ORDER NO. 17 085

ENTERED MAR 06 2017

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.	ORDER

DISPOSITION: ADDITIONAL PROCEDURES CLARIFIED

To complete Phase I of this proceeding, we ask the parties to file two additional rounds of testimony, followed by an opportunity for hearing and briefing.

The purpose of the additional testimony is three-fold. First, the testimony will provide the parties the opportunity to respond to new issues raised at the hearing held on January 31, 2017. If desired, parties may include, as an attachment to their testimony, written responses to the questions addressed at the hearing and previously set forth in Appendix A of Order No. 16-404.

Second, the testimony will allow parties the opportunity to respond to the Straw Proposal attached to this order. Based on the evidence and argument received to date, we find there is broad consensus on numerous issues. Given this consensus, and to help focus the parties' testimony on remaining disputes, we provide the attached Straw Proposal that offers our tentative resolutions on elements, methodologies, and next steps. We expect that the Straw Proposal and responsive testimony will allow us to complete Phase I.

Third, we ask the parties to include in their testimony a discussion of how we should proceed with Phase II.[1] We ask parties to consider the next steps outlined in the attached Straw Proposal, and to state any preferences for how the utilities should proceed with calculating RVOS values in Phase II that will allow for party feedback and Commission involvement.

[1] Order No. 15-296 at 2 (Sep 28, 2015) ("The first phase will examine elements and methodologies. The second phase will examine values for each utility using those adopted methodologies.").

In the upcoming conference with the administrative law judge, we ask the parties to identify dates for the two rounds of simultaneous testimony, evidentiary hearing, and briefing.

IT IS SO ORDERED.

Made, entered, and effective on MAR 06 2017.

Lisa D. Hardie
Chair

John Savage
Commissioner

Stephen M. Bloom
Commissioner

RVOS Straw Proposal

Element	Definition	Methodology	Next Steps
1. Energy	The marginal avoided cost of procuring or producing energy, including fuel, O&M, pipeline costs and all other variable costs.	Utilities shall estimate the marginal avoided cost of energy using the methods currently used for their QF avoided costs (monthly values with on- and off-peak blocks). Utilities shall model a range of hydro conditions to forecast energy prices. Utilities must examine and evaluate different schemes for weighting hydro years and report the results of their examination.	The utilities shall propose this value in Phase II. At a later date, Staff shall convene a workshop/technical conference to examine the need for and costs of modeling refinements to estimate the marginal avoided cost of energy at a smaller time interval. (NOTE: This and other workshops discussed below will be separate from the Phase II calculations. The timing of the workshops may vary for different topics, as some issues may proceed in tandem with Phase II, while others may begin after Phase II. The workshops will not be used to inform Phase II.)
2. Generation Capacity	The marginal avoided cost of building and maintaining the lowest net cost generation capacity resource.	Utilities shall use their IRP resource sufficiency/deficiency demarcation and shall determine the capacity value consistent with the Commission's standard QF avoided cost guidelines.	The utilities shall produce this value in Phase II. During Phase II, the utilities shall run sensitivity analyses to

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		Utilities shall use their IRP's value for solar's contribution to capacity or peak. (For reference, when the utility is resource sufficient, the QF receives standard prices based on the market energy price. *See* Order No. 16-174. When the utility is resource deficient, the QF receives standard prices based on the capacity and energy costs of a proxy resource, scaled for solar's contribution to peak. See Order No. 16-174 and Order No. 16-337.	determine when the level of solar PV penetration has a material effect on the timing of the need for new resources (the deficiency demarcation).
3. Transmission and Distribution Capacity	Avoided or deferred costs of expanding, replacing, or upgrading transmission and distribution (T&D) infrastructure.	Utilities shall develop a system-wide average of the avoided or deferred costs of expanding, replacing, or upgrading T&D infrastructure attributable to incremental solar penetration in Oregon service areas. The avoided or deferred costs shall be for growth-related investments.	The utilities shall propose this value in Phase II. At a later date, Staff shall convene a workshop/technical conference to examine ways to generate location-specific T&D capacity deferral estimates (and the information needed to make such estimates) and to assess the costs imposed on distributions system by increasing penetration of solar PVs.

