BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 1716, UM 1910, UM 1911 & UM 1912

In the Matters of

PACIFICCORP, dba PACIFIC POWER, Resource Value of Solar (UM 1910)
IDAHO POWER COMPANY, Resource Value of Solar (UM 1911)
PORTLAND GENERAL ELECTRIC COMPANY, Resource Value of Solar (UM 1912).

and

PUBLIC UTILITY COMMISSION OF OREGON, Investigation to Determine the Resource Value of Solar (UM 1716)

OPENING BRIEF OF RENEWABLE NORTHWEST

I. INTRODUCTION

Renewable Northwest is grateful to the Public Utility Commission of Oregon (the “Commission”) for this opportunity to submit our Opening Brief in these Resource Value of Solar (“RVOS”) dockets. This brief includes recommendations to the Commission that we find consistent with its aim to “get the best available estimate or approach to developing an estimate of the resource value of solar.”\(^1\)

Generally, we encourage the Commission to: 1) adopt a methodology for all of the elements of the RVOS; 2) specify that any Integrated Resource Plan ("IRP") inputs must come from the most up-to-date and acknowledged IRP or IRP update; and 3) explore options for valuing capacity additions incrementally during resource sufficiency. Utility specific

\(^{1}\) Re OPUC, Investigation to Determine the Resource Value of Solar, Docket No. UM 1716, Order 15-296 at 2 (Sep.
recommendations include that the Commission reject: 1) the proposed use by PacifiCorp, dba Pacific Power (“PacifiCorp”) of its Partial Displacement Differential Revenue Requirement (“PDDRR”) methodology, 2) the methodology proposed by Idaho Power Company (“Idaho Power”) to calculate Administration, and 3) Idaho Power’s choice of system size for non-utility scale modeling purposes.

II. BACKGROUND

The Commission faces the difficult task of determining an initial RVOS estimate as part of a proceeding that is part of a lengthy and complex process. Because this process provides important context for the Commission’s determination, we review it here at some length.

Dockets UM 1910, UM 1911, and UM 1912 are part of the second phase of Investigation 1 of UM 1716. Once this phase of Investigation 1 is complete, the Commission will be able to adopt a methodology to calculate cost-shifts and determine the extent and direction of cost-shifts, if any, from customers with solar facilities participating in the net-metering program.²

House Bill 2893 (2013) directed the Commission to: “(a) Investigate the resource value of solar energy; (b) Investigate the costs and benefits of the programs for retail electricity consumers and how those costs and benefits are distributed among retail electricity consumers.”³ Based on its investigation into the value of solar (Docket No. UM 1673), in 2014 the Commission committed to “open a formal proceeding to determine the resource value of solar and the extent of cost-shift, if any, from net-metering[,] . . . [and] evaluate the reliability and operational impacts of increasing levels of solar generation.”⁴

³ Oregon Legislature, House Bill 2893 (2013), Section 4.1(a)(b).
⁴ Oregon Public Utility Commission, Investigation into the Effectiveness of Solar Programs in Oregon, p.i.v. (Jul. 1, 2014), available at
In February 2015, the Commission opened Docket No. UM 1716 as an “Investigation to Determine Resource Value of Solar.” Staff “conducted two scoping workshops to develop a scope for the following three independent, concurrent investigations:

1. Develop a resource value of solar for Oregon (Investigation 1);
2. Explore and determine to what extent the fixed cost recovery is an issue for Oregon (Investigation 2); and
3. Determine at what penetration level reliability impacts from solar affect Oregon (Investigation 3).”

In January 2016, the Commission held a workshop for Investigation 3, “Reliability Impacts of Solar on the Grid.” Subsequently, the Commission “considered the reliability information from the workshop, and . . . decided to close Investigation #3.” The Commission also announced its intention to pursue a smart inverter standard in a rulemaking.

In December 2015, Staff proposed to initiate Investigation 2 of UM 1716 to examine the extent of cost shifting, if any, from customers with solar facilities participating in Oregon’s net metering program. In denying Staff’s request and postponing Investigation 2, Administrative Law Judge Sarah Rowe stated:

The cost-shift calculation methodology and cost-shift determination should proceed after we complete the resource value of solar in Phase 1, Investigation 1. We will stagger the

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5 Re OPUC, Investigation to Determine the Resource Value of Solar, Docket No. UM 1716, Staff Comments at 3 (Jul. 15, 2015).
7 Id.
8 Re OPUC, Investigation to Determine the Resource Value of Solar, Docket No. UM 1716, Staff's Status Report to ALJ - Investigation #2 into the Extent of Cost Shifting, if any, from net metering at 5 (Dec. 22, 2015).
proceedings so that we do not unduly complicate what will already be a complicated
determination of the resource value of solar.\textsuperscript{9}

