



WENDY MCINDOO
Direct (503) 595-3922
wendy@mrg-law.com

October 21, 2016

VIA ELECTRONIC

PUC Filing Center
Public Utility Commission of Oregon
PO Box 2148
Salem, OR 97308-2148

Re: Docket No. UM 1793 - In the Matter of IDAHO POWER COMPANY Application for Approval of Solar Integration Charge.

Attention Filing Center:

Attached for filing in the above-referenced docket is an electronic copy of Idaho Power Company's Reply Comments. Please contact this office with any questions.

Very truly yours,

A handwritten signature in black ink that reads "Wendy McIndoo". The signature is written in a cursive, flowing style.

Wendy McIndoo
Office Manager

Enclosures

1 **BEFORE THE PUBLIC UTILITY COMMISSION**
2 **OF OREGON**

3 **UM 1793**

4 In the Matter of
5 IDAHO POWER COMPANY
6 Application for Approval of Solar Integration
7 Charge.

**IDAHO POWER COMPANY'S REPLY
COMMENTS**

8 Idaho Power Company ("Idaho Power" or "Company") respectfully submits the
9 following Reply Comments in response to the comments filed by the Public Utility
10 Commission of Oregon ("Commission") Staff ("Staff"), and the joint comments filed by Oregon
11 Solar Energy Industries Association and Renewable Northwest ("OSEIA/RN") on October 14,
12 2016. In these Reply Comments, Idaho Power will address recommendations made by Staff
13 and correct some assumptions and recommendations made by OSEIA/RN.

14 **I. INTRODUCTION**

15 On August 10, 2016, Idaho Power filed its Application requesting the Commission
16 authorize Idaho Power to account for the costs of solar integration in both standard and
17 negotiated Public Utility Regulatory Policies Act of 1978 ("PURPA") Qualifying facility ("QF")
18 contracts in accordance with Idaho Power's completed 2016 Solar Integration Study ("Study"
19 or "2016 Solar Study"). In support of its Application, Idaho Power presented its 2016 Solar
20 Study and the Direct Testimonies of Philip B. DeVol and Michael J. Youngblood. The
21 Company requests that the Commission approve the Company's proposed solar integration
22 costs for QF contracts based upon the 2016 Solar Study, and direct that future solar
23 integration costs be updated to those included in the Company's most recently acknowledged
24 Integrated Resource Plan ("IRP") or IRP update.

25
26

1 On September 8, 2016, the Commission held a prehearing conference where
2 Administrative Law Judge (“ALJ”) Allan J. Arlow granted petitions to intervene to OSEIA and
3 RN, and established the procedural schedule for this docket.

4 On October 14, 2016, comments in this matter were submitted by Staff and OSEIA/RN.

5 **II. STAFF AND OSEIA/RN COMMENTS AND RECOMMENDATIONS**

6 Staff commended Idaho Power for its robust leverage of the Technical Review
7 Committee (“TRC”) and believed that the 2016 Solar Study results reflected the benefits of
8 that approach. Staff participated in the TRC and monitored and evaluated the 2016 Solar
9 Study methodology as the 2016 Solar Study was conducted. Staff stated that it had no
10 concerns with the 2016 Solar Study or its results.¹ Staff recommended that the Commission
11 accept the Study and approve the solar integration charges that Idaho Power proposed
12 based on “the solid methodology employed in the 2016 Study, the process of early and active
13 involvement by the TRC, and the inclusion of Oregon PUC Staff as observers of the entire
14 TRC process.”²

15 OSEIA/RN also complimented the Company on its 2016 Solar Study, stating that they
16 appreciated and supported the changes that Idaho Power made to the methodology.
17 OSEIA/RN stated that three primary improvements rise to the top: (1) advancements in
18 developing a granular dataset of diverse solar build-out scenarios; (2) accounting for the net
19 variability and forecast error for diverse solar projects and among solar, wind, and load on
20 Idaho Power’s system; and (3) development of a “persistence-based, hour ahead solar
21 production forecast” that can be “readily adopted in practice.”³ OSEIA/RN appreciated the
22 progress that Idaho Power has made in integrating variable generation into the electric grid

23

24 ¹ UM 1793/Staff Comments at 3.

25 ² UM 1793/Staff Comments at 6.

26 ³ UM 1793/OSEIA/RN Comments at 2.

1 and analyzing how to properly identify the costs associated with such integration.⁴
2 OSEIA/RN stated that Idaho Power's 2016 Solar Study represents a positive contribution to
3 the effort of finding more efficient and cost-effective integration techniques by "having the
4 hallmarks of good study: including a resource output forecast that is granular in time and
5 widespread in geography; accurately accounting for the net variability of load and each
6 generation resource collectively; and applying a range of integration tools."⁵ OSEIA/RN also
7 recommended the Commission adopt the solar integration charges proposed by the
8 Company.

