BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1716

In the Matter of : PUBLIC UTILITY COMMISSION OF OREGON, Investigation to Determine the Resource Value of Solar.	STAFF OPENING BRIEF

I. Introduction.

Staff recommends that in this phase of the investigation into the resource value of solar (RVOS), the Commission adopt Staff's proposed methodology for determining RVOS and Staff's recommended list of ten elements of solar generation that should be valued in the methodology. Staff recommends that in the next phase of the investigation, the Commission address how to calculate the inputs for each of the elements included in the RVOS and make determinations of RVOS for each investor-owned utility.

There are few contested issues in this phase of the investigation. No party objects to the methodology proposed by Staff or the elements of solar generation that Staff proposes to include in the RVOS, although some parties believe additional elements should be included. However, *all* parties note that the Commission's determinations of how to calculate the inputs for each of the elements will be critical to the success of the Staff-proposed RVOS methodology. Accordingly, once the Commission makes a determination on whether to approve the Staff proposed methodology and list of elements included in RVOS, Staff and parties can address issues raised by parties as to how the inputs for each element should be determined.

II. Background.

On July 1, 2014, the Commission submitted to the Oregon Legislature a report regarding its 2014 "Investigation into the Effectiveness of Solar Programs in Oregon," in which it

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committed to "open a formal proceeding to determine the resource value of solar and the extent of cost-shifting, if any, from net metering[,]" and as part of the docket "evaluate the reliability and operational impacts of increasing levels of solar generation." After the Commission opened this docket in January 2015, Staff commenced the investigation into the resource value of solar (RVOS) by holding workshops with stakeholders to discuss the attributes of solar generation that should be considered in the determination of RVOS.[1]

Based on the discussions, Staff compiled and submitted to the Commission a list of 26 "elements" that might be included in the RVOS. The list compiled by Staff included elements related to (1) the benefits or costs of solar generation that accrue to utility's customers, (2) the benefits or costs of the solar generation that accrue to the generator, and (3) societal benefits.[2] Staff did not recommend that the Commission include all the listed elements in the RVOS, but recommended only the subset of elements for which benefits accrue to the utility's customers. All parties submitted comments with their own recommendations as to which elements are appropriately included in the RVOS.

The Commission declined Staff's request to determine which elements should be included in the determination of RVOS prior to the submission of proposed methodologies.[3] The Commission adopted a two-phase contested case process to complete its investigation of RVOS.[4] The Commission stated that it in the first phase it will determine which elements should be included in the determination of RVOS and the methodology or methodologies that should be used to value them. Although the Commission declined to identify which elements should be valued in the methodology, the Commission clarified that it would only consider elements that could directly impact the cost of service to utility customers.[5]

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[1] Staff/100, Dolezel/2.

[2] Staff/100, Dolezel/2.

[3] Staff/100, Dolezel/3.

[4] *In the Matter of Public Utility Commission of Oregon Investigation to Determine the Resource Value of Solar,* Order No. 15-296.

[5] *Id*.

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With respect to the second phase, the Commission stated that it will determine RVOS for each utility using the methodology or methodologies adopted in the first phase.[6]

III. Staff proposed methodology for determining RVOS.

A. Overview of the Staff-proposed methodology.

Following the Commission's order regarding the two phases of this investigation, Staff issued a Request for Proposals (RFP) and ultimately contracted with Energy and Environmental Economics, Inc., (E3), to create a methodology for calculating RVOS based on elements that could directly impact the cost of service to utility customers.[7] E3 created a Microsoft Excel-based model for calculating RVOS for Oregon's three investor-owned utilities (hereinafter the "RVOS Model").

The RVOS Model employs a time- and area-specific marginal cost approach to estimate the impact to the electric system of additional electric load or generation. E3 witness Arne Olson explains that time- and area-specific costing is used broadly in the electric industry for the purpose of estimating the impact of demand-side programs such as energy efficiency or demand response. The time- and area-costing takes into account the varying cost of energy (e.g., more expensive during peak periods), and the varying costs of transmission and distribution based on location of the resource.

