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March 7, 2023

VIA ELECTRONIC FILING

Attention: Filing Center
Public Utility Commission of Oregon
201 High Street SE, Suite 100
P.O. Box 1088
Salem, Oregon 97308-1088

Re: Docket UM 2000 – In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, Investigation into PURPA Implementation.

Attention Filing Center:

Attached for filing in the above-captioned docket are Idaho Power Company's Comments on Solar-Plus-Storage Standard Avoided Cost Prices.

Please contact this office with any questions.

Sincerely,

Suzanne Prinsen
Legal Assistant

Attachment

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 2000

In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, Investigation into PURPA Implementation.	**IDAHO POWER COMPANY'S COMMENTS ON SOLAR-PLUS-STORAGE STANDARD AVOIDED COST PRICES**

I. INTRODUCTION

In accordance with Staff's "Process Proposal and Scope Update," filed in docket UM 2000 on February 24, 2023, Idaho Power Company ("Idaho Power" or "Company") respectfully submits the following comments addressing the necessary assumptions and methodology changes required to implement a standard avoided cost price for solar-plus-storage Qualifying Facilities ("QF").

Implementing standard pricing for solar-plus-storage QFs requires careful consideration of the critical differences between QF and non-QF resources. When a utility controls the dispatch of a solar-plus-storage resource, it can use the batteries to shift solar generation to meet a utility's net peak demand, resulting in a higher capacity contribution from the solar-plus-storage resource relative to a solar resource on its own.[1] But in the context of a QF—where the utility does not typically have dispatch control—that higher capacity contribution can be illusory if the QF fails to dispatch its batteries to meet net peak demand. If a standard QF avoided cost price includes a higher capacity payment reflecting the assumption of a higher capacity contribution, then there must also be either strong incentives or enforceable requirements built into the pricing structure or power purchase agreement ("PPA") that ensure delivery during net

[1] *See, e.g., In re Idaho Power Co.'s 2021 Integrated Resource Plan*, Docket No. LC 78, Idaho Power's 2021 Integrated Resource Plan at 53 (Dec. 30, 2021).

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peak hours. Otherwise, customers will pay for capacity that is not provided. This outcome would contravene federal law and well-established Commission precedent.[2]

With these considerations in mind, Idaho Power recommends that the Public Utility Commission of Oregon ("Commission") allow it to use its incremental cost Integrated Resource Plan ("ICIRP") avoided cost methodology to determine standard prices for solar-plus-storage QFs. This methodology is currently used in Oregon for negotiated avoided cost prices[3] and has been approved by the Idaho Public Utilities Commission ("IPUC") for calculating the Company's Idaho avoided cost prices for solar and storage QFs above 100 kilowatts.[4]

The ICIRP methodology uses the AURORA production cost model to simulate the operation of the Company's entire system to determine the incremental cost of the displaceable resource at the top of the Company's resource stack for every hour of operation throughout the term of a contract. By using an hourly generation profile of a representative solar-plus-storage

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[2] *See, e.g., Portland Gen. Elec. Co. v. Pac. Nw. Solar, LLC*, Docket No. UM 1894, Order No. 18-025 at 4 (Jan. 25, 2018) (Commission has "on a number of occasions, reaffirmed [its] intention to encourage the economically efficient development of QFs, while protecting ratepayers by ensuring that utilities pay rates equal to that which they would have incurred in lieu of purchasing QF power.") (internal quotation marks and citations omitted); *In re Investigation into Elec. Util. Tariffs for Cogeneration and Small Power Production Facilities*, Docket No. R-58, Order No. 81-319 at 3 (May 6, 1981) (stating goal of PURPA is "to provide maximum economic incentives for development of qualifying facilities while insuring that the costs of such development do not adversely impact utility ratepayers who ultimately pay these costs"); *In re Staff's Investigation Relating to Elec. Util. Purchases from Qualifying Facilities*, Docket No. UM 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."); Docket No. UM 1129, Order No. 06-538 at 37 (Sept. 20, 2006) ("[O]ur overriding goals in this docket are to encourage QF development, while ensuring that ratepayers are indifferent to QF power."); Docket No. UM 1129, Order No. 07-360 at 1 (Aug. 20, 2007) ("This Commission's goal is to encourage the economically efficient development of QFs, while protecting ratepayers by ensuring that utilities incur costs no greater than they would have incurred in lieu of purchasing QF power (avoided costs)"); *In re Pub. Util. Comm'n of Or., Investigation into Qualifying Facility Contracting and Pricing*, Docket No. UM 1610, Order No. 14-058 at 12 (Feb. 24, 2014) ("We first return to the goal of this docket: to ensure that our PURPA policies continue to promote QF development while ensuring that utilities pay no more than avoided costs.").