9 While both Staff and OSEIA/RN recommend Commission approval of the Company's
10 proposed solar integration charges, they each had additional recommendations. Staff
11 focused its analysis of the 2016 Solar Study and Idaho Power's proposed solar integration
12 charges on three main issues:

- 13 1. The lack of congruity between Idaho Power's current wind integration charges
14 and its proposed solar integration charges;
- 15 2. The potential impact of Idaho Power's participation in the California ISO Energy
16 Imbalance Market ("EIM"); and,
- 17 3. Clarifying the process for incorporating solar integration charges in avoided
18 cost prices in Schedule 85.

19 OSEIA/RN comments were of similar nature, commenting on:

- 20 1. Applying an incremental versus average cost approach to integration charges;
- 21 2. EIM sensitivity; and,
- 22 3. Applying the study methodology to Idaho Power's wind integration studies.

23

24

25 ⁴ UM 1793/OSEIA/RN Comments at 6.

26 ⁵ UM 1793/OSEIA/RN Comments at 6-7.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

III. IDAHO POWER REPLY COMMENTS

Idaho Power appreciates both Staff and OSEIA/RN's participation in this docket and agrees with their respective recommendations to approve the solar integration charges as proposed by Idaho Power. However, the Company disagrees with several of the proposals suggested by these parties. The Company will discuss each of these issues below.

1. Average Cost Approach Versus Incremental Cost Approach.

OSEIA/RN recommends using an average integration cost approach based on the cumulative nameplate value of solar on the Company's system, and to charge an equal rate to each operating project.⁶ OSEIA/RN states that "applying an average integration rate to all projects is fairer and more accurate than using the incremental cost approach."⁷ They acknowledge that as new projects join the system, there would be a change in the average integration cost, which would result in an update to all operating projects. OSEIA/RN also recognizes 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.

The Company does not agree with OSEIA/RN's recommendation to use an average integration cost approach in setting solar integration charges. While both the average dollars per MWh and the incremental dollars per MWh recover the same amount of integration costs from the intermittent resources, the incremental cost approach more closely aligns the costs with the MWs that drive those costs, and does not require the re-setting or re-opening of the price during the term of the contract. QF developers are likely to object to and possibly challenge the practice of re-opening costs included in their long-term contracts or re-setting the integration costs throughout the term of their contracts based upon the penetration level

⁶ UM 1793/OSEIA/RN Comments at 3-5.

⁷ UM 1793/OSEIA/RN Comments at 4.

1 of the resource. The Company continues to advocate that the incremental integration cost
2 approach proposed by the Company is more appropriate.

3 The 2016 Solar Study determines an average integration cost per megawatt-hour
4 (“MWh”) for each of the solar build-out scenarios. In fact, Table 9 the Study shows the
5 average integration costs, in 2016 dollars.⁸ If the Commission were to use an average
6 integration cost per MWh for all solar contracts, the average cost per MWh for all projects up
7 to the 1,600 megawatts (“MW”) build-out level would be \$0.85 per MWh. This average cost
8 approach would mean that earlier projects would pay more in integration costs than what the
9 Company actually incurs in order to integrate the intermittent resource and that projects
10 coming on at higher levels of solar penetration would pay less than the costs incurred to
11 integrate the additional intermittent resource.

12 If the average cost of integration shown on Table 9 were broken down into smaller
13 segments, the average cost of integration would be less for the earlier projects coming on-
14 line at lower penetration levels and higher for later projects at higher penetration levels. Table
15 10 on page 22 of the Study shows the average cost per 400 MW block for each of the solar
16 build-out scenarios. The integration costs for each of these blocks are averaged across the
17 400 MW block. The Company uses these benchmark numbers to develop even smaller
18 average blocks and the 100 MW incremental integration costs proposed by the Company.
19 As shown in Mr. Youngblood’s Direct Testimony Exhibit 201, both the average dollars per
20 MWh and the incremental dollars per MWh recover the same amount of integration costs
21 from the intermittent resource.⁹ However, with the costs being allocated on an incremental
22 basis, the individual costs per MWh are more closely aligned with the cause of those costs;

23

24

25 ⁸ 2016 Solar Study, p. 21.

26 ⁹ UM 1793 – Idaho Power/201, Youngblood/1

1 thus, the initial generation is assigned a lower cost than the later generation, which is more
2 costly to integrate.