Time-specific marginal costing has short-term and long-term elements. Short-term impacts include changes to the operation of electric generators, including locational differences in marginal energy due to transmission congestion. Longer-term impacts of distributed solar generation include potential change to the schedule of capital investments needed to maintain reliable and affordable electric service.[8] Longer-term locational impacts of distributed solar

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[6] *Id.*

[7] Staff/100, Dolezel/3.

[8] Staff/200, Olson/7.

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generation include deferred investments in transmission or distribution system facilities that would otherwise be needed to increase delivery capability.[9]

The RVOS Model translates data on individual avoided cost elements (listed below) into an hourly avoided-cost profile for each year of the economic life of a solar photovoltaic system. The RVOS Model uses hourly data when available because hourly values can capture the changing value of solar across the day and calendar year as energy and capacity becomes more or less expensive depending on load levels and other factors.[10] When data is not available for each hour, the RVOS Model can use one or a few values duplicated over many hours (e.g., energy values for heavy-load hours (HLH) and light-load hours (LHL)).[11] Or, a utility can extrapolate hourly data from proxy values.

The value of each element evaluated in the model can change over the time period examined in the model. For example, projected increases or decreases in fuel prices will affect the energy value, and the utility's resource position (sufficient or deficient) will affect the value for capacity.[12] However, the yearly values calculated by the RVOS Model can be levelized to represent the present value of a solar resource over its economic life.[13]

As currently configured, the model calculates the value of one type of solar resource at a single location. However, the model can be used to value the generation of any type of solar resource at any location, provided the correct data is input into the model. Different locational solar values can be calculated through successive model runs, substituting location-specific inputs such as distribution avoided costs. Additionally, the RVOS for different types of PV

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[9] Staff/200, Olson/9.

[10] Staff/200, Olson/29.

[11] Staff/200, Olson 29.

[12] Staff/200, Olson/27.

[13] Staff/200, Olson/28.

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systems such as residential or commercial can be calculated through successive model runs with different solar generation profiles.[14]

Although the RVOS Model can establish a separate RVOS for each distribution system feeder or substation, doing so would require hundreds or thousands of model runs. Alternatively, the RVOS Model can produce one or a few location-specific RVOS for each investor-owned utility. As noted by Mr. Olson, there are tradeoffs in terms of workability and simplicity for calculating the RVOS for more or fewer locations and types.[15]

B. Elements included in the RVOS and RVOS Model calculations.

As noted above, E3 started with the list of 26 elements of solar generation compiled by Staff with input from parties and stakeholders. E3 eliminated elements that did not meet the Commission's criteria (directly impact the cost of service to utility customers), and created a list of ten elements that it recommends be included in the calculation of RVOS. The ten elements are:

1. Energy
2. Generation Capacity
3. Line Losses
4. Transmission and Distribution Capacity
5. RPS Compliance
6. Integration and ancillary services
7. Administration
8. Market Price Response
9. Hedging Costs
10. Environmental Compliance

The RVOS Model calculates an hourly marginal avoided cost for each element for each of the 8760 hours of the year. After these hourly-avoided cost values are determined, these values are then added together to create an 8760-hour avoided cost profile that is the basis for the RVOS. Specifically, the mathematical formula is as follows:

[14] Staff/200, Olson/34.

[15] Staff/200, Olson/35.

