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August 9, 2018

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 1911 – In the Matter of IDAHO POWER COMPANY, Resource Value of Solar

Attention Filing Center:

Attached for filing in the above-captioned docket is an electronic copy of Idaho Power Company's Closing Brief. The workpapers will be filed at puc.workpapers@state.or.us.

Please contact this office with any questions.

Sincerely,

Alisha Till
Legal Assistant

Attachment

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1911

In the Matter of

IDAHO POWER COMPANY,

Resource Value of Solar.

Idaho Power Company's Closing Brief

I. INTRODUCTION

1 This proceeding was established to provide utility-specific values for the resource
2 value of solar (RVOS), using those inputs best reflective of solar's value on each utility's
3 system.¹ Idaho Power Company (Idaho Power or Company) properly implemented each
4 of the elements as identified by the Public Utility Commission of Oregon (Commission),
5 and supports the continued development of utility-specific methods given the important
6 differences among Oregon's utilities.

7 In opening briefing, Commission Staff and other parties² raise a handful of
8 concerns regarding Idaho Power's implementation of the RVOS elements. In this brief,
9 Idaho Power responds to these points and explains that (1) Staff correctly identified an
10 error in the Company's energy price shape, which the Company has since corrected; (2)
11 the Company appropriately identified opportunities for solar to defer transmission and
12 distribution (T&D) investments to create the most accurate annualized average T&D value;
13 (3) administration costs for the Oregon PV Pilot program best reflect the likely costs of

¹ *In the Matter of the Pub. Util. Comm'n of Or.*, Docket No. UM 1716, Order No. 17-357 at 2 (Sept. 15, 2017) (directing each utility "to make individual compliance filings in new utility-specific dockets").

² Other parties include the Oregon Citizens' Utility Board (CUB), Renewable Northwest (RNW), the Oregon Solar Energy Industries Association (OSEIA), and the Oregon Department of Energy (ODOE) (collectively, Intervenors).

1 administering future Oregon solar programs; (4) solar's downward pressure on market
 2 prices will have a negative financial impact because the Company is a net market seller
 3 during daylight hours; and (5) Idaho Power is unaware of any regulatory changes that
 4 would result in environmental compliance costs that could then be avoided by increased
 5 solar development. Apart from these points, Idaho Power believes that the parties largely
 6 agree on implementation of the RVOS.

II. DISCUSSION

7 Below, Idaho Power responds to concerns impacting the following RVOS
 8 elements: energy, T&D capacity, administration, market price response (MPR), and
 9 environmental compliance. Where an element of the RVOS is not addressed, Idaho
 10 Power believes that it has adequately responded to any relevant issues in its opening
 11 briefing. Based upon revisions to the Company's energy price shape as recommended
 12 by Staff, Idaho Power's revised RVOS values are as follows:

Element	RVOS as Filed in Reply Testimony Standard Size Project (\$/MWh Real Levelized)	Revised RVOS Standard Size Project (\$/MWh Real Levelized)	Revised RVOS Reduced Administration Cost Standard Size Project (\$/MWh Real Levelized)
1. Energy	25.30	30.00	30.00
2. Generation Capacity	13.50	13.50	13.50
3. T&D Capacity	0.54	0.54	0.54
4. Line Losses	2.05	2.43	2.43
5. Administration	(47.77)	(47.77)	(18.20)
6. Integration	(0.56)	(0.56)	(0.56)
7. Market Price Response	0.00	0.00	0.00
8. Hedge Value	1.26	1.50	1.50
9. Environmental Compliance	0.00	0.00	0.00
10. RPS Compliance	0.00	0.00	0.00
11. Grid Services	0.00	0.00	0.00
Net Levelized RVOS	(5.68)	(0.36)	29.21

A. Energy

1 Idaho Power provided two approaches to creating a price shape for energy values:
2 First, the Company relied on hourly data from participants in Idaho Power's Oregon solar
3 pilot project.³ After Staff objected to the resulting flat shape,⁴ Idaho Power provided an
4 alternate price shape using Mid-Columbia (Mid-C) market prices, which resulted in a
5 revised real levelized energy value of \$25.30 per MWh (down from the Company's initial
6 \$29.74 valuation).⁵

7 Staff now objects to the Company's revised analysis on the basis that the shaping
8 factors do not average one across the year.⁶ Staff asks that Idaho Power either correct
9 its shaping of 2017 hourly prices or use a different method to obtain a 12 x 24 shape, such
10 as the economic dispatch model used by Portland General Electric (PGE).⁷

11 Idaho Power appreciates Staff's review of the energy price shape as there was an
12 error in the shaping factors. The Company has since corrected this issue and the shaping
13 factors now average one across the year.⁸ The Company has also updated the price
14 shape to reflect a 12 x 24 shape, rather than an hourly shape, as directed by the
15 Commission in Order No. 17-357.⁹

16 The Company also supports Staff's position that utilities should use the most
17 recently available forward price curve to develop the energy component of the RVOS.¹⁰
18 Idaho Power therefore updated the energy price component of the RVOS using the most

³ Idaho Power/200, Haener/4.

⁴ Staff/100, Andrus/3.

⁵ Idaho Power/200, Haener/5.

⁶ Staff's Opening Brief at 5.

⁷ Staff's Opening Brief at 5.

⁸ The Company has provided the updated model as accompanying workpapers in this filing.

⁹ Order No. 17-357 at 4.

¹⁰ Staff's Opening Brief at 4.

1 recently available Mid-C price curve, as of August 7, 2018, which is the same pricing index
2 used for standard avoided cost prices.

3 Idaho Power's corrected energy price shape, combined with the updated forward
4 price curve, produced a real levelized energy value of \$30.00 per MWh, compared to the
5 \$25.30 per MWh value filed in the Company's reply testimony, as shown in the table
6 above.¹¹ With this change, Idaho Power's updated levelized net RVOS is a negative \$0.36
7 per MWh—up from the negative \$5.68 per MWh as filed in the Company's reply testimony
8 (shown above).¹²

9 Note, as a result of the updated energy value, the values for line losses and hedge
10 value also changed. Idaho Power believes that this correction fully responds to Staff's
11 concerns regarding the Company's implementation of the energy element.

B. T&D Capacity

12 As with the energy element, Idaho Power also provided two approaches to valuing
13 T&D capacity investments deferrable by solar. Initially, the Company calculated the T&D
14 capacity component according to its 2017 IRP analysis, which estimated T&D deferral
15 benefits provided by energy efficiency.¹³ Staff objected to Idaho Power's reliance on
16 energy efficiency impacts, and urged the Company to instead use a marginal cost of
17 service (MCOS) study, which correlates a utility's peak load growth with T&D
18 investments.¹⁴ Idaho Power strongly disagrees with this approach because a correlation
19 between T&D investments and an increase in load does not mean there is a *causal* link.

¹¹ Idaho Power/200, Haener/5.

¹² Idaho Power/200, Haener/3.

¹³ Idaho Power/100, Haener/9.

¹⁴ Staff/200, Andrus/8.

1 Indeed, most of Idaho Power's recent T&D investments in its Oregon service area have
2 been for maintenance and reliability improvements, which cannot be deferred by solar
3 generation.¹⁵ As a result, the MCOS study would substantially overstate solar's ability to
4 defer T&D investments.

5 Instead, Idaho Power responded to Staff's concerns by updating the T&D capacity
6 value using the method recommended by Energy and Environmental Economics, Inc.
7 (E3).¹⁶ The Company valued the distribution component using actual substation and
8 transformer data to determine which locations would be capacity-limited within 25 years,
9 and then assessed which capacity investments could be deferred by increased solar
10 generation.¹⁷ This value was then extrapolated to create an average annualized value for
11 solar.¹⁸ Notably, the Company's transmission deferral value remained at zero because
12 the Oregon portion of Idaho Power's system is winter peaking around 8:00 a.m., meaning
13 that solar is unable to meaningfully contribute to reducing the need for transmission
14 investments necessary to meet peak load.¹⁹

15 Now, Staff overlooks Idaho Power's revised analysis, objecting that Idaho Power
16 improperly "determined which projects it believe[d] to be deferrable as a result of [energy
17 efficiency]."²⁰ Idaho Power has already responded to Staff's concern about relying on
18 energy efficiency analysis, and instead developed a long-term study horizon for possible
19 T&D investments that might be deferrable by solar resources specifically.²¹

¹⁵ Idaho Power/200, Haener/12.

¹⁶ Idaho Power/200, Haener/12.

¹⁷ Idaho Power/200, Haener/12-13.

¹⁸ Idaho Power/200, Haener/15.

¹⁹ Idaho Power/200, Haener/14.

²⁰ Staff's Opening Brief at 11.

²¹ Idaho Power/200, Haener/14.

1 Staff further states that the Company failed to create a “system-wide average” as
2 the Commission directed,²² an argument joined by CUB.²³ While both Staff and CUB
3 recognize the value associated with increased granularity of T&D investment analysis,
4 they argue that extrapolating from “location-by-location” analysis cannot properly yield
5 average deferral values, and that “a more general estimate” should be used instead.²⁴
6 Idaho Power disagrees that relying on actual T&D data to develop an annualized average
7 is suboptimal. The Company’s long-term T&D investment forecasting accurately identifies
8 those capital expenditures that could be avoided by increased solar penetration, and
9 provides the most robust means of valuing solar’s T&D deferral contribution.

C. Administration

10 Idaho Power developed an administration cost estimate for the RVOS by using
11 actual costs associated with administering a similar solar program—the Oregon Solar PV
12 Pilot Program.²⁵ The Company’s estimate of administering solar PV programs is \$47.77
13 per MWh based on the Oregon Solar PV Pilot Program’s actual expenses for 2016. These
14 actual administration values provide a clear and reliable assessment of the Company’s
15 costs to administer solar programs in its Oregon jurisdiction.

16 Staff argues that “these costs are likely not representative of costs associated with
17 future solar development,” and urges the Company to instead rely on the costs to
18 administer net metering programs.²⁶ Staff does not explain why it believes that the actual

²² Staff’s Opening Brief at 12.

²³ CUB’s Opening Brief at 7.

²⁴ Staff’s Opening Brief at 12; CUB’s Opening Brief at 7.

²⁵ Idaho Power/200, Haener/19-20.

²⁶ Staff’s Opening Brief at 16. RNW similarly argues that Idaho Power should adopt a methodology for this RVOS element that relies on the costs to administer net metering programs. RNW’s Opening Brief at 14.

1 costs Idaho Power incurred administering a pilot solar program in Oregon do not
2 accurately reflect the likely costs of administering future solar programs. Indeed, it is Idaho
3 Power's understanding that the RVOS will be used to compensate participants in the
4 Oregon Solar PV Pilot Program when the existing projects seek renewal contracts. By
5 using actual administration data, Idaho Power fully and fairly reflected the costs to
6 administer solar programs in this RVOS element.

7 For a comparative analysis, the Company removed \$23,899 of the Oregon Solar
8 PV Pilot Program's administration costs associated with communication service fees,
9 which represent 62 percent of the total administration costs. While the Company believes
10 that these costs are appropriately included in Idaho Power's RVOS calculation because
11 they are actual costs being incurred for participants in the PV Pilot, these same costs may
12 not be included in other RVOS applications. Removal of these costs from the
13 administration component of the revised RVOS calculation resulted in a net levelized
14 RVOS of \$29.21 per MWh.²⁷

D. Market Price Response

15 Idaho Power modeled the MPR element using sequential AURORA model runs,
16 as recommended by E3's Arne Olson.²⁸ The Company's sequential modeling confirmed
17 that increased solar penetration would reduce market prices during daylight hours.²⁹
18 However, Idaho Power sells more energy on the market than it purchases during daylight
19 hours, meaning that reduced market prices have a negative financial impact on the
20 Company. Solar's impact on market prices for Idaho Power is therefore negative. As such,

²⁷ See Idaho Power/200, Haener/19-22.

²⁸ Idaho Power/200, Haener/23-24.

²⁹ Idaho Power/200, Haener/24.

1 Idaho Power used a market price elasticity of -0.001 per MWh for the MRP component of
2 RVOS as suggested by Mr. Olson in the November 7, 2017, email from Staff.³⁰ The
3 resulting real levelized MRP value for RVOS is zero.

4 Staff states that it “disagrees with Idaho Power’s analysis” because, “[a]s long as
5 the marginal cost of solar is below the market price of electricity, the marginal impact of
6 every kilowatt addition will depress market prices. Accordingly, a zero value is appropriate
7 only if there is no anticipated solar development.”³¹ Staff’s objection does not logically
8 follow. As Staff notes, Idaho Power sells more energy to the market than it purchases
9 during hours when solar impacts market prices.³² Moreover, Staff and Idaho Power agree
10 that increased solar penetration “will depress market prices.”³³