3 This same issue was raised by Renewable Northwest and the Idaho Conservation
4 League (“ICL”) in Case No. IPC-E-167-11, the Company’s request to the Idaho Public Utilities
5 Commission (“IPUC”) to update its solar integration charges in Schedule 87 consistent with
6 the completed 2016 Solar Integration Study. The IPUC Commission found that they were:

7

8 “...disinclined to adopt ICL and RN’s proposal to employ an
9 average integration cost approach. Average costs would
10 work to the detriment of early projects and to the benefit of
11 later developers. We find no reasonable basis to adopt such
an approach. We find that the incremental costs used in the
existing and revised Schedule 87 more accurately align
costs incurred by the company to integrate intermittent
resources with the sources of those costs.”¹⁰

12 The Company recommends the Commission adopt the incremental pricing as
13 proposed by the Company, which uses the same incremental cost methodology as is
14 currently included in the Commission acknowledged 2015 Integrated Resource Plan and is
15 consistent with the Company’s Schedule 87 – Intermittent Generation Integration Charges,
16 in Idaho, both for solar and wind integration costs.

17 **2. EIM Sensitivity Review in the 2017 IRP.**

18 Both Staff and OSEIA/RN suggest that the Company should update its analysis of the
19 potential benefits of Idaho Power’s participation in the EIM, with OSEIA/RN specifically
20 recommending the Commission instruct Idaho Power to expand on EIM sensitivity with a
21 complete review in the 2017 IRP of the costs and benefits of joining the EIM.

22 The California Independent System Operator and Idaho Power have signed an
23 agreement for the Company to participate in the Western EIM beginning April 2018,
24 contingent upon necessary regulatory approvals. Idaho Power believes it is appropriate to

25

26 ¹⁰ Order No. 33563, IPUC Case No. IPC-E-16-11 at 6.

1 provide the Commission with timely information regarding potential benefits of EIM
2 participation; however, the Company does not believe the recommended cost-benefit
3 analysis should be included in the 2017 IRP or evaluated within the context of the IRP
4 process. While EIM participation will ultimately impact the dispatch of the Company's
5 resources, the evaluation of the costs and benefits of participation is not directly related to
6 the long-term resource plan of the IRP. As noted in the 2016 Solar Study¹¹, the Study did
7 incorporate an EIM sensitivity analysis. The Study recognized both: (1) the potential benefit
8 of wholesale energy market trading on a 15-minute window instead of hourly to potentially
9 reduce required operating reserves and thus integration costs; and (2) the fact that the
10 contemplated EIMs are not expected to trade capacity products (i.e., operating reserves) and
11 thus the potential capability to satisfy all or part of the INC/DEC reserve requirements through
12 EIM participation is not anticipated.

13 It should be noted that all balancing authorities participating in an EIM begin the hour
14 with matched generation and forecasted load. In other words, EIM participation doesn't
15 release a balancing authority from peaking capacity and energy capability resource
16 adequacy requirements studied as part of integrated resource planning, and consequently
17 Idaho Power does not believe the recommended cost-benefit analysis should be included in
18 the 2017 IRP or evaluated within the context of the IRP process. Any benefit or cost
19 associated with EIM participation as related to integration costs of intermittent resources
20 would be more appropriately included in future integration cost studies, not the IRP planning
21 process.

22 **3. Apply Solar Integration Study Methodology to New Wind Study.**

23 Both the Staff and OSEIA/RN recommend the Commission direct the Company to
24 apply the improved methodology and analysis used in the 2016 Solar Study to update the
25

26 ¹¹ 2016 Solar Study, p. 22.

1 wind integration study. Specifically, the Staff recommends that Idaho Power provide an
2 updated wind integration study with its 2017 IRP. The Company disagrees with these
3 recommendations.

4 The Company discusses the comparison of solar integration to wind integration within
5 the Study itself. The Study states that the lower integration costs associated with solar are
6 fundamentally the result of less variability and uncertainty and the related effect on operating
7 reserve requirements arising because of the lesser variability and uncertainty exhibited by
8 solar. The Study states:

9
10 Compared to wind, system operators managing a balancing
11 authority integrating solar would have the benefit of at least
12 6 hours at the start of day with no or little solar production.
13 During this period of no or little solar production, system
14 operators could evaluate the day-ahead solar production
15 forecast using information from updated weather forecast
16 products and begin to plan for necessary actions to manage
17 deviations from the day-ahead solar production forecast.¹²

18
19 Qualitatively, the Study data suggests solar is more predictable than wind generation
20 connected to Idaho Power's system. Sunrise and sunset times, as well as the time of solar
21 noon, are a certainty. The theoretical maximum level of production can be readily derived,
22 reflecting patterns on daily, monthly, and seasonal time scales. In addition, land
23 requirements for a solar power plant are likely to promote a relatively high level of dispersion,
24 which is critical to the mitigation of impacts from severe and abrupt ramps in production
25 exhibited by individual panels in response to passing clouds.

26 This same issue was raised by ICL/RN in Case No. IPC-E-16-11, the Company's
request to update its solar integration charges. The IPUC Commission stated:

24

25

26 ¹² 2016 Solar Study, p. 23.