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$$\forall h \in [1, \ldots, 8760]$$

$$\begin{aligned} Value_h = \quad & Energy_h \\ & + Generation\ Capacity_h \\ & + Line\ Losses_h \\ & + T\&D\ Capacity_h \\ & + RPS\ Compliance_h \\ & + Market\ Price\ Response_h \\ & + Hedge_h \\ & - Integration_h \\ & + Environmental\ Compliance_h \\ & - Administration_h \end{aligned}$$

The 8760 hourly avoided cost profile obtained under this formula is then multiplied by the 8760 hourly solar generation profile, and then divided by the total annual solar generation to yield an annual average RVOS.

$$\mathrm{ResourceValueOfSolar} = \frac{\sum_{h=1}^{8760}(\mathrm{Value}_h * \mathrm{SolarGeneration}_h)}{\sum_{h=1}^{8760}\mathrm{SolarGeneration}_h}$$

C. Inputs into the RVOS Model.

Staff's opening testimony includes examples of inputs into the model for each input. The elements and sample input calculations are set forth in the following chart. Staff does not propose that the Commission adopt the sample calculation methodologies for each of the inputs. Instead, Staff recommends that parties and the Commission address issues related to the inputs in Phase II of this investigation.

Line	Element	Calculation Methodology
1	Energy	Hourly marginal cost of energy including fuel (and associated fuel transportation costs), variable operations and maintenance, labor, and all other variable costs. $\forall h \in [1, \ldots, 8760]$ Energy_h

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2	Generation Capacity	Annual carrying cost of new generation capacity ($/MW-yr) allocated to hours of the year using hourly normalized capacity value allocators. The allocators represent an hourly system need profile (based on loss of load probability (LOLP) or another method), multiplied by the modeled hourly solar generation, and scaled so that the allocators sum to one across the hours of the year. Annual carrying cost of new generation capacity ($/MW-yr) is defined as net cost of new entry (net CONE). Net CONE is calculated as the levelized carrying cost of a capacity resource – the levelized fixed cost of the resource (likely a new simple cycle combustion turbine (SCCT)) minus expected revenues that resource could earn through market dispatch. In the near-term years when the utility is not in a period of resource deficiency, a value of zero is used since there are no deferrable capacity investments. Solar's contribution to peak is a technical concept that captures solar's ability to serve peak loads. Through OPUC Docket UM 1719, the utilities have worked to develop a methodology for calculating this value. Many utilities across the country use a metric called effective load carrying capability (ELCC) to calculate the contribution to peak. The hourly capacity allocators (net CONE, allocated using LOLP) are scaled to ensure that the final generation capacity value of solar results are consistent with the utility-estimated solar contribution to peak. $\forall h \in [1, \ldots, 8760]$ $\mathrm{GenerationCapacity}_h = \mathrm{CapVal} * \mathrm{LOLP}_h * \frac{\mathrm{CTP}}{\mathrm{SolarLOLPCoincidence}}$ where: CapVal = annual carrying cost of CT ($/MW-yr) – expected energy market revenues ($/MW-yr) in years of resource deficiency and fixed operations & maintenance ($/MW-yr) in years of resource sufficiency LOLP_h = hourly loss of load probability allocators $\sum_{h=1}^{8760} \mathrm{LOLP}_h = 1$ CTP = 'Contribution to Peak' (%) calculated through separate analysis $\mathrm{SolarLOLPCoincidence} = \frac{\sum_{h=1}^{8760} \mathrm{LOLP}_h * \mathrm{SolarGeneration}_h}{\sum_{h=1}^{8760} \mathrm{SolarGeneration}_h}$

