



April 26, 2021

VIA ELECTRONIC FILING

Attention: Filing Center Public Utility Commission of Oregon P.O. Box 1088 Salem, Oregon 97308-108

Re: Docket UM 2011 – Public Utility Commission of Oregon, General Capacity Investigation

Attention Filing Center:

Attached for filing in the above-captioned docket is the Joint Utilities' Reply Comments.

Please contact this office with any questions.

Thank you,

Jennifer Miller Legal Assistant

Attachment

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 2011

Portland General Electric Company (PGE), PacifiCorp dba Pacific Power (PacifiCorp),

In the Matter of

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PUBLIC UTILITY COMMISSION OF OREGON,

General Capacity Investigation.

JOINT UTILITIES' REPLY COMMENTS

2 and Idaho Power Company (together, the Joint Utilities) respectfully submit these reply comments 3 in response to the Energy + Environmental Economics (E3) Whitepaper, filed on 4 December 15, 2020, Staff's Opening Comments, filed on January 14, 2021, and interested parties' initial comments, which were filed on March 8, 2021. The Joint Utilities appreciate the discussion 5 6 at the March 17, 2021 workshop and the opportunity to provide these written comments. 7 The Joint Utilities recommend that the Public Utility Commission of Oregon (the 8 Commission) adopt high-level and generally applicable principles for valuing capacity, rather than 9 an overly prescriptive and detailed methodology that may not be well-suited to every application 10 and may also be incapable of keeping up with the evolving utility industry. The Joint Utilities further recommend that the Commission not apply the capacity valuation framework determined 11 12 in this docket to Public Utility Regulatory Policies Act of 1978 (PURPA) matters absent full 13 consideration of these methodologies and the resulting compensation within the context of the

Commission's ongoing PURPA proceedings.

¹ Interested parties who submitted comments on March 8, 2021 include: Alliance of Western Energy Consumers (AWEC); NewSun Energy LLC (NewSun); Northwest & Intermountain Power Producers Coalition (NIPPC); NW Energy Coalition (NWEC); Obsidian Renewables LLC (Obsidian); Oregon Solar + Storage Industries Association (OSSIA); Renewable Energy Coalition (REC); Renewable Northwest; and Swan Lake North Hydro, LLC (Swan Lake).

Additionally, the Joint Utilities recommend that the Commission adopt the Effective Load
Carrying Capacity (ELCC) methodology as a framework for evaluating a resource's capacity
contribution within long-term planning and procurement, consistent with the broad agreement
among parties. This will ensure that parties have a common starting point as the Joint Utilities
develop modeling applications that work best for their systems and circumstances and incorporate
new techniques in the future. Furthermore, the Joint Utilities urge the Commission not to adopt
capacity valuation methodologies that conflict with the Joint Utilities' current practices regarding
Integrated Resource Plans (IRP).
Finally, the Joint Utilities believe Commission should also reject Staff's recommendation

Finally, the Joint Utilities believe Commission should also reject Staff's recommendation for an arbitrary resource sufficiency period that is contrary to well-established resource planning principles and recommend against forecasting annual resource capacity contributions across the planning horizon to better ensure that customers do not pay for unnecessary capacity in violation of PURPA's customer indifference mandate.²

A. The Joint Utilities Recommend that the Commission Retain Flexibility and Adopt Generally Applicable Principles for Valuing Capacity that are not Overly Prescriptive.

The Joint Utilities agree with other parties, such as REC, that the scope and potential outcome of this docket remain unclear.³ Docket UM 2011 was opened in 2019 as an investigation into capacity valuation to develop a general methodology to consider across a broad range of applications, including energy efficiency, demand response, utility resource planning, and

² See, e.g., In the Matter of Portland Gen. Elec. Co. v. Pacific Northwest Solar LLC, Docket No. UM 1894, Order No. 18-025 at 7 (Jan. 25, 2018) ("[O]ne critical feature of our implementation of PURPA, including (but not limited to) the terms and conditions of our regulated PURPA contracts, is the need to ensure that ratepayers remain financially indifferent to QF development."); In the Matter of Staff's Investigation Relating to Electric Utility Purchases from Qualifying Facilities, Docket UM No. 1129, Order No. 05-584 at 11 (May 13, 2005) ("We seek to provide maximum incentives for the development of QFs of all sizes, while ensuring that ratepayers remain indifferent to QF power by having utilities pay no more than their avoided costs.") (emphasis added).

