BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 1793

In the Matter of IDAHO POWER COMPANY, Application for Approval of Solar Integration Charge.	COMMENTS OF RENEWABLE NORTHWEST AND OREGON SOLAR ENERGY INDUSTRIES ASSOCIATION

I. INTRODUCTION AND BACKGROUND

Renewable Northwest and Oregon Solar Energy Industries Association ("OSEIA") appreciate the opportunity to comment on Idaho Power Company's ("Idaho Power") 2016 Solar Integration Study (the "2016 Study") and associated integration rates in proposed Schedule 87. We are pleased with the methodological improvements incorporated into the 2016 Study and with the resulting rate reductions. We recommend that the Public Utility Commission of Oregon (the "Commission") approve Idaho Power's proposed solar integration costs applicable to contracts with qualifying facilities ("QFs") based on the 2016 Study. In addition, we recommend that the Commission direct Idaho Power to (1) explore use of an average cost approach in applying integration costs to new solar projects; (2) expand on the Energy Imbalance Market ("EIM") sensitivity with a complete review in its 2017 Integrated Resource Plan ("IRP") of the costs and benefits of joining the EIM; and (3) apply the improved methodology and analysis in the 2016 Study to its wind integration study.

Renewable Northwest and OSEIA have been actively engaged on solar issues for years. Of particular relevance to this proceeding, Renewable Northwest intervened in the Idaho Public Utilities Commission ("IPUC") review of Idaho Power's 2014 Solar

Integration Study and negotiated a stipulation that included the parameters of the 2016 Study. Renewable Northwest staff served on the Technical Review Committee for the 2016 Study, and reviewed the 2014 Solar and 2013 Wind Integration Studies. Together with the Idaho Conservation League, Renewable Northwest commented in the IPUC proceeding to review the 2016 Study and associated rates. OSEIA has also been an active participant in Oregon solar discussions and proceedings, including those related to integrated resource planning, the resource value of solar, and community solar. Our organizations' history of participation in solar discussions and proceedings informs our comments below.

II. COMMENTS

We appreciate and support the changes that Idaho Power made to the methodology in the 2016 Solar Integration Study. Three primary improvements rise to the top: (1) advancements in developing a granular dataset of diverse solar build-out scenarios; (2) accounting for the net variability and forecast error for diverse solar projects and among solar, wind, and load on Idaho Power's system; and (3) development of a "persistence-based, hour ahead solar production forecast" that can be "readily adopted in practice."[1] These improvements, among others, are the likely drivers of the solar integration costs identified in the 2016 Study being "relatively small," helping lead Idaho Power to note that "solar PV resources can be inexpensively integrated without significant impact to system operations."[2] We agree with Idaho Power regarding the "relatively small" solar integration costs identified in the 2016 Study and with the notion

[1] 2016 Study at 22.
[2] *Id.* at 2.

that solar PV resources can be inexpensively integrated without significant impact to system operations.

In general, we support updating the Schedule 87 rates to reflect the results of the 2016 Study. We also appreciate that the 2016 Study builds a solid methodological foundation for analyzing future solar integration questions—both for Idaho Power and for other utilities. However, like any study, it can be improved upon in future iterations. Below we comment on applying an incremental versus average cost approach to integration rates, the EIM sensitivity, and applying the study methodology to Idaho Power's wind integration studies.

1. An Average Cost Approach Yields More Fair and Accurate Integration Rates Than an Incremental Cost Approach.

Idaho Power should explore adoption of an average cost approach to applying integration costs to new solar QF projects. The 2016 Study reveals that, in general, integration rates change with various levels of cumulative solar generation. Interestingly, between 800 and 1200 MW of solar generation, the integration costs level out, suggesting increasing solar penetration is manageable.[3] Because integration costs change based on cumulative solar generation, the issue arises of how to calculate a fair integration charge for each subsequent project. As discussed further below, Idaho Power currently uses the incremental cost approach; however, the average cost approach is more fair and accurate.

The incremental cost approach proposed by Idaho Power in Schedule 87 assumes that the next project causes more costs than the prior project and applies a higher integration charge to the next project as a result.[4] In contrast, the average cost approach calculates the average integration cost based on the cumulative nameplate solar capacity

[3] Idaho Power/200, Youngblood/4-6.
[4] *Id.*

and applies an equal cost to each operating project. As new projects join the system, the average integration cost changes, resulting in an update to all operating projects. Under either approach, the goal is to collect the full integration cost from the cost-causer.

In our view, applying an average integration rate to all projects is fairer and more accurate than using the incremental cost approach. While the incremental approach may provide more certainty to generation owners, it is divorced from the operations of the system and the methodology used to calculate the integration costs. The 2016 Study methodology accounts for the diversity and netting benefits between solar projects. But the incremental cost approach of allocating costs based on that methodology assumes that a newcomer project inherently brings higher incremental integration costs just because it comes online after another solar project. Similarly, the incremental cost approach assumes earlier projects are less costly to integrate, when in fact, integration costs account for the net variability of the entire system—not just that of individual projects. Further, subsequent projects may have features that reduce integration costs such as better forecasting and scheduling accuracy, strong coincidence of the specific project's generation profile with loads, inverter technology that can address power quality, or location benefits on the grid. Accurate integration costs would account for these improvements by project developers, and smart policy would encourage them to make such improvements. Applying an incremental cost approach does neither.