1 “Finally, ICL and RN recommended that Idaho Power “apply
2 the improved methodology and analysis used in the 2016
3 Solar Integration Study to update the wind integration
4 study.” ICL/RN Comments at 4. The Company disagreed.
5 Idaho Power noted that, “Qualitatively, the Study data
6 suggests solar is more predictable than wind generation
7 connected to Idaho Power’s system.” Reply at 6. We find
8 there are notable difference between wind and solar power
9 generation. These differences make it impracticable to
10 apply the methodology and analysis from the 2016 Solar
11 Integration Study to a wind integration study update.
12 Accordingly, we reject ICL and RN’s invitation to apply the
13 Company’s solar study to wind.”¹³

8 While the Company continually strives to develop the best and most appropriate
9 analysis possible, and incorporates new techniques and lessons learned from previous
10 studies, the assumption that the techniques used in the 2016 Solar Study are appropriate for
11 a wind integration study is not correct. The Company does not recommend the Commission
12 direct the Company to apply the improved methodology and analysis used in the 2016 Solar
13 Study to update the wind integration study.

14 Additionally, it is not feasible to convene a TRC and conduct a new integration study
15 in time to include the same with the filing of the 2017 IRP. The composition of the Company’s
16 generation resources, particularly of wind and other non-intermittent generation, has not
17 changed significantly since establishment of the current wind integration costs. The proper
18 conduct of a new integration study which fully utilizes the TRC and associated study
19 processes takes more than a year to complete.

20 **4. Implementation of Solar Integration Charges.**

21 The Commission previously authorized Idaho Power to implement wind integration
22 charges consistent with those included in Idaho Power’s acknowledged IRP.¹⁴ In this docket,
23 Idaho Power asks for the same determination regarding solar integration charges, however,
24

25 ¹³ Order No. 33563, IPUC Case No. IPC-E-16-11 at 6.

26 ¹⁴ UM 1610, Order No. 14-058, p. 14.

1 the Company seeks initially to implement solar integration charges from the more up-to-date
2 2016 Study, which are substantially lower.

3 Staff does not oppose Idaho Power's proposed solar integration charges, but
4 recommends that the Company list all integration charges (wind and solar) individually on
5 Schedule 85, and that as the capacity penetration level of each intermittent resource
6 increases, the new level of charges should be reflected in Schedule 85.

7 Idaho Power does not disagree with Staff's recommendations. The Company
8 proposes to include the integration cost tables for wind and solar resources at all capacity
9 penetration levels at the end of the Company's Schedule 85. The wind integration charges
10 are those already in effect and consistent with those included in Idaho Power's acknowledged
11 2015 IRP. The proposed solar integration charges are those consistent with those identified
12 in the 2016 Study. Idaho Power would update the wind and solar integration charges in
13 accordance with future IRP acknowledgments.

14 For transparency, the Company also proposes to revise the current avoided cost price
15 sheet in Schedule 85, which became effective September 27, 2016, to include separate
16 columns reflecting the current penetration level of integration costs included in both the wind
17 and solar on-peak and off-peak energy price. As the capacity penetration level for each
18 intermittent resource is surpassed, the Company will update the current avoided cost price
19 sheet to reflect the then current integration costs included in both the on-peak and off-peak
20 energy price.

21 **IV. CONCLUSION**

22 Idaho Power agrees with Staff's and OSEIA/RN's recommendation that the
23 Commission approve the solar integration charges as proposed by Idaho Power. The
24 Company's proposed revision of Schedule 85 is attached and includes the Company's
25 approved wind integration charges and proposed PV solar integration charges.

26

1 The Commission should reject OSEIA/RN's recommendation to develop an average
2 cost approach to apply to new solar projects and retain the existing and more equitable
3 incremental cost distribution for every 100 MW of solar penetration. The Commission should
4 also reject Staff and OSEIA/RN's recommendations to expand EIM sensitivity in the 2017
5 IRP and to apply the 2016 Solar Study methodology and analysis to update the wind
6 integration study.

7 Idaho Power respectfully requests the Commission authorize Idaho Power to
8 implement the solar integration charges consistent with the 2016 Solar Integration Study
9 Report, and that going forward, the Company be directed to utilize solar integration charges
10 included in the Company's most recently acknowledged IRP or IRP update, consistent with
11 Commission directives for wind integration charges.

12 DATED: October 21, 2016.

13 **MCDOWELL RACKNER & GIBSON PC**

14 

15
16 Lisa F. Rackner
419 SW 11th Avenue, Suite 400
17 Portland, Oregon 97205
Telephone: (503) 595-3925
18 Facsimile: (503) 595-3928
dockets@mrq-law.com

19
20 **IDAHO POWER COMPANY**

21 Donovan Walker
22 Lead Counsel
1221 West Idaho Street
23 P.O. Box 70
Boise, Idaho 83707

24 Attorneys for Idaho Power Company
25
26