loss of load expectation ("LOLE"). It is also Renewable Northwest's understanding that ELCC calculations can be tailored to specific times or locations and thereby used to determine what resources or resource portfolios can help meet temporal or locational needs. All in all, the ELCC concept helps to avoid a binary between reliability resources and other resources, as most resources' ELCC values will show some contribution to reliability. It is important to account for each resource or resource portfolio's incremental contribution to meeting different reliability needs.

As Renewable Northwest discussed in our opening comments, in our view stakeholders are still working to come to a collective understanding of system flexibility needs and benefits. Until stakeholders develop such a collective understanding, it may be premature to determine how a resource or resource portfolio may qualify as meeting flexibility needs; we look forward to reviewing other parties' comments.

8. Should supply-side and demand-side resources that demonstrate the capability to satisfy the qualification criteria for that type of capacity be valued in the same way?

Yes, any resource or resource portfolio -- including demand-side resources -- that contributes to reliability needs as determined through application of a consistent measure such as ELCC should be eligible for compensation on equal footing with other resources for the value it provides.

9. How should the value of each type of capacity be calculated and how should its temporal availability (e.g. short vs. long-term capacity) affect the valuation? ***In response to stakeholder requests for clarification, this question refers to the time period and duration for which a resource is committed by contract, ownership by a utility, or other arrangement.***

While Renewable Northwest continues to support ELCC as a baseline for determining capacity value, we look forward to reviewing other parties' comments on this matter and responding as appropriate.

10. How should temporal and durational attributes of capacity be calculated? In response to stakeholder requests for clarification, this question refers 'temporal availability' in a different sense: when and how a resource is capable of serving load, regardless of its ownership structure or contractual arrangements.

While Renewable Northwest continues to support ELCC as a baseline for determining capacity value, we look forward to reviewing other parties' comments on this matter and responding as appropriate.

11. If locational capacity is something that should be compensated, which factors should be used to inform the locational value of capacity?

a. Avoided transmission costs (or needed upgrades),

This factor is appropriate to consider for compensation, as avoiding costs associated with transmission rights or infrastructure may bring value to customers.

b. Avoided distribution costs (or needed upgrades),

This factor is appropriate to consider for compensation, as avoiding costs associated with distribution system upgrades may bring value to customers.

c. Impact of new capacity in a "load pocket," if applicable, or

This factor may be appropriate to consider for compensation, depending on where the load pocket sits in relation to the overall transmission system.

d. Other factors

Renewable Northwest has no comment on this question at this time.

12. How does the scale of a given resource affect its value?

a. Is there a threshold size of a project, above or below which its value to the system as a whole changes categorically, or out of proportion to an increase or decrease the number of MWs of power it can produce?
b. Could a threshold size in a specific location sometimes affect valuation?

As a general matter, a resource or resource portfolio's ELCC should reflect that value associated with that project's size. While resources or resource portfolios should generally be valued according to their capacity contributions, there may be a point at which the administrative costs associated with compensating that capacity outstrip the value of that capacity contribution. That said, however, smaller resources may be aggregated to provide significant benefits.

c. Could a threshold size affect whether MW-year or MWh compensation is appropriate.

Renewable Northwest has no comment on this question at this time.

13. Currently, simple-cycle gas plant costs are generally used to value capacity. Is this method still appropriate for some types or categories of capacity?

No, using a simple-cycle gas plant as a proxy reflects an increasingly outdated paradigm in which capacity is shorthand for dispatchable thermal generation rather than the nuanced concept that has been discussed in workshops and stakeholders' comments in this docket.

In addition to the Rocky Mountain Institute's "clean energy portfolio" concept that has been briefly discussed above as a means of meeting capacity needs,[5] utilities are recognizing that

[5] *See id.*

capacity needs may be met with diverse non-emitting resources. For example, PacifiCorp's 2019 IRP shows the following approach to meeting its capacity needs:

Figure 8.43 – Meeting PacifiCorp's Capacity Needs with Preferred Portfolio Resources

