

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: September 21, 2021**

REGULAR CONSENT EFFECTIVE DATE September 22, 2021

DATE: September 13, 2021

TO: Public Utility Commission

FROM: Michelle Scala

THROUGH: Bryan Conway and Caroline Moore **SIGNED**

SUBJECT: IDAHO POWER COMPANY:
(Docket No. UM 1730(6))
Update to Idaho Power's Variable Energy Resource Integration Charges for Avoided Cost Pricing; Schedule 85, Cogeneration and Small Power Production Standard Contract Rates.

STAFF RECOMMENDATION:

Approve Idaho Power Company's (Idaho Power or Company) update of Variable Energy Resource Integration Charges (VER) for Schedule 85, Cogeneration and Small Power Production Standard Contract Rates.

DISCUSSION:

Issue

Whether the Commission should approve Idaho Power's update of VERs for Schedule 85, Cogeneration and Small Power Production Standard Contract Rates.

Applicable Orders and Rules

OAR 860-029-0040(4)(a) requires utilities to file updated avoided cost prices for QFs under PURPA¹ within 30 days of Commission integrated resource plan (IRP)² acknowledgment.³

¹ Public Utility Regulatory Policies Act of 1978.

² Integrated Resource Plan and least-cost plan are synonymous.

³ "In the same manner as rates are published for electricity sales each public utility shall file with the Commission, within 30 days of Commission acknowledgement of its least-cost plan pursuant to Order

OAR 860-029-0080(7)(a) specifies that on May 1 of each year, a public utility must file with the Commission updates to the avoided cost information filed under section (2) of this rule to be effective within 60 days of filing to reflect:

- (A) Updated natural gas prices;
- (B) On- and off-peak forward-looking electricity market prices;
- (C) Changes to the status of the Production Tax Credit [PTC]; and
- (D) Any other action of change in an acknowledged IRP update relevant to the calculation of avoided costs.

Order No. 21-198 approved Idaho Power's update of Schedule 85, Cogeneration and Small Power Production Standard Contract Rates, with the condition Idaho Power file an update to the integration charges for solar and wind qualifying facilities (QF) within 60 days.

Analysis

Background

On May 1, 2021, Idaho Power filed a combined post-IRP acknowledgment avoided cost update and annual avoided cost update, requesting an effective date of June 16, 2021. Idaho Power's filing included both the May 1 update and post-IRP changes as required in rule, including updated:

- Natural gas and forward market prices for electricity, showing prices have generally increased while the Sumas Basis difference has gone down.
- Forward price curves for energy, reflecting market quotes at Mid-C from the Inter-Continental Exchange, where prices have increased in the near-term summer months.⁴
- Avoided cost inputs in alignment with the Company's acknowledged IRP, Docket No. LC 74.
 - The value of capacity (\$/kW) for Baseload, Wind, and Solar declined from the previous May 2020 avoided cost update.⁵

No. 89-507, standard rates for purchases from qualifying facilities with a nameplate capacity of one megawatt or less, to become effective 30 days after filing. The publication shall contain all the terms and conditions of the purchase. Except when a public utility fails to make a good faith effort to comply with the request of a qualifying facility to wheel, the public utility's standard rate shall apply to purchases from qualifying facilities with a nameplate capacity of one megawatt or less."

⁴ May 2021 US Energy Information Administration, Short-Term Energy Outlook (https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf).

⁵ The value of capacity is determined for the year in which the Company forecasts a resource deficiency and adjusted for inflation in each year thereafter. IPC attributes the decline in the May 2021 update to a

- Contribution to Peak (CTP) declined⁶ for solar resources to 34.7 percent.⁷
- Capacity payments were reduced for both wind and solar QFs.
- The deficiency date was revised to August 2028.

In Staff's review, no issues or concerns were identified with respect to the inputs used to derive the updates to the avoided cost prices. The updates are reflective of the acknowledged 2019 IRP, including resource costs, resource performance, capacity contribution factors, and financial parameters.