At this stage, we recommend that the Commission direct Idaho Power to analyze in connection with any future updates to Schedule 87 application of an average cost approach to all future projects. While we find the average cost approach to be more accurate than the incremental one, we recognize that adopting a full average integration cost approach may not be practicable at this time to the extent that it would require

reopening existing contracts or calculating a unique integration cost for each plant. For future updates to Schedule 87, integration costs for future projects should be updated as cumulative solar generation changes. We note the average cost approach is standard utility practice for calculating balancing costs under the Federal Energy Regulatory Commission's *pro forma* Open Access Transmission Tariff Schedule 9, Generator Imbalance Service. Applying this average cost approach to the integration costs applicable to solar QFs would provide a more accurate rate and treat developers reasonably fairly.

2. Idaho Power Should Expand on its Energy Imbalance Market Sensitivity.

Idaho Power should expand on its EIM sensitivity and conduct a thorough review in its 2017 IRP of the costs and benefits of joining the EIM. The 2016 Study did not directly consider the ability of the growing EIM to reduce the costs of intra-hour generation and forecast error. However, Idaho Power did include an "energy imbalance market sensitivity analysis" discussed on Page 22 of the 2016 Study, describing likely further decreases in integration costs in connection with EIM participation. This sensitivity is likely conservative in at least one way: Idaho Power considered the benefits of a 15-minute market only, but the current western EIM has the ability to dispatch on both a 15-minute and a 5-minute basis.

As Idaho Power explains on page 22 of the 2016 Study, because the precise market structure is still evolving, it is appropriate to review the solar integration costs again as the EIM matures. Further, as Idaho Power continues to study the EIM, we recommend that the company include the solar integration benefits when considering the merits of participating in this evolving marketplace. By enabling efficient dispatch of regional energy sources, and expanding the footprint for balancing loads and generation,

the EIM is poised to facilitate integration and reduce costs for participants. In fact, the most recent benefits report from the EIM operator calculates that participating in the market has reduced the amount of megawatts of flexible ramping capacity required for each individual balancing area by 36%.[5] We recommend that the Commission direct Idaho Power to expand on the EIM sensitivity in the 2016 Study through a complete evaluation in the company's 2017 IRP of the costs and benefits of joining the EIM.

3. Idaho Power Should Apply the Solar Study's Methodological Improvements to its Wind Integration Analysis.

As noted previously, Idaho Power made significant methodological and analytical improvements in its 2016 Study, as compared to its 2014 Solar Integration Study. Idaho Power's 2013 Wind Integration Study suffered from similar methodological flaws as the 2014 Solar Integration Study. We encourage the Commission to direct Idaho Power to apply the methodological improvements from the 2016 Study to the company's wind integration analysis. This updated analysis could be performed together with the expanded EIM sensitivity analysis in connection with the 2017 IRP.

III. CONCLUSION

Renewable Northwest and OSEIA appreciate the progress that Idaho Power has made in integrating variable generation into the electric grid and analyzing how to properly identify the costs associated with such integration. As the Northwest generation portfolio continues to evolve, finding more efficient and cost-effective integration techniques will continue to be important. Idaho Power's 2016 Solar Integration Study is a positive contribution to the effort by having the hallmarks of good study: including a resource output forecast that is granular in time and widespread in geography; accurately

[5] *See* California ISO, Benefits for Participating in EIM: 2016 Q2 Report at 7-8 (July 28, 2016), *available at* https://www.caiso.com/Documents/ISO-EIMBenefitsReportQ2_2016.pdf.

accounting for the net variability of load and each generation resource collectively; and applying a range of integration tools. Although Idaho Power has made significant progress, we encourage continued learning and application of study improvements. In addition, we recommend that the Commission (1) adopt Schedule 87, but instruct Idaho Power to explore use of an average cost approach in applying integration costs to future solar projects; (2) instruct Idaho Power to expand on the EIM sensitivity with a complete review in the 2017 IRP of the costs and benefits of joining the EIM; and (3) direct Idaho Power to apply the improved methodology and analysis used in the 2016 Solar Integration Study to update its wind integration study.

Respectfully submitted this 14th day of October, 2016.

/s/ Dina Dubson Kelley

Dina Dubson Kelley
Chief Counsel
Renewable Northwest
421 SW Sixth Ave, Suite 1125
Portland, OR 97204
(503) 223-4544
dina@renewableNW.org

/s/ Jeff Bissonnette

Jeff Bissonnette
Executive Director
Oregon Solar Energy Industries Association
P.O. Box 14927
Portland, OR 97293
(503) 516-1636
jeff@oseia.org