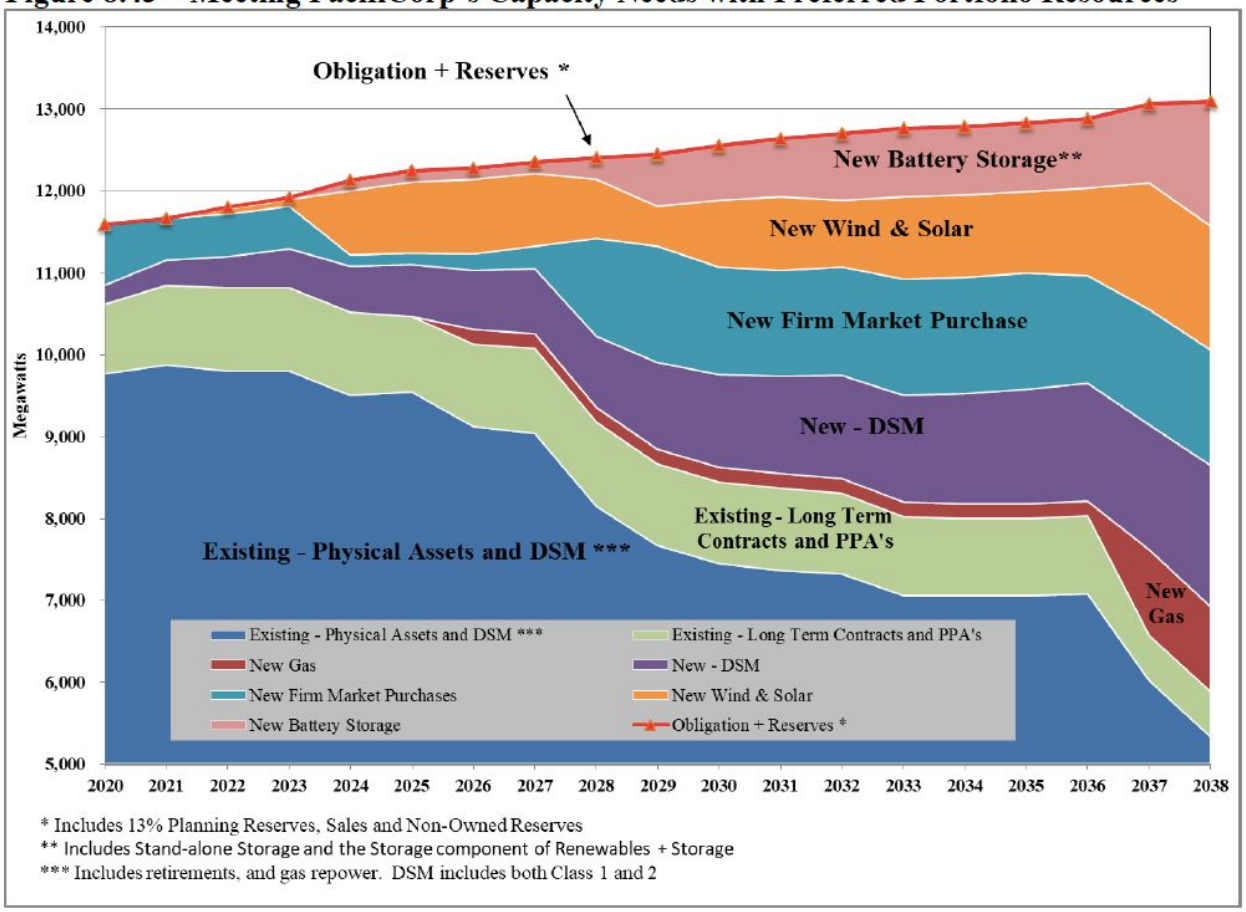

Figure 1: Meeting PacifiCorp's Capacity Needs with Preferred Portfolio Resources from PacifiCorp 2019 Integrated Resource Plan at 256.

Even the new gas that appears in that figure is uncertain:

> New natural gas peaking resources appear in the preferred portfolio starting in 2026, which is outside the action-plan window. This provides time for PacifiCorp to continue to evaluate whether non-emitting capacity resources can be used to supply the flexibility necessary to maintain system reliability long into the future.[6]

[6] PacifiCorp 2019 IRP at 251.

As the energy system continues its transformation to a modern, flexible regime where diverse non-emitting resources meet system needs, locking into a traditional proxy resource does not seem appropriate.

14. Should capacity compensation for Distributed Energy Resources (DER) be based solely upon contribution to meeting an identified system need, or should it be supplemented with other factors considered in DER valuation? How relevant are the following factors for capacity valuation, and which are missing?

While DERs should be compensated according to the full suite of values they bring to the system, Renewable Northwest's experience with the Resource Value of Solar ("RVOS") dockets (UM 1716, 1910, 1911, and 1912) suggests that complex formulae for determining the sum of those values may make it difficult for stakeholders to gauge the accuracy of the resulting compensation. Additionally, the process for setting those formulae can be significantly time- and resource-intensive for all entities involved. On a similar note, the categories included in this question from the Request for Comment (avoided environmental costs, avoided fuel costs, avoided plant O & M costs, avoided generation capacity costs, avoided costs of transmission upgrades, avoided distribution capacity costs, new costs for distribution system technologies, costs associated with forecasting, ability to dispatch, and avoided costs of reserve capacity) include both RVOS elements that have proved fertile ground for disagreement and new elements that seem to offer the same potential.

15. How can proper calculation of RA capacity help to cost effectively address the region's RA issues?

Proper calculation of RA (Resource Adequacy) capacity will help stakeholders understand the true contributions of new and existing resources toward achieving regional resource adequacy and avoid responses such as costly infrastructure overbuilds, new investment in thermal resources that are likely to become stranded assets while contributing to climate change,[7] and underinvestment in cost-effective renewable resources.[8] Proper calculation of RA capacity will also help inform stakeholder conversations launching now in an effort to reach a consistent understanding of resource adequacy throughout the region, as well as efforts to build a more comprehensive market for electricity resources across the western United States.

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[7] *See* Initial Comments of Renewable Northwest, Oregon Public Utility Commission Docket No. UM 2011 at 6 (Dec. 16, 2019), discussing Rocky Mountain Institute, "A Bridge Backward? The Risky Economics of New Natural Gas Infrastructure in the United States" (Sept. 9, 2019), *available at* https://rmi.org/a-bridge-backward-the-risky-economics-of-new-natural-gas-infrastructure-in-the-united-states/.

[8] Lazard's Levelized Cost of Energy Analysis—Version 13.0 at 10 (Nov. 2019), *available at* https://www.lazard.com/media/451086/lazards-levelized-cost-of-energy-version-130-vf.pdf.

16. Given your answers to all of the above questions, do you have recommendations about what types of capacity should be compensated, how to define those types of capacity, and do you have examples of calculations or methodology suggestions you would like to offer?

All in all, it is important to capture the full suite of contributions diverse resources provide toward meeting capacity, reliability, and resource adequacy needs. Understanding the incremental contributions of new renewable resources and clean energy portfolios will help the region to meet its needs at the least cost and least risk while also generating the least greenhouse gas emissions. ELCC offers a probabilistic approach to identifying those incremental contributions.

IV. CONCLUSION

Renewable Northwest again thanks the Commission for this opportunity to comment regarding how to calculate and assign a value to capacity. We look forward to continued participation in this investigation.

Filed this 13th day of January, 2019,

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