However, Staff did identify a concern with the integration charges for wind and solar QFs. Integration charges are intended to capture the cost of how operations of dispatchable generating and other resources must be modified to integrate increasing levels of variable energy resources while ensuring the reliable delivery of electrical power. Staff found that in the Company's filing, wind integration charges remained artificially high, despite multiple VER studies that resulted in integration charges dramatically lower than those used by Idaho Power. In the June 11 report, Staff summarized its concerns to the following two issues:

- 1) In both the 2018 and 2020⁸ Staff Reports for Docket No. UM 1730, Staff pointed to the uniquely high wind integration charges put forth by Idaho Power in its avoided cost filings and indicated that significantly lower wind integration charges should be expected in future filings.
- 2) Idaho Power's 2020 Variable Energy Resource analysis is now complete and includes substantially lower integration charges than those currently in place.

After Staff shared its concerns with Idaho Power, the Company agreed to submit a supplemental filing to update wind and solar integration charges using the most recent VER Study results within 60 days of Commission approval for the May 2021 avoided cost filing. This agreement was memorialized in the Commission's June 15, 2021, Order No. 21-198, where the Commission granted Idaho Power approval for its avoided cost update, conditioned on the revision of integration charges within 60 days.

downward adjustment to the SCCT capacity factor from 10 percent to 5 percent. See Docket No. LC 74, Second Amended 2019 IRP at p. 99.

⁶ Contribution to Peak for a Solar resource declined by 16.6 percent in the proposed May 1, 2021, update.

⁷ The Company stated that the decline is primarily driven by the addition of 120 MW of Solar through the Jackpot Solar Facility at year-end 2022.

⁸ In 2019, Idaho Power's avoided cost update was captured in an interim measure, filed under Docket No. UM 2001, per Order No. 19-074. The Commission directed the utilities to make updates to a limited set of inputs to the existing standard avoided cost model, and no changes to the methodology.

2020 Energy + Environmental Economics VER Integration Analysis

In 2020, Idaho Power engaged Energy and Environmental Economics, Inc. (E3) to conduct an updated VER analysis.⁹ The 2020 study identified significantly lower wind integration costs from those currently in use by the Company. E3 determined the lower costs were likely due to: 1) reduced need for modeled ancillary services, 2) the fact that the remaining 2023 coal fleet is modeled as must-run and thus commitment decisions are not affected by VER penetration; 3) access to the Energy Imbalance Market (EIM) makes it easier to use market transactions to integrate VERs;¹⁰ and, 4) allowing additional system flexibility in some cases (e.g. from batteries).

E3 also noted that the method of deriving integration costs [in the 2020 study] was substantially different in the last [2018] study.¹¹ Section 5.3 of the E3 Report, provides a comparison of the E3 study to our Idaho Power's 2018 Study. It highlights differences in three areas:

- The calculation of reserves:
 - “The resulting average reserves levels are higher in the 2018 study than those investigated in the 2020 study. The 2020 study includes CAISO FRP reserves, regulation reserves and contingency reserves. The 2018 study included regulation reserves and contingency reserves, but the regulation reserves were calculated differently.”
- Treatment of EIM:
 - “The 2020 study is modeled with an EIM market, whereas the 2018 study is not. Because Idaho Power joined the EIM in Q2 2018, this omission was reasonable in the 2018 study. In the 2020 study, the presence of the EIM market allows the model to balance forecast error from the DA and HA intervals to the real time. The 2018 model had less flexibility in its ability to trade, which likely reduces the ability of Idaho Power's system to buy and sell from the market to enable procuring reserves relative to a scenario with the EIM.”

⁹ In 2018, Idaho Power conducted a VER Integration Analysis in compliance with Order Nos. 17-075 and 17-223 (<https://docs.idahopower.com/pdfs/AboutUs/PlanningForFuture/wind/VariableEnergyResourceIntegrationAnalysis.pdf>).

¹⁰ The EIM was not included in the previous study.

¹¹ The 2018 Study Design simulated system operations for a test year under a load-alone share scenario where the system is not burdened with regulating reserves associated with wind and a load net wind scenario where the system must regulate reserves associated with netted load and wind time series. The 2020 E3 methodology identified metrics to estimate the cost of VER integration and performed multiple model runs for 11 case scenarios.