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3	Line Losses	Hourly marginal T&D loss factors multiplied to corresponding avoided cost of energy. For generation capacity and transmission & distribution capacity, these values are grossed up based on peak marginal T&D loss factors. $\forall h \in [1, \dots, 8760]$ $LineLosses_h = Energy_h * LossFactor_h$
4	Transmission & Distribution Capacity	Marginal cost of transmission and distribution ($/MW-yr) allocated to hours of the year using transmission and distribution specific hourly LOLP profiles. $\forall h \in [1, \dots, 8760]$ $T\&DCapacity_h = T\&Dcost * T\&DLOLP_h$ where: $T\&Dcost =$ marginal cost of T&D ($/MW-yr) $T\&DLOLP_h =$ T&D hourly loss of load probability allocators $\sum_{h=1}^{8760} T\&DLOLP_h = 1$
5	RPS Compliance	The net incremental cost of a renewable resource multiplied by the RPS requirement. The net incremental cost of a renewable resource is calculated as the levelized cost of the marginal renewable resource minus its energy value, generation capacity value, and avoided emission value plus the integration and transmission costs of that resource. The RPS requirement (%) is incorporated since this represents the quantity of RPS purchases that are avoided for every unit of solar generation. $RPS\ Compliance_h = (RPS\ Price - RPS\ Energy\ Value - RPS\ Capacity\ Value - RPS\ Emission\ Value + RPS\ Integration\ Cost) * RPS\ \%$ where: RPS price = levelized power purchase agreement (PPA) cost of marginal RPS resource ($/MWh)

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		$$\text{RPS Energy Value} = \frac{\sum_{h=1}^{8760} \text{Energy}_h * \text{RPSGeneration}_h}{\sum_{h=1}^{8760} \text{RPSGeneration}_h}$$ $$\text{RPS Capacity Value} = \frac{\text{CapVal} * \text{RPS CTP}}{\sum_{h=1}^{8760} \text{RPSGeneration}_h}$$ $$\text{RPS Emission Value} = \frac{\text{EmissionCost} * \text{EmissionRate}_h * \text{RPSGeneration}_h}{\sum_{h=1}^{8760} \text{RPSGeneration}_h}$$ RPS Integration Cost ($/MWh) is calculated exogenously RPS % is the RPS requirement defined as a % of retail sales
6	Integration and Ancillary Services	$/MWh value provided by utilities that represents the net incremental cost of providing additional operating reserves, balancing services, and system operations required to integrate the solar resource.
7	Administration	$/MWh value provided by utility that represents the cost of interconnecting solar generators and any ongoing administrative costs such as billing. This value is uniform across all hours of the year.
8	Market Price Response	Estimated impact on Mid-Columbia price under a specified solar penetration ($/MWh) multiplied by utility net market purchases or sales (MWh). This total $ amount is then allocated to all solar generation (MWh) to yield a final $/MWh avoided cost value which is allocated equally to all hours. $$\text{Market Price Response} = \frac{\Delta\ \text{Market Price} * \text{Utility Net Short (Long)}}{\text{SolarGeneration}}$$ where: Δ Market Price = change in Mid-Columbia market price ($/MWh) due to solar Utility Net Short (Long) = the annual net sales or purchases (MWh) that each utility transacts at Mid-Columbia Solar Generation = total quantity of annual solar generation (MWh), note this quantity must be consistent with the quantity assumed to create the Δ Market Price
9	Hedge Value	Fixed % multiplied by the avoided cost of energy that represents the risk premium. $$\text{Hedge}_h = \text{Energy}_h * \%$$

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10	Environmental Compliance	Hourly marginal emission factor of carbon dioxide multiplied by the monetary cost of carbon dioxide. $\text{Environmental Compliance}_h = \text{EmissionFactor}_h * \text{EmissionCost}$ where: EmissionFactor_h $= \text{hourly marginal emission factor (tonne CO2 per kWh)}$ $\text{EmissionCost} = \text{compliance cost of CO2 emissions (\$ per tonne)}$

IV. Analysis.

The Oregon Department of Energy (ODOE), The Alliance for Solar Choice (TASC), the Citizens' Utility Board of Oregon (CUB), Portland General Electric (PGE), PacifiCorp, Idaho Power Company, and the following "Joint Parties": Renewable Northwest, the Oregon Solar Energy Industries Association, the NW Energy Coalition, and Northwest Sustainable Energy for Economic Development, filed response testimony commenting on Staff's proposed RVOS Model and recommendation regarding which elements should be included in the RVOS.