³ See Joint Utilities' Initial Comments at 4 (Mar. 8, 2021); REC Initial Comments at 2 (Mar. 8, 2021) ("Before proceeding in this docket, the Coalition urges Staff to clarify their vision for this docket.").

Oualifying Facility (QF) avoided cost pricing, among others.⁴ While stakeholders have made 1 2 significant strides in their understanding of capacity in this proceeding, there is still confusion 3 regarding the ultimate outcome of this investigation, i.e., what Staff will recommend the 4 Commission adopt as a capacity valuation methodology and whether and how that methodology would apply to other dockets and programs.⁵ Specifically, the March 17, 2021 workshop 5 6 demonstrated that questions still remain as to: (a) how this docket relates to docket UM 2000 and 7 whether it would address capacity valuation matters in the context of PURPA avoided cost pricing, such as the framework for determining utility resource sufficiency and deficiency; ⁶ (b) whether 8 9 this docket would feed into Docket UM 2038, which is investigating treatment of QFs in the utility IRP process; 7 (c) whether this docket would overlap with Docket AR 631 regarding terms and 10 11 conditions for standard Power Purchase Agreements (PPAs) by addressing, for example, minimum 12 delivery requirements for intermittent resources and how utilities annually update avoided cost prices; and (d) how the outcome of this docket would impact integrated resource planning.⁸ The 13 Joint Utilities agree with REC that "clarity on purpose is the only way to ensure stakeholders are 14 adequately informed as to the proceedings that may affect their interests." Thus, the Joint Utilities 15

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⁴ In the Matter of Pub. Util. Comm'n of Or., Gen. Capacity Investigation, Docket No. UM 2011, Order No. 19-155, App. A at 2 (Apr. 26, 2019).

⁵ NWEC Initial Comments at 1 (Mar. 8, 2021) ("[T]here is not currently a clear understanding of the range of PUC regulatory processes that should be informed by the outcomes of this docket.").

⁶ Joint Utilities' Initial Comments at 2-3; *see also* REC Initial Comments at 4-5. "Resource sufficiency and deficiency definitions, as applied in a PURPA context, are based upon a broader range of issues than the Joint Utilities' need for capacity. For example, a utility's resource deficiency period for renewable resources is currently defined by the anticipated date of a subsequent renewable resource procurement to meet long-term renewable portfolio standard requirements. While the scope of UM 2011 should include discussion of appropriate methods to determine the value of capacity in periods of capacity adequacy and inadequacy, it should not include proposals that adjust the broader notions of resource sufficiency and deficiency as applied in PURPA avoided cost pricing." Joint Utilities' Initial Comments at 2-3 n.3.

⁷ REC Initial Comments at 4-5.

⁸ Joint Utilities' Initial Comments at 3-4.

⁹ REC Initial Comments at 5.

urge Staff to squarely address stakeholders' concerns and provide greater clarity regarding Staff's view of the outcome of this docket.

To aid Staff, the Joint Utilities caution against prescriptive requirements and instead recommend that the capacity valuation methodology adopted here reflect high-level principles of general applicability and leverage a methodology such as ELCC as an initial framework. But the Joint Utilities also suggest acknowledging the evolution of methods to evaluate capacity value. Methodologies for determining and valuing a resource's capacity contribution are becoming more refined, in part because of more advanced modeling techniques employed for long-term resource planning and also because of rapidly advancing technological developments, such as more widespread adoption of utility-scale storage systems.