In November 2017, the Commission announced the completion of Phase 1 of
Investigation 1 of Docket No. UM 1716.\textsuperscript{10} Under Order 15-296, Phase 1 would examine
elements and methodologies while phase 2 would examine values for each utility using those
adopted methodologies.\textsuperscript{11} Order 15-296 discussed this two-phase process within the context of
“an in-depth review with detailed explanations and justifications of which elements are included
in the resource value and why, and which methodologies are appropriate for valuing an
element.”\textsuperscript{12} Once the second phase of Investigation 1 is complete, Renewable Northwest looks
forward to participating in Investigation 2 to determine the extent of cross-subsidization, if any,
from customers with solar facilities participating in Oregon’s net metering program.

\textbf{II. ARGUMENT}

The Commission’s aim with this investigation has been to “get the best available estimate
or approach to developing an estimate of the RVOS.”\textsuperscript{13} With that aim in mind, we encourage the
Commission to assign a methodology to all of the elements of the RVOS, including Avoided
Renewable Portfolio Standard (“RPS”) Compliance and Grid Services. We also encourage the
Commission to specify in its final orders for this phase of Investigation 1 that any IRP inputs that
utilities use must come from the most up-to-date and acknowledged IRP or IRP update. Finally,

\textsuperscript{9} Re OPUC, Investigation to Determine the Resource Value of Solar, Docket No. UM 1716, Ruling (Jan. 15, 2016)
(emphasis added).
\textsuperscript{10} Re OPUC, Investigation to Determine the Resource Value of Solar, Docket No. UM 1716, Order 17-357 at 1
(Sep. 15, 2017).
\textsuperscript{11} Order 15-296 at 2.
\textsuperscript{12} Id.
\textsuperscript{13} Id.
we encourage the Commission to explore options for valuing capacity additions incrementally during resource sufficiency.

In this brief, we also offer utility specific recommendations to ensure that these dockets result in the best available RVOS estimate. Specifically, we encourage the Commission to reject PacifiCorp’s proposal that it be allowed to use its PDDRR methodology. We also encourage the Commission to reject Idaho Power’s proposed methodology and value for the element Administration, and to direct Idaho Power to model a system size better reflective of the average size of a solar rooftop system.

A. It is essential to achieve a robust RVOS methodology before using any RVOS estimates outside of Investigation 1.

Throughout UM 1716, the Commission has expressed a commitment to obtaining a complete and result before using the RVOS for any applications. Indeed, in 2015 the Commission stated that its “aim is to get the best available estimate . . . of the resource value of solar” and that it “will not rush this comprehensive study.”14 In 2016, the Commission discussed the challenges of ensuring a thorough investigation, noting that it “need[ed] more information to better understand the parties’ rationale and evidence to support their proposed methodologies . . . as well as how those methodologies would be implemented.” The Commission also reiterated its commitments to “obtaining a deep understanding of these issues and . . . not rush[ing its] investigation.”15 The Commission continued: “given the importance of determining the resource value of solar, we do not believe it to be in the public interest to make findings unless the record

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14 Id.
15 Order 16-404 at 2.
is sufficiently robust to inform sound decisions and to provide meaningful guidance and
direction.”

We encourage the Commission to adopt a methodology for all of the elements it
identified for the RVOS before using the RVOS outside of Investigation 1 of UM 1716.
Currently, the Commission has not adopted a methodology for some of the elements of the
RVOS. Specifically, the Commission has not adopted a methodology for Avoided RPS
Compliance, and Grid Services. We encourage the Commission to adopt methodologies that
capture these values before moving on to Investigation 2 and/or applying the RVOS in other
proceedings or policy discussions.

B. A robust RVOS methodology would include a methodology that values Avoided RPS
Compliance.

We encourage the Commission to adopt a methodology for estimating Avoided RPS
Compliance before applying the RVOS outside of Investigation 1. The Commission directed
utilities to assign a zero value as a placeholder for Avoided RPS Compliance in their initial
RVOS filing, stating that the Commission “will revisit the proper inputs for this element, and
will endeavor to assign a methodology before the end of Phase II.” The Commission went on to
find that “at the time the value or cost of avoided RPS compliance overlaps with several other
pending dockets.”