[3] *See* Docket No. UM 1610, Order No. 16-174 (May 13, 2016).

[4] *In re Idaho Power's Petition to Determine the Project Eligibility Cap for Published Avoided Cost Rates and the Appropriate Contract Length for Energy Storage Qualifying Facilities*, IPUC Case No. IPC-E-20-02, IPUC Order No. 34794 (Oct. 2, 2020). The full record can be found here: https://puc.idaho.gov/Case/Details/6427. While Idaho does not have a solar-plus-storage avoided cost rate, it does have a separate avoided cost rate for storage QFs.

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QF, the ICIRP methodology creates a price based on the costs avoided in the specific hours the QF is assumed to deliver its output.

To incent the QF to deliver its output in accordance with the assumed generation profile and to deliver capacity when net demand is greatest, the avoided cost methodology used in Idaho for battery QFs assigns and pays the capacity value only during peak and premium peak hours, when Idaho Power has the greatest demand. The granularity of the ICIRP methodology coupled with the targeted window for capacity payments is the optimal manner to reflect the time-shifting value of storage resources. Further, this methodology provides an economic incentive for the QF to dispatch the battery during peak and premium peak hours—the hours when the energy and capacity are most needed—in order to receive the capacity payment, and better ensures that customers are not paying a QF for capacity that the QF never provides.

The Company appreciates the Commission's desire to promptly implement a solar-plus-storage standard price but has concerns that the extremely expedited process—for example, Staff provided only *seven business days* to submit proposals—will not allow the Commission and stakeholders sufficient time to fully vet and reasonably implement a methodology for solar-plus-storage standard prices. For this reason, the Company has recommended use of an already approved methodology that the Company is confident produces reasonable results, can be implemented in Oregon on the expedited timeline proposed by Staff, and appears to enjoy support from QF parties.[5]

II. COMMENTS

A. The Commission must establish eligibility parameters for standard solar-plus-storage avoided cost prices.

As an initial matter, the Commission must establish the eligibility criteria for standard solar-plus-storage avoided cost prices. Currently, solar QFs must have a nameplate capacity of

[5] *See In re Idaho Power Co. Update to Standard Avoided Cost Schedule for Qualifying Facilities*, Docket No. UM 1730(8), Comments of the Community Renewable Energy Association and the Renewable Energy Coalition at 7-8 (Feb. 17, 2023).

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3 megawatts ("MW") or less to be eligible for standard pricing.[6] Because solar-plus-storage QFs will have both solar generation facilities and storage facilities, the Commission must determine how the nameplate capacity of the combined solar-plus-storage facility is calculated for purposes of applying the cap. Idaho Power recommends that the Commission maintain the 3 MW standard rate eligibility cap for solar-plus-storage with 3 MW measured as total project output. Any solar-plus-storage capable of producing more than 3 MW would no longer qualify for QF standard pricing but would be priced using the same proposed methodology.[7]

In addition, the capacity contribution value for solar-plus-storage resources in Idaho Power's 2021 Integrated Resource Plan ("IRP") assumes that the resource has a one-to-one ratio of solar capacity to storage capacity and that the battery has a four-hour duration. To the extent a solar-plus-storage QF deviates from these assumptions, the capacity contribution will no longer be accurate. Therefore, under the interim solar-plus-storage construct, only QFs matching the resource assumptions used in the 2021 IRP should be eligible for a solar-plus-storage standard price. All other solar-plus-storage QFs can negotiate an avoided cost price that considers the QFs' specific generation-to-storage ratio and battery duration.

B. ICIRP methodology uses an hourly production cost model to produce a more accurate avoided cost price.

The ICIRP methodology uses the AURORA production cost model[8] to simulate the Company's system to determine the incremental cost of the displaceable resource(s) at the top of the Company's resource stack for every hour that a QF is assumed to deliver energy throughout the term of a contract. The ICIRP methodology establishes both a monthly energy

[6] In re Idaho Power Co., Application to Lower Standard Contract Eligibility Cap and to Reduce the Standard Contract Term, for Approval of Solar Integration Change, and for Change in Resource Sufficiency Determination, Docket No. UM 1725, Order No. 16-129 (Mar. 29, 2016).
[7] If the ICIRP methodology, which is utilized for projects over the standard rate cap, is adopted for standard rate solar-plus-storage, then the only significant difference would be the use of a generic generation profile for standard rates, and the use of a project-specific generation profile for larger projects.
[8] Idaho Power also uses AURORA in its IRP and to calculate its net power supply expense in its Annual Power Cost Update filings.