Over the course of this docket, it has become clear that a single capacity valuation methodology is not necessarily well-suited for all potential applications identified by Staff, which have different purposes and desired outcomes and are subject to different legal and regulatory constraints. Overly prescriptive requirements may hinder a utility's ability to take advantage of emerging modeling techniques or fully capture new technologies. Moreover, regional efforts to address resource adequacy issues could also impact capacity valuation methodologies and maintaining flexibility will advance, rather than hinder, those regional efforts. Adopting high-level principles of general applicability will ensure that the outcome of this docket does not run afoul of other concurrent investigations or create unintended consequences when applied across various applications. Such a flexible approach has proven successful before where the

Commission developed and adopted the resource value of solar (RVOS) methodology but allowed for separate investigations to determine how RVOS would be used in other applications. ¹⁰

The Joint Utilities thus recommends that the Commission not apply the capacity valuation methodology adopted here to other applications, like QF avoided cost pricing or integrated resource planning, without first testing whether the methodology creates reasonable outcomes when used in a specific application. For example, when evaluating an avoided cost price for QF transactions, the avoided cost of capacity cannot be established in isolation and without consideration of the avoided cost of energy to ensure that the overall payment to the QF does not exceed the utility's avoided cost. The Joint Utilities continue to recommend that methodologies determined in this docket should not be applied wholesale to other PURPA matters by the Commission, absent significant consideration of utility-specific avoided cost pricing and other relevant factors in the context of those proceedings. The Joint Utilities, therefore, do not support the adoption of prescriptive rules that dictate specific valuation requirements, such as a statutory three-year deficiency period (which is discussed in greater detail below). The generally applicable methodology adopted here should not preclude methodological refinements when applied for a specific purpose.

The Joint Utilities believe that all three phases of Docket UM 2011 have been valuable and provided the Commission and stakeholders with a better understanding of what capacity is, how it is acquired, and how it is valued. The Joint Utilities believe this background will prove invaluable to the Commission when it addresses capacity issues in other dockets and other applications.

¹⁰ In the Matter of Pub. Util. Comm'n of Or., Investigation to Determine Resource Value of Solar, Docket No. UM 1716, Order No. 17-357, at 17 (Sept. 15, 2017) ("We have not determined how RVOS will apply to community solar (nor any other application), but see value in having parties begin implementation discussions within this phase and not wait until the end of Phase II.").

- 1 However, the Commission must remain flexible to changing circumstances and tailor the high-
- 2 level methodology adopted here to each specific application.

B. There is Broad Agreement among Joint Utilities and Parties Regarding the 3 4 Methodology for Determining Capacity Contribution.

5 Many parties have reached general consensus on (1) using ELCC generally; (2) using last-

in and portfolio ELCC methods; and (3) advising caution for using heuristic estimations.

1. Parties Support Use of ELCC Generally

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The Joint Utilities and other parties support Staff and E3's recommendations for determining capacity contribution based on the techniques reflected in the ELCC methodology, which is broadly viewed industry wide as the most accurate way to calculate the capacity contribution of resource types including, but not limited to thermal, renewables, storage, and demand response. As a general matter, the Joint Utilities support using ELCC as a framework for evaluating their specific capacity contribution techniques because it uses probabilistic analysis to determine capacity contribution based on loss-of-load probability (LOLP) principles. Similarly, Renewable Northwest commented that it "has long supported use of ELCC to determine capacity[,]"11 NWEC stated that "E3's advocacy for the ELCC method is welcome[,]"12 and OSSIA agreed with Staff "that ELCC are a useful way to measure the capacity a resource can provide[.]"¹³ Consequently, stakeholders are in general agreement that ELCC is an appropriate method to evaluate capacity contribution.

2. Multiple Stakeholders Support the Use of Last-in and Portfolio ELCC Methods

Multiple stakeholders also agree that last-in and portfolio ELCC are sound methods to calculate capacity contribution of a resource as such methods better capture resource additions and

¹¹ Renewable Northwest Initial Comments at 3 (Mar. 8, 2021).

¹² NWEC Initial Comments at 3.

¹³ OSSIA Initial Comments at 4 (Mar. 8, 2021).