From its inception, Avoided RPS Compliance has been intended to capture the value
associated with the RPS compliance obligation that a utility avoids due to a reduction in load
related to a solar system instead of the value of a renewable energy credit (“REC”) transferred to

16 Id.
17 Order 17-357 at 13.
18 Id. at 13-14.
the utility. The Commission has recognized this distinction. For example, in October 2016, the Commission stated that “[t]here appears to be some agreement that a valuation of avoided RPS compliance should be based on a reduction in load due to increased solar PV generation.”

Similarly, as part of its straw proposal in Order 17-085, the Commission asked utilities to “estimate an avoided value based on reduction in load attributable to incremental solar generation in Oregon service areas.”

We encourage the Commission to reject arguments that Avoided RPS Compliance should be valued at zero if a utility does not need to procure bundled or unbundled RECs for RPS compliance in a given year. For example, PacifiCorp argues that “incremental costs for RPS compliance are unnecessary until 2035” because its existing REC bank is expected to be sufficient to meet Oregon RPS compliance obligations until that year. However, any reduction of load due to a customer self-generating results in a reduction in the utility’s RPS compliance obligation, freeing up RECs in the utility’s bank or reducing the utility’s need to procure bundled or unbundled RECs. Even when a utility already has a REC bank, the utility can continue to bank those RECs that are freed up or can sell them into the voluntary market. Therefore, Avoided RPS Compliance has a value even when the utility does not need to procure bundled or unbundled RECs to meet its immediate RPS compliance obligations. We encourage the Commission to adopt an RVOS methodology that includes a methodology for Avoided RPS Compliance and

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19 See Re OPUC, Investigation to Determine the Resource Value of Solar, Docket No. UM 1716, Staff/400 Olson/13 (Jul. 21, 2016) (“[C]ustomer-owned solar provides an RPS compliance value if it reduces the utility’s retail sales, e.g., through net energy metering. The reduction in RPS compliance is the applicable RPS percentage in any given year multiplied by the solar production. If the utility receives the REC, then an additional value would be provided by the solar equal to the full RPS value. This value would be in addition to the reduction in retail sales.”); See also UM 1716, Staff’s Comments at 6 (Jul. 15, 2015) (“A renewable portfolio standard (RPS) requires the utility to obtain a portion of their energy used to serve retail load from renewable sources. The portion that the utility needs to meet the RPS standards is determined by applying a percentage to the utility load. That is why reducing load via solar reduces the compliance costs.”)

20 Order 16-404, Appendix A at 2–3.

21 Order 17-085 at 6.

that captures its full value in recognition that “the best available estimate or approach to developing an estimate of the [RVOS]” would include this element.

C. A robust RVOS methodology would include a methodology and value for Grid Services.

Like with Avoided RPS Compliance, the Commission directed the utilities to assign a zero value to Grid Services but “retain[ed] this element to capture the potential incremental system benefits from solar in the future.”

On April 26, 2018, the IEEE published the IEEE 1547-2018 Standard for Interconnection and Interoperability of Distributed Energy Resources (“DER”) and Associated Electric Power Systems Interfaces. The Chair of the IEEE 1547 Revision Working Group said that this new standard “provides utilities, DER developers, regulators, service companies, and equipment manufacturers a uniform set of consensus-based requirements for grid interconnection and grid support …” including “meeting requirements for the provision of reactive power of reactive power and to ride through voltage and frequency disturbance.” We encourage the Commission to consider whether its current direction that utilities use a value of zero for Grid Services remains appropriate given the IEEE 1547-2018 Standard Revision.

D. RVOS Inputs Should be Up-to-date and Vetted.

Renewable Northwest encourages the Commission to expressly require in its order(s) concluding the second phase of Investigation 1 that any IRP inputs used to estimate the RVOS

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23 Order 17-357 at 16.
25 Id.
are from up-to-date and acknowledged IRPs or IRP updates. Staff agrees with this position, and we are encouraged to see utility agreement with the use of up-to-date inputs.

E. Solar still provides capacity value during periods of resource sufficiency.

Renewable Northwest’s witness, Michael H. O’Brien, has testified before in these dockets on the importance of properly valuing capacity, as have other stakeholders. Indeed, the Commission noted in Order 17-357 in this docket that Commission Staff’s consultant Energy and Environmental Economics (E3) “... recommended that avoided O&M costs be assigned as a generation capacity value during the sufficiency period.” Order 17-357 also asked Commission Staff and the UM 1716 parties to “explore options for valuing capacity additions incrementally during resource sufficiency.” The June 13, 2018, Notice of Commissioner Examination and Memorandum for Dockets No. UM 1716, UM 1910, UM 1911, UM 1912 also included “Capacity Values” as a topic of interest, but the issue of capacity value during resource sufficiency periods has not been fully explored by the Commission in the context of the RVOS. There is sufficient evidence to determine that a value of zero is not appropriate; therefore, we recommend that the Commission explore options for valuing capacity additions incrementally during resource sufficiency.