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price component and a capacity price component for every hour of the contract term. These hourly values are calculated based upon the expected ability of the QF to displace the use of Idaho Power generation units and to delay additions of new generation capacity. To create a standard avoided cost price here, the Company would use a representative generation profile from a solar-plus-storage resource with a one-to-one capacity ratio taken from its most recently acknowledged IRP.

To determine the hourly avoided costs, the Company performs an AURORA analysis using the most recently acknowledged IRP data (*e.g.*, operational constraints and natural gas, energy, and load forecasts,[9] etc.) to determine the generation resources being used to meet the expected hourly energy loads for each hour of the QF contract term. In AURORA, generation resources are economically dispatched based upon the incremental cost of each resource. This information is then processed through a pricing model that identifies for every hour of the proposed contract term the incremental cost(s) (highest incremental cost resources being displaced first) of each displaceable generation resource[10] for each hour that the proposed QF project is displacing. These hourly prices are then multiplied by the estimated QF energy deliveries in each hour, summed together into heavy load ("HL") and light load ("LL") total energy costs for each month, then divided by the total HL and LL energy deliveries for each respective month creating a monthly HL and LL avoided cost of energy.

[9] It should be noted, however, that the load forecast and natural gas forecast inputs to the ICIRP avoided cost methodology are updated annually between IRP filings. *See In re the Commission's Review of PURPA QF Contract Provisions Including the Surrogate Avoided Resource (SAR) and Integrated Resource Planning (IRP) Methodologies for Calculating Avoided Cost Rates*, IPUC Case No. GNR-E-11-03, IPUC Order No. 32697 at 22, 52 (Dec. 18, 2012). The full record can be found here: https://puc.idaho.gov/Case/Details/2521.

[10] Displaceable resources have been identified as being a resource that is on-line and capable of staying on-line and reducing its output. Potential displaceable resources include: 1) Company-owned thermal resources (Bridger, Boardman, Valmy, Langley Gulch, and the gas-fired peakers) that are on-line and operating at or above their minimum load level, (2) long-term firm purchases, and (3) market purchases as determined by AURORA. If a long-term firm purchase or market purchase is determined to be the displaceable resource in a given hour, the incremental cost is set to be the market clearing price as determined by the AURORA model on an hour-to-hour basis.

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Like the avoided cost of energy, the avoided cost of capacity is determined through the ICIRP methodology and using the hourly forecasted generation profile of the representative solar-plus-storage QF to determine the QF-specific capacity contribution and corresponding price. The currently approved calculation of the avoided cost of capacity using the ICIRP methodology is based on a combination of inputs from the IRP and the generation profile provided by the QF. Capacity value is paid to the QF for each per-kilowatt-hour ("kWh") the project delivers to Idaho Power for all months after Idaho Power's capacity deficiency period has occurred. For energy storage QFs, compensation for capacity is only paid during a subset of the QFs' generation hours corresponding with the Company's greatest need for capacity. As an alternative, the Company proposes basing capacity value on the resource's Effective Load Carrying Capability from the IRP with payment only during peak and premium peak hours as discussed next.

C. Capacity payments should be limited to only peak and premium peak hours.

To reflect the unique characteristics of storage resources—particularly the ability of the QF to shift its energy delivery in time and provide higher capacity value—the avoided cost of capacity component of the avoided cost rate should only be paid for energy delivered during hours identified as the Company's peak and premium peak capacity hours, and only after the Company becomes capacity deficient. Consistent with the methodology used in Idaho, capacity payments for a solar-plus-storage QF entering into a contract presently would be made only for deliveries occurring in July from 2:00 pm to 12:00 am and August 5:00 pm to 9:00 pm.[11] While the peak and premium peak hours are updated on an annual basis as part of the Company's October update to the other ICIRP method inputs (i.e., load and natural gas forecasts), the

[11] For an explanation of the method used for defining which hours qualify as peak and premium peak hours see Idaho Power's Annal Compliance Filing to Update the Load and Gas Forecasts in the Incremental Cost Integrated Resource Plan Avoided Cost Model, IPUC Case No. IPC-E-22-26, IPUC Order No. 35644 (Dec. 27, 2022). The full record can be found here: https://puc.idaho.gov/Case/Details/6942. See also IPUC Case No. IPC-E-20-02, IPUC Order No. 34913 (Feb. 5, 2021).