1 interactive effects to the system. Renewable Northwest aptly contends that "[1]ast-in ELCC will

be more appropriate since it captures the marginal effect of a particular resource addition to the

fleet."¹⁴ The Joint Utilities agree that in most applications, such as QF avoided cost pricing, the

last-in ELCC method is appropriate to determine the capacity contribution of a particular resource.

The Joint Utilities also agree, however, with stakeholder comments that evaluating capacity

contribution for purposes of integrated resource planning includes an assessment of the utility's

entire resource portfolio, inclusive of potential resource additions. NWEC correctly notes that an

individual resource "ELCC does not consider the interactive effects of ensemble or portfolio

additions to the system... [and] actual procurements increasingly and correctly take an all-source

perspective."¹⁵ When developing an IRP or evaluating a request for proposal (RFP), the Joint

Utilities necessarily focus on the *portfolio* of resources that meet the utility's identified resource

need at least-cost and least-risk while ensuring system reliability.

3. Stakeholders Acknowledge the Challenges Associated with Heuristic Estimations

Stakeholders are in general agreement that the Commission should *not* require the use of heuristic methods to approximate ELCC. Staff and E3 ultimately recommended against using the more simplistic heuristic methods because they may produce inaccurate results.¹⁶ Renewable Northwest agreed that while heuristic methods "reduce the computational effort by either approximating the relationship between capacity added and LOLP or by focusing on some subset of hours that are considered to be high risk for LOLP[,]"¹⁷ such methods fail to capture other

factors that influence ELCC, such as maintenance schedules and the hourly operations of utilities'

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¹⁴ Renewable Northwest Initial Comments at 7.

¹⁵ NWEC Initial Comments at 4.

¹⁶ Staff Opening Comments at 4, 14-15 (Jan. 14, 2021).

¹⁷ Renewable Northwest Initial Comments at 7.

1	energy systems. ¹⁸ The Joint Utilities agree with other parties that heuristic methods, when applied
2	in long-term planning or procurement, could over or under attribute capacity contribution to
3	resources based on approximations of capacity need and resource behavior, which could result in
4	outcomes such as inappropriately crediting a resource with a capacity contribution even when the

utility portfolio has no actual remaining capacity need. 19

Additionally, heuristic approaches primarily work for generation-only resources, and not for energy storage and hybrid resources as using hourly LOLP heuristics fails to capture the duration of loss-of-load events and the resources' actual operational characteristics.²⁰ The Joint Utilities thus agree with E3, Renewable Northwest, and Swan Lake that hourly heuristic methods do not reflect actual dispatch and locational values for hybrid resources and storage because such methods fail to capture advances in technology and real-world operational capabilities for such resources.²¹ For the foregoing reasons, the Joint Utilities recommend that the Commission not adopt a simplified heuristic methodology for determining capacity contribution for long-term planning or procurement.

C. Capacity Valuation Methodologies in Conflict with Utility IRP Practices Should Not be Adopted.

The Joint Utilities recommend that proposed capacity valuation methodologies in conflict with utility IRP practices, such as REC's proposal that all utilities use the exact same capacity contribution model, ²² not be adopted. The Joint Utilities agree with Staff that utility-specific capacity contribution models should continue to be used in long-term planning and that each utility's application of capacity contribution in contexts outside the IRP should be consistent with

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¹⁸ See id.; Swan Lake Initial Comments at 3 (Mar. 9, 2021).

¹⁹ Swan Lake Initial Comments at 3; Joint Utilities' Initial Comments at 5-6 & 6 n.7.

²⁰ Renewable Northwest Initial Comments at 7-8; Swan Lake Initial Comments at 3-4.

²¹ Renewable Northwest Initial Comments at 7-8; Swan Lake Initial Comments at 3-4; E3 Report at 7-8 (Dec. 15, 2020).