Element	Definition	Methodology	Next Steps
4. Line Losses	Avoided marginal electricity losses from the point of generation to the point of delivery.	Utilities shall develop estimates of avoided marginal line losses attributable to increased penetration of solar PV systems in Oregon service areas. The incremental line loss estimates shall reflect the hours solar PV systems are generating electricity.	The utilities shall propose this value in Phase II.
5. Administration	Increased utility costs of administering solar PV programs.	Utilities shall develop estimates of the direct, incremental costs of administering solar PV programs including staff, software, interconnection, and other utility costs.	The utilities shall propose this value in Phase II. Utilities shall provide justification for their method and value.
6. Market Price Response	The change in utility costs due to lower wholesale energy market prices caused by increased solar PV production.	To be evaluated with follow-up.	In tandem with Phase II, Staff shall convene a workshop/technical conference to examine an empirically-sound way to estimate the impact of incremental solar generation in Oregon service areas on wholesale market prices. Using an acceptable method, utilities shall develop preliminary estimates of the impacts of incremental solar generation on both wholesale purchases and sales. Utilities shall report their preliminary results in Phase II.

Element	Definition	Methodology	Next Steps
7. RPS Compliance	Avoided net incremental cost of purchasing renewable energy credits (RECs) to satisfy the Renewable Portfolio Standard (RPS).	The levelized cost of the marginal renewable resource installed in the year when utilities need to act to comply with RPS requirements less energy, capacity, and environmental compliance values, plus any integration cost. Utilities shall estimate an avoided value based on reduction in load attributable to incremental solar generation in Oregon service areas.	The utilities shall propose this value in Phase II. Idaho Power is exempt.
8. Integration and Ancillary Services	Change in a utility's need for ancillary services due to changes in metered load and net load variability. Includes contingency reserves (spin and non-spin) needed for sudden outages; load-following reserves for fluctuations over the 5 to 60 minute time scale; and regulation reserves to accommodate sub-5 minute fluctuations.	Utilities will make estimates of integration costs based on acknowledged wind and solar integration studies. Utilities will assign a value of zero to ancillary services benefits of increased penetration of solar PVs.	The utilities shall propose this value in Phase II. At a later date, Staff shall convene a workshop/technical conference to evaluate the incremental system benefits from enabled advanced inverters and ways to evaluate those benefits.
9. Hedge Value	Avoided cost of utility hedging activities, *i.e.*, transactions	To be evaluated with follow-up.	Staff shall conduct a workshop to examine methodologies to quantify

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	intended solely to provide a more stable retail rate over time.		hedge value. Based on the methodology recommended by Staff, the utilities shall produce a preliminary value in Phase II. Parties are to examine the preliminary value and consider the interaction of utility hedging strategies and increased solar penetration as well as value placed by customers on marginal electricity price stability. The preliminary value and examination will inform the justification for an acceptable method and value used by each utility.
10. Environmental Compliance	Avoided cost of complying with existing and anticipated environmental standards.	Utilities shall estimate the avoided cost based on a reduction in carbon emissions from the marginal generating unit. To value future anticipated standards utilities should use the carbon regulation assumptions from their IRP.	The utilities shall propose a value in Phase II and explain how the value is consistent with IRP assumptions.

Element	Definition	Methodology	Next Steps
11. Security, reliability, and reserves	The potential capability of solar, when deployed in combination with other technologies such as energy storage and control systems, to provide backup energy or microgrid islanding capabilities during a loss of service from the utility.	The utility shall include an element for security, reliability, and reserves but assign a value of zero currently.	Staff shall conduct a subsequent workshop/technical conference to examine methodologies to quantify the value of benefits and the circumstances under which they are applicable, only considering the value provided to the utility system and value that is not already captured in energy, capacity, and ancillary services.

General Issues

- The utilities shall conduct a 25 year analysis that will be updated every 2 years or upon petition.
- The utilities shall produce an alternative estimate of RVOS using a utility scale solar resource. The cost of the solar proxy will replace the energy, generation capacity, RPS compliance, integration and ancillary services, market price response, hedge value, and environmental compliance elements.
- The utilities are to explain their process for valuing a utility solar proxy and any values currently used in their IRPs.