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27 See Re PacifiCorp, Resource Value of Solar, Docket No. UM 1910, PAC/300 MacNeil/13 (Apr. 20, 2018) (“PacifiCorp intends to provide updated RVOS values incorporating the 2017 IRP when they are available.”).
29 Order 17-357 at 5.
30 Id. at 7.
F. PacifiCorp’s proposed use of its PDDRR methodology in estimating the RVOS is not appropriate or justified.

The Commission allowed PacifiCorp to provide a 12 x 24 block from its PDDRR methodology as a reference point for energy and capacity. The Commission stated that it would “balance accuracy, transparency and accessibility to parties as [it] review these values and determine the best methodology for RVOS moving forward.” We encourage the Commission to reject the use of PDDRR in estimating the RVOS because 1) it is not appropriate for systems of the size currently known to be relevant for the RVOS, and 2) the Company has not shown that its claims of increased accuracy from PDDRR outweigh the transparency and accessibility issues that use of the methodology raises.

1. PDDRR is not an Appropriate Methodology for Use in Estimating the RVOS for Systems under 3 MW.

PacifiCorp’s proposal to use PDDRR in calculating the RVOS is not reasonable or appropriate given that the RVOS is expected to be applied to relatively small systems. PacifiCorp proposes to use its PDDRR methodology in calculating the RVOS because the Company considers that it would lead to a “more-up-to-date and accurate forecast of the value of solar.” However, we understand that the Commission has not found PDDRR appropriate for use in calculating rates for, or values of, systems of the size that the RVOS is currently expected to be applied to.

Although in Order 15-296 the Commission signaled that it did not want to prejudge application of the RVOS, we currently know of two likely applications: 1) to inform the

31 Id. at 4.
32 Id.
34 Order 15-296 at 2.
calculation of a bill credit rate for community solar that “reflects the resource value of solar energy”; and 2) to inform Investigation 2 of UM 1716 into the extent of cost-shifting, if any, from net metering. Both of these applications involve solar systems ranging from a few kW up to 3 MW. However, we understand that the Commission has not found PacifiCorp’s PDDRR methodology appropriate for use in calculating rates for resources of that size. In fact, for purposes of Qualifying Facility (“QF”) avoided cost rates, the Commission has only determined that the PDDRR methodology is appropriate for use in the context of rates applicable to solar systems larger than 3 MW.

2. Transparency and Accessibility Raised by the Use of PDDRR Weigh in Favor of not Allowing PacifiCorp to use the Methodology to Estimate the RVOS

We encourage the Commission to reject PacifiCorp’s proposal to use its PDDRR methodology in estimating the RVOS based on application of Commission precedent. The Commission’s test for the use of PacifiCorp’s PDDRR methodology balances accuracy, transparency and accessibility to parties. Here, the Company has not shown that any alleged increases in accuracy would outweigh the issues of transparency and accessibility raised by the PDDRR methodology.

PacifiCorp’s PDDRR methodology is sufficiently complex as to require specific training, access to the company production cost model (GRID), and technical assistance. When PacifiCorp proposed using its PDDRR methodology in the context of non-standard avoided cost rates for QFs, applicable to solar systems larger than 3 MW, stakeholders raised concerns with the increased complexity and lack of transparency associated with the use of the model-based

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35 Oregon Legislature, Senate Bill 1547 (2016), Section 22(6)(a).
36 Re OPUC, Staff Investigation Into Qualifying Facility Contracting and Pricing, Docket No. UM 1610, Order 16-174 at 23 (Oct. 25, 2016).
37 Id.
methodology.\textsuperscript{38} Staff also acknowledged the issue of complexity, but determined that the methodology was justifiable for larger QFs.\textsuperscript{39} However, Staff noted a need for transparency and recommended “rules requiring PacifiCorp work cooperatively with QFs and run the GRID scenarios and sensitivity analyses in a transparent manner reasonably accessible to QFs.”\textsuperscript{40}

In approving the use of the methodology in that context, the Commission recognized that using “the PDDRR method to establish nonstandard avoided cost prices should be as transparent and comprehensible as possible to QF developers and all interested parties.”\textsuperscript{41} The Commission also thanked PacifiCorp for its offers to make its production cost model (GRID) open to QF developers, asking that PacifiCorp “make access, training, and technical assistance available upon entry of this order.”\textsuperscript{42}

In summary, use of PacifiCorp’s PDDRR methodology raises questions of transparency and accessibility to parties (the Commission, Staff, other utilities, installers, developers, environmental advocates, community solar and net energy metering stakeholders, trade groups, municipalities, and customers) likely to be involved in proceedings related to the use of the RVOS methodology. The Company has not shown that any gains in accuracy outweigh those concerns. Therefore, the Company has not met the Commission’s test for use of the methodology. Accordingly, we encourage the Commission to reject this proposal.