²² REC Initial Comments at 15.

and faithful to the IRP methodology, which is also used by the Joint Utilities to evaluate resource procurements through RFPs.²³

Requiring all utilities to use the same model would conflict with IRP methodology as the uniform model would not recognize essential differences between the utilities regarding the time period of need (summer/winter), the magnitude of need, differences in existing portfolio composition, and other circumstances. Utility-specific models capture these essential differences. Accordingly, the Joint Utilities have each developed a capacity value model specific to that company's conditions and resources, and it is unclear how REC would propose a uniform capacity valuation model that meets all utilities' needs. The Joint Utilities also reject REC's accusation that utilities use utility-specific capacity valuation methodologies to "game" the system, reduce avoided costs, or otherwise confuse parties and Staff regarding differing models.²⁴ Employing utility-specific models to produce more accurate capacity values does not equate to gaming the system; rather, such flexibility is essential to recognize the individual circumstances of each utility and to protect the utilities' customers from overpaying for capacity.²⁵

Adopting capacity valuation methodologies that are inconsistent with IRP and RFP procurement practices would undermine the well-established least-cost, least-risk planning framework that has served customers well for many years and could result in the acquisition of higher-cost resources.

²³ Staff's Opening Comments at 9-10.

²⁴ See REC Initial Comments at 15.

²⁵ These models also appropriately assess capacity needs so that the utility can develop an action plan to address those needs.

D. Utility Customers Should Not Be Required to Pay for Capacity When It is Not Needed to Meet Reliability Targets.

When developing a long-term resource plan, the Joint Utilities use detailed and well-vetted methodologies to determine their forecasted load and then identify the least-cost, least-risk portfolio of resources to reliably serve future load. Historically, the sufficiency/deficiency demarcation date for PURPA avoided costs has been based on when the utility's resource plan identifies a need for additional capacity resources to reliably serve customers. Before there is an identified need for additional resources, the Joint Utilities do not pay a QF for capacity beyond the capacity costs reflected in forward market prices. 26 While this long-standing framework has generally worked well, the Joint Utilities are not opposed to developing a fundamentally different avoided cost framework, which the Joint Utilities understand will be addressed in Docket UM 2000. But the Joint Utilities oppose Staff's proposal in this case to create an arbitrary and artificial capacity need.

Staff proposes a capacity valuation methodology that would assume each utility needs capacity in three years regardless of what the IRP has determined. As a result, Staff recommends that the Joint Utilities begin paying for capacity from QFs immediately and ramp up the capacity payments over a three-year period.²⁷ That is, in year one, the utility would be deemed sufficient; in year four, the utility would be deemed deficient.²⁸ In years two and three, the resource would

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²⁶ During the sufficiency period, the avoided cost price is set using a firm market price index, which the Commission has correctly concluded does include a capacity component because it is a firm price. But the avoided cost price does not include a separate capacity component, which is applied only during the deficiency period. See In the Matter of Pub. Util. Comm'n of Or., Staff's Investigation Relating to Electric Utility Purchases from Qualifying Facilities, Docket No. UM 1129, Order No. 05-584 at 28 (May 13, 2005); In the Matter of Pub. Util. Comm'n of Or., Investigation Into Qualifying Facility Contracting & Pricing, Docket No. UM 1610, Order No. 14-058 at 8 (Feb. 24, 2014) ("The Commission requires electric utilities to set rates based on the cost of a proxy resource during periods of resource deficiency and on monthly market prices during periods of resource sufficiency."). ²⁷ Staff Opening Comments at 6; *see also* E3 Report at 9-11.

²⁸ Staff Opening Comments at 6.

1	receive partial capacity payments. ²⁹ The Joint Utilities disagree with this arbitrary approach—
2	divorcing the capacity need from any assessment of a utility's actual need—as it does not comport
3	with avoided cost principles generally. In addition, using this approach for PURPA pricing would
4	violate PURPA's customer-indifference standard by over- or under-compensating resources for
5	capacity, depending on a utility's specific circumstances at a given time. 30 Further compounding
6	the arbitrariness of Staff's proposal is the fact that it is unclear when the three-year clock starts—

at execution of the PPA or the commercial operation date.