- Multi-stage vs single stage model:
 - “The 2020 study used a multistage PLEXOS model, which contains information about typical net load forecast error and sub-hourly net load variability, whereas the 2018 study used a single hourly stage AURORA model that did not reflect forecast error. In executing its multistage PLEXOS model, E3 did not observe significant levels of unserved energy.”

The study’s final integration costs were presented to and reviewed by the Technical Review Committee (TRC) on November 6, 2020. On May 19, 2021, the Company indicated that the study results were finalized and issued the “IPC VER final report” for any final thoughts or feedback from the TRC.

As noted above, Idaho Power did not incorporate the E3 integration charge values into the avoided cost update filed in May because the results had not been part of the acknowledged IRP. Nonetheless, Staff recommended the E3 values be incorporated into avoided cost rates given the E3 values were vetted and Idaho Power’s current integration charges are outdated and not reflective of actual costs. Following discussions with Staff, and as described earlier in this memo, Idaho Power agreed to incorporate the E3 study into avoided cost pricing via a supplemental filing. In compliance with Order No. 21-198, Idaho Power submitted said filing on August 13, 2021.

Staff Review

To the extent the Company’s August 13, 2021 filing was in direct response to the conditional approval recommended by Staff in its June 11, 2021 report for Docket No. UM 1730, Staff’s review was focused on whether the integration charges used in avoided cost pricing corresponded to the 2020 E3 VER analysis. During the review of the original May update, Staff examined the E3 analysis and developed a set of estimates for the wind and solar integration charges that were described in the Staff report. Specifically, based on current VER penetration, Staff expected the Company to utilize the E3 High Wind case 5¹² with a total wind integration cost of \$0.77/MWh,¹³ while current solar capacity level is expected to utilize E3’s Base 2023 case 1 values at \$2.93/MWh and move to E3 High Solar case 3 values at \$3.86/MWh following the implementation of additional solar resources.

¹² Energy and Environmental Economics, Inc., December 2020, Variable Energy Resource Integration Analysis, Idaho Power Company.

¹³ Staff notes this value is comparable to wind integration charges currently in place with PAC and PGE; additionally E3 notes the range of integration costs produced in its study were also lower than those generated in the 2018 VER Study performed by Idaho Power.

The Company's August 13 filing reflected these expectations, and matched both the study case and corresponding charge exactly. For the final proposed prices, the Company needed to update the E3 values for 2021 dollars and reflected this in its workpapers. Staff reviewed the minor adjustments in the Company's workpapers, and verified the 2021 adjustment and escalation across the rate schedule through 2045. In 2021 dollars, the integration charges are \$0.79/MWh for wind; \$2.99/MWh for solar at current solar penetration levels, and \$3.94/MWh for solar beyond 561 MW. The updated values reduce wind integration charges by approximately \$18.34/MWh and increase solar integration charges by approximately \$2.19/MWh. From a QF standpoint, better aligning QF rates with the Company's avoided costs will significantly increase avoided cost prices for wind resources and marginally reduce avoided cost prices for solar resources.

Staff has verified these values and finds the updated filing an accurate reflection of current avoided costs for Idaho Power. Staff further finds the update to be in compliance with Commission Order No. 21-198, and satisfies the Company's requirements for Staff to recommend full approval of 2021 avoided cost pricing.

Staff did not receive comment from stakeholders on this filing.

Conclusion

Staff has identified no concerns with the updates Idaho Power made to its standard avoided cost prices to incorporate updated VER integration charges. Staff is satisfied that the filing meets the requirements of Order No. 21-198 and is an accurate reflection of the E3 study results as inputs into avoided cost pricing. As such, Staff recommends the Commission approve of the updated avoided cost prices as filed on August 13, 2021.

PROPOSED COMMISSION MOTION:

Approve Idaho Power Company's update of Variable Energy Resource Integration Charges for Schedule 85, Cogeneration and Small Power Production Standard Contract Rates.