None of these parties objects to the methodology (i.e., the algebraic formulas) proposed by E3 to determine RVOS. And, with a few exceptions that are discussed in the section below, the parties are generally in agreement with the list of elements valued in the RVOS Model.[16] However, all parties note the importance of the inputs for each of the elements included in the RVOS, and that further investigation into determining how the inputs will be determined is

[16] Idaho Power/100, Youngblood/2 ("Idaho Power generally agrees that the elements proposed by Staff for inclusion in the model are appropriate and consistent with the Commission's direction to include only those elements that directly affect cost of service."); PAC/100, Dickman/3 ("In general, PacifiCorp does not object to the elements identified by Commission Staff for calculating a RVOS for distributed rooftop solar installations, in that the elements consider RVOS from the perspective of utility customers."); PGE/100, Brown-Murtaugh/3 ("[W]e find the elements proposed by Mr. Olson to be reasonable. Further, we feel that the ten elements accurately reflect the costs and benefits that would directly impact the cost of service to utility customers (as defined in Order No. 15-296 at 2."); ODOE/200, Broad and Delmar/3 ("ODOE agrees with the general sentiment expressed by the parties to this docket, with [the exception of the exclusion of security, resiliency, reliability and ancillary services provided by solar], the elements included in the proposed model are reasonable and appropriate[.]"

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necessary.[17] CUB goes so far as to testify that without further information about the model inputs, it cannot support the model.[18]

Staff agrees with parties regarding the importance of further investigation into the inputs for each element included in RVOS. However, final resolution of how to calculate the inputs for each element included in RVOS is not appropriate for this phase of the investigation. Instead, Staff recommends that the Commission determine whether to approve Staff's recommended RVOS Model and Staff's recommendation regarding the list of elements that should be included in RVOS. If the Commission accepts Staff's recommended RVOS Model and list of elements, parties can address how to determine what inputs will be used for each element valued in the RVOS Model in Phase II of this investigation.

A. Elements

Although no party objects to including of any of the ten elements identified by Staff in the calculation of RVOS, some parties believe that E3's list of elements appropriately included in RVOS is not complete. TASC asserts that the RVOS Methodology should have a placeholder for valuing social benefits of solar.[19] ODOE, CUB, and the Joint Parties believe the methodology should value the "resiliency, reliability, and security" benefits provided by distributed solar generation.[20] And, ODOE and the Joint Parties believe the element of "Integration and Ancillary Services" should be divided into two elements, one measuring costs of integration that the solar systems imposes on the system and the other measuring the "ancillary services" the system provides.[21]

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[17] See e.g., ODOE/200, Broad and DelMar/5 ("[T]he quality of the input data and the methodologies for calculating the elements are critical and warrant additional attention from the parties and Commission."); and PAC/100, Dickman/4 ("[A] critical next step will be determining the appropriate calculation of each element for the broader RVOS methodology.")

[18] CUB/100, Jenks-Hanhan/6-7.

[19] TASC/100, Gilfenbaum/4-5.

[20] RNW, OSEIA, NWEC, NW SEED/100, O'Brien/4-7; ODOE/100, Broad/5-7, CUB/100, Jenks-Hanhan/6.

[21] RNW, OSEIA, NWEC, NW SEED/100, O-Brien/7-9; ODOE/100, Broad, 7-8.

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1. The Commission should not include a placeholder for societal benefits in the RVOS Model.

TASC acknowledges that the Commission has decided that only elements that directly cost or benefit ratepayers should be included in the RVOS, but asserts that it would be beneficial if the RVOS included placeholders for valuing societal benefits. In support of its recommendation, TASC notes that ORS 757.300(6) requires the Commission to consider "environmental and other public policy benefits of net metering systems" when deciding whether to limit net metering obligations if the cap is reached.[22]

TASC's reliance on ORS 757.300(6) for its recommendation to include a placeholder in the methodology to value societal benefits is misplaced. The requirement in ORS 757.300(6) to consider environmental and other public policy benefits of net metering only applies if the Commission considers whether to terminate a utility's net-metering obligations under ORS 757.300 after the cumulating generating capacity of net metering systems is more than one-half of one percent of the utility's single-hour load. The statute does not require the Commission to include values for environmental and other public policy benefits in the RVOS.

In any event, Staff disagrees with any proposal to create a placeholder in the methodology to value elements of distributed solar generation that do not meet the Commission's current criteria for inclusion (that the associated cost or benefit accrues to ratepayers as opposed to the system owner or society in general), or for which no benefits or costs can actually accrue. While Staff recognizes that distributed solar generation can have real societal benefits such as reduced air emissions, Staff believes that the appropriate place to consider this information is in public policy forums such as the Legislature, not in electric utility ratemaking proceedings such as this one.

[22] TASC/100, Gilfenbaum/4-5.

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2. The element of security, resiliency, reliability should not be included in RVOS.

The Joint Parties and ODOE assert that the RVOS methodology should be able to calculate the "security, reliability, resiliency" benefits of solar.[23] E3 defines the element of "security, reliability, resiliency" as the "potential capability of solar, when deployed in combination with other technologies, to provide backup energy or microgrid islanding capabilities during a loss of service from the utility."[24] In its opening testimony, E3 explained that it did not include this element in the methodology because the accrual of benefits for security, resiliency, reliability would depend on solar being deployed in very specific circumstances, e.g., in a microgrid, which are not present in Oregon. Mr. Olson concluded that it was not appropriate to include such benefits because "the model calculates an RVOS that is meant to be generally applicable to a solar system installed by a retail, mass market customer. In turn, specialized solar capabilities that can be provided by advanced and uncommon infrastructure are not included in this generic RVOS."[25]

The Joint Parties and ODOE disagree with E3's recommendation to not value the element of security, resiliency, reliability in the RVOS methodology. ODOE notes that distributed solar generation can provide this benefit in outside of a microgrid, *e.g.,* when solar facilities are installed near the end of feeders where they may provide voltage support, with modern smart inverter improvements that broaden voltage and frequency ride through capabilities, and when coupled with storage facilities.[26] The Joint Parties also assert that this benefit is not limited to microgrid applications and that "[w]hile compensating for such services depends on enhancing or adding tariffs and rate designs to compensate for the value provided by advanced inverters and other system elements, the additional value is already available at the substation and feeder

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[23] RNW, OSEIA, NWEC, NW SEED/100, O'Brien/4.

[24] Staff/200, Olson/23.

[25] Staff/400, Olson/5.

[26] ODOE/100, Broad/2.

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level."[27] Finally, the Joint Parties note that even if solar systems in Oregon do not provide this benefit "exploring the hypothetical value that could be generated would be extremely valuable from a market, policy and regulatory perspective."[28]

Staff recognizes the potential for security, resiliency, reliability benefits in the scenarios described by ODOE and the Joint Parties. However, the vast majority of distributed solar generation in Oregon will not provide these benefits. If the RVOS methodology is to have a broad application, the benefits that a few solar systems may provide to ratepayers in very particular circumstances should not be valued in the methodology.

Staff also agrees with the Joint Parties that it is appropriate to explore the value that distributed generation resources provide to a utility's system, but disagrees with the Joint Parties' suggestion that the RVOS methodology is the place to do so. As Mr. Olson notes, other states such as California have instituted Distribution Resource Planning to take advantage of new opportunities for the collection and analysis of locational specific data. In California, utilities will be required to demonstrate the capacity to integrate distributed resources into their systems, the locational benefits that different resources can offer, and actionable pilot programs and tariffs to incentivize and capture this value.[29]

Staff believes that the planning-focused approach taken by California is a more appropriate vehicle for facilitating the best use of distributed generation in utility systems than what is recommended by RNW. Without the infrastructure that will be made possible by Distributed Resource Planning, most distributed generation resources will not provide the security, resiliency, reliability benefits described by RNW and ODOE. It does not make sense to create a methodology to value these benefits until the necessary infrastructure is in place.

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[27] RNW, OSEIA, NWEC, NW SEED/100, O'Brien/6.

[28] RNW, OSEIA, NWEC, NW SEED/100, O'Brien/6.

[29] Staff/200, Olson/12.

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3. Few if any distributed generation solar facilities are capable of providing ancillary services so ancillary service benefits should not be included in the RVOS methodology at this time.

The Joint Parties, TASC, and ODOE recommend disaggregating "Integration Impacts" and "Ancillary Services" into two separate elements.[30] Integration and Ancillary Services are currently included in the model as one element defined as "$/MWh value provided by utilities that represents the net incremental cost of providing additional operating reserves, balancing services, and system operations required to integrate the solar resource." ODOE and the Joint Parties acknowledge that there are costs to integrate solar resources that are appropriately captured by the RVOS methodology, but note that distributed solar generation can also provide "ancillary service benefits" that should be included in the RVOS. The Joint Parties testify, "[t]he ancillary services element was meant to capture the value of ancillary services—for example, frequency response, voltage support or peak shaving—that could be provided by solar, especially when combined with other technologies such as modern inverters or storage."[31]

Staff acknowledges that the benefits described by the Joint Parties and ODOE can be provided by distributed solar generation. However, at this time, the vast majority (if not all) solar systems in Oregon will not be capable of providing regulation or load following by interacting with the electric system operator.[32] As with security, resiliency, reliability, Staff does not recommend valuing benefits only associated with advanced and uncommon infrastructure in the RVOS Methodology.[33]

V. Questions relating to the use of the RVOS.

Several parties raise concerns related to how the RVOS Methodology will be used. For example, Idaho Power believes that any RVOS established under the Staff-recommended RVOS

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[30] TASC.200, Gilfenbaum/15-18; ODOE/200, Broad and DelMar/7-8; RNW, OSEIA, NWEC, NW SEED/100, O'Brien/8.

[31] RNW, OSEIA, NWEC, NW SEED/100, O'Brien/8.

[32] Staff/400, Olson/6.

[33] Staff/400, Olson/5.

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Methodology should be used only to value solar generation in the Volumetric Incentive Rate Program.[34] Idaho Power asserts that the proposed RVOS Methodology is not well-suited to calculating the RVOS for generation of net-metered systems because the value of the offset generation (what would be supplied by the utility) is based on the utility's embedded costs and the RVOS is based on marginal costs. TASC asserts that any RVOS established under the RVOS Methodology should only be used if there is a sufficiently robust hourly input for each of the ten elements.

Staff does not believe that it is necessary, or even appropriate, to determine in this docket the purposes for which the RVOS Methodology will be used. This phase of the docket is intended to determine the methodology. Furthermore, TASC is not the only party to raise concerns about protocols to follow when data is not available in the structure required for input into the model (e.g., hourly).

As Staff witness Olson notes, it is not surprising that hourly, location specific data is not available for every input. To the extent a utility does not have hourly data for a particular element, it is possible to use a proxy value. For example, if a utility does not have location-specific distribution deferral estimates, it could use a system-wide average based on the utility marginal cost of service study (MCOSS). If a utility does not have estimate of the costs of potentially deferrable distribution system investments, it could use an average of all growth-related distribution system investments.

As already explained, Staff recommends addressing issues related to the calculation of inputs in the next phase of this investigation. Accordingly, Staff does not address the merit of TASC's argument in this brief.

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[34] Idaho Power/100, Youngblood/

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VI. Conclusion.

Staff recommends that the Commission approve the RVOS Model and the list of ten elements that should be included in the calculation of RVOS.

DATED this 26th day of August, 2016.

Respectfully submitted,

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