Staff's proposal for a standardized deficiency date would not only conflict with current utility IRP practices, but also require utility customers to pay for capacity when such capacity is not needed by the utility to meet system reliability targets. REC's proposal that capacity should be paid on day one regardless of need is also arbitrary and violates PURPA's customer indifference principle.³¹

In addition, the Joint Utilities agree with stakeholders that Staff should clarify its proposal and specify, for example, whether "year one of a PPA" should begin at contract execution or resource online date.³² The Joint Utilities cannot properly evaluate this proposal without additional information and would need to evaluate such a proposal in the context of a broader investigation into avoided cost payments and frameworks. Accordingly, Docket UM 2000 would be a more appropriate proceeding within which to resolve this matter.

²⁹ See id.

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³⁰ See Hydrodynamics Inc., 146 FERC ¶ 61,193 at ¶ 35 (Mar. 20, 2014) (referencing City of Ketchikan, 94 FERC ¶ 61,293 at ¶¶ 62,061-62 (Mar. 15, 2001)) ("[A]voided cost rates need not include the cost for capacity in the event that the utility's demand (or need) for capacity is zero. That is, when the demand for capacity is zero, the cost for capacity may also be zero.").

³¹ REC Initial Comments at 10-12.

³² See REC Initial Comments at 11; NewSun Initial Comments at 4-5 (Mar. 8, 2021).

E. Customers are Exposed to Risk when Attempting to Forecast Capacity Contributions Across a Resource's Useful Life

Currently, the Joint Utilities establish a resource's capacity contribution through ELCC or a probabilistic production cost modeling comparable to the ELCC methodology, based on their projected system composition and resource data from a historical test year. That static capacity contribution is then used in the IRP and for purposes of determining avoided cost pricing. Staff recommends that the Joint Utilities forecast a resource's capacity contribution annually across the planning horizon, but the Joint Utilities are unclear whether Staff's proposal would identify last-in ELCC values across the planning horizon after accounting for the resource additions forecasted in the IRP or whether the proposal would require no portfolio actions before assigning a capacity contribution across the resource life. In either case, stakeholders recognize that assumptions adopted today are likely to prove inaccurate over long planning horizons such that either interpretation of Staff's proposal would burden customers with additional risk that could contribute to higher portfolio costs.³³

Consistent with Commission policy and practice, utilities acquire capacity to meet near-term needs that are recognized as likely to persist into the future. Utilities use this risk-averse practice of procuring capacity to meet near-term needs as accurate forecasting of capacity contribution in later years of a long-term planning horizon is difficult due to the fact that essential elements of a utility portfolio remain uncertain, such as future load and resource costs, and the ability of utilities to access markets to assist in meeting capacity needs. Utilities are thus cautioned against, and generally avoid, procuring additional capacity to meet far-off needs that have yet to materialize and for which there remains considerable time to allow forecast uncertainties to resolve. In the IRP process and in long-term resource procurement—for instance in an RFP—

³³ See OSSIA Initial Comments at 4-5.

1 these uncertainties are addressed by evaluating portfolios over a range of potential future

conditions, and not just an expected case, in order to ensure that the selected outcome does in fact

represent the least-cost, least-risk option for customers.

Additionally, while parties agree that ELCC values would change as portfolios evolve,³⁴

5 the changes in the utilities' last few IRP preferred portfolios demonstrate that dramatic changes in

portfolio composition can occur over a short time. For example, when considering a utility's RFP

process, utilities cannot even predict whether the outcome will include wind, solar, solar plus

storage, or something else entirely. If utilities cannot forecast the outcome of an upcoming

procurement, the impracticality of requiring utilities to accurately predict portfolio technology

changes across a broader timeframe becomes apparent. A rigidly defined structure for that

forecast, such as Staff's proposed requirement for annual ELCC values, may result in precision

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³⁴ While Renewable Northwest is unclear whether its supports or opposes long-term forecasting, it does recognize that ELCC values could change over time due to "variations in load shape, operational characteristics, and resource additions." Renewable Northwest Initial Comments at 5.

- 1 without accuracy, leading to commitments to capacity payments that do not represent the most
- 2 accurate estimate today, let alone many years in the future.

DATED: April 26, 2021.

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