\textsuperscript{38}Id. at 22 (“Coalition worries that a model-based method will increase negotiating costs for QF and intensify disputes. . . . CREA urges us to reject PacifiCorp’ recommendation to adopt a computer modeling methodology for calculating non-standard avoided cost rates. A computer model is problematic for a QF developer, CREA explains, because of the need to retain outside technical expertise. Without such expertise, CREA contends, a proprietary model is essentially a "black box." CREA worries that PacifiCorp’s proposal will require QF developers to incur significant costs very early in the development process.”)
\textsuperscript{39} Id. at 20.
\textsuperscript{40} Id.
\textsuperscript{41} Id. at 23.
\textsuperscript{42} Id.
G. Idaho Power’s use of existing programs to estimate Administration is not appropriate.

With Order 17-357, the Commission “largely adopt[ed] the RVOS methodology proposed by E3 to produce a 25-year marginal, levelized value for a generic, small-scale solar resource installed in 2017.” Oregon’s Volumetric Incentive Rate (“VIR”) program expired in March 2016. Although Order 17-357 called for the methodology to be applied to solar resources installed in 2017, that could not be part of the then expired VIR program, Idaho Power chose to determine the value for the element Administration “by reviewing the actual costs incurred for the Oregon Solar Photovoltaic Pilot Program in 2016.” Instead, Renewable Northwest expected Idaho Power to estimate Administration based on net-metering, as done by PGE and PacifiCorp.

In his testimony, Renewable Northwest’s witness, Michael H. O’Brien, highlighted that Idaho Power’s use of the Oregon Solar Photovoltaic Program Pilot administration costs does not make sense in the context of Dockets UM 1716 and UM 1911. In response, Idaho Power stated that “[Renewable Northwest] made no recommendation on how to value the administrative cost element of RVOS.” While Idaho Power correctly points out that Mr. O’Brien made no recommendation in his testimony, it did not rebut Mr. O’Brien’s concern that VIR administration costs are inapplicable in these dockets.

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43 Order 17-357 at 1.
Renewable Northwest is not alone in expressing concerns with Idaho Power’s decision to rely on the VIR to estimate its Administration costs for purposes of the RVOS. Indeed, Staff also expressed concerns with Idaho Power’s methodology. Specifically, Staff stated that it “doesn’t support the application of the annual costs of a specific past program to the annual MWh volume in that program to determine costs of a future program using RVOS-based rates.” In summary, Idaho Power’s proposed methodology is not appropriate for use in estimating the RVOS. Therefore, we encourage the Commission to direct Idaho Power to adopt a methodology for Administration that, like Portland General Electric’s and PacifiCorp’s, is based on net-metering.

**H. Idaho Power should model an appropriately sized small-scale solar system.**

As Mr. O’Brien’s Opening Testimony indicates, the standard size project that Idaho Power used for a “small-scale solar resource installed in 2017” was 0.41 MW, or 410 kW. Renewable Northwest remains concerned that is almost 70–80 times the size of a typical 5–6 kW solar rooftop system. As a result, we encourage the Commission to direct Idaho Power to model a more appropriately sized system.

**III. CONCLUSION**

Renewable Northwest again thanks the Commission for this opportunity to submit our Opening Brief. The brief includes recommendations consistent with the Commission’s aim to “get the best available estimate or approach to developing an estimate of the resource value of solar.” We encourage the Commission to: 1) adopt a methodology for all of the elements of the RVOS; 2) specify that any IRP inputs must come from the most up-to-date and acknowledged sources.

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50 Order 17-357 at 1.
52 Order 15-206 at 2.
IRP or IRP update; and 3) explore options for valuing capacity additions incrementally during resource sufficiency. We also recommend that the Commission rejects: 1) PacifiCorp’s proposed use of its PDDRR methodology, 2) Idaho Power’s proposed methodology to calculate Administration, and 3) Idaho Power’s choice of system size for non-utility scale modeling purposes.

Respectfully submitted this 26th day of July, 2018.

/s/ Max Greene       /s/ Michael H. O’Brien     /s/ Silvia Tanner
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