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updates only apply to new contracts. When a QF enters a contract, the peak and premium peak hours in effect at that time are locked-in for the duration of the contract.[12]

D. The ICIRP methodology is reasonable for Idaho Power.

The ICIRP methodology is a reasonable interim approach to calculate standard avoided cost prices for solar-plus-storage QFs. First and foremost, the Commission has already approved the use of the ICIRP methodology for negotiated avoided cost prices.[13] Further, the Commission has repeatedly affirmed that "consistency between Idaho Power's jurisdictions with regard to the calculation of avoided cost pricing[.]" is "important."[14] The IPUC has also approved the use of the ICIRP methodology for storage QF avoided cost prices, noting that it "is an accurate method to calculate avoided cost rates and more analytically sound based on the unique characteristics of energy storage facilities."[15] Authorizing the same methodology in both jurisdictions will ensure consistent pricing and prevent gaming by QF developers to the detriment of Idaho Power customers. Consistency also creates administrative efficiencies that will reduce Idaho Power's QF implementation costs in Oregon.

Moreover, as noted by the IPUC, the ICIRP methodology creates a more accurate avoided cost price than the current methodology used to determine standard avoided cost prices in Oregon, which calculates prices based on the assumed avoidance of a gas-fired generator. Most importantly for solar-plus-storage QFs, the ICIRP methodology creates a price that is specifically tailored to the hourly generation profile of a representative solar-plus-storage facility with a one-to-one capacity ratio. More granular avoided cost prices are critical for QFs

[12] *See* IPUC Case No. IPC-E-20-02, IPUC Order No. 34913 at 7.
[13] Order No. 16-174 at 22-23.
[14] Order No. 16-174 at 22-23 ("Idaho Power will continue to use, as the starting point for price negotiations, the avoided cost prices calculated under the modeling methodology approved by the IPUC for QFs greater than the standard eligibility cap, with some refinements for Oregon. We reauthorize Idaho Power to use this methodology for the ongoing reason that consistency between Idaho Power's jurisdictions with regard to the calculation of avoided cost pricing remains important.").
[15] IPUC Case No. IPC-E-20-02, IPUC Order No. 34794 at 12.

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that can shift their generation through time and for which the Company does not control dispatch.

The ICIRP methodology also provides critical incentives to the QF to deliver its output in a way that matches the capacity costs that are assumed to be avoided. The key benefit of storage is that it allows a solar QF to control its naturally intermittent generation and target delivery of its generation to the times when it is most valuable to the utility. By paying for capacity only when the Company needs it most, the proposed methodology sends appropriate price signals to the QF to economically dispatch its storage resource to ensure that customers receive the benefits of the storage resource consistent with the assumptions used to derive the avoided cost prices. And by using price signals to incent efficient QF dispatch, the ICIRP methodology and payment of capacity only during peak hours does not require potentially extensive and controversial revisions to the QF PPA to allow the utility to control the QF dispatch to ensure delivery in the appropriate hours.

In comments recently filed in docket UM 1730, the Community Renewable Energy Association ("CREA") and the Renewable Energy Coalition ("REC") highlighted the ICIRP methodology as an acceptable approach for Oregon. In those comments, CREA and REC specifically noted that the capacity payment scheme in the ICIRP methodology "sends incentives to deliver during the times of highest need" by pricing capacity in all other hours at zero.[16]

Finally, because Idaho Power is already using the ICIRP methodology in Idaho, it can also be implemented here in Oregon on the expedited timeline contemplated by Staff.

[16] Docket No. UM 1730(8), Comments of the Community Renewable Energy Association and the Renewable Energy Coalition at 8 ("In contrast, the capacity rate for all other hours, including the much more expansive set of traditional 'on-peak' hours would be zero–thus sending price incentives to deliver during the times of highest need.").

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III. CONCLUSION

For the foregoing reasons, Idaho Power recommends using its ICIRP methodology, as implemented in Idaho for storage QFs, to calculate the standard avoided cost rates for solar-plus-storage resources in Oregon. Additionally, Idaho Power recommends the Commission implement, along with an interim solar-plus-storage standard rate, a cap on the amount of potential QF generation to be acquired under such interim rate in order to mitigate against the possibility that the interim rate spurs a large wave of project development. A cap at 50 MW[17] of total solar-plus-storage QF acquisition under the interim rate would be a necessary safeguard for customers, where if achieved the interim rate could then go back before the Commission for potential adjustment.

Respectfully submitted this 7th day of March 2023.

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[17] For comparison, Idaho Power currently has about 147 MW of QF generation active and online with Oregon PPAs, with another approximately 74 MW of executed solar QF PPAs not yet operational. Idaho Power's load in Oregon is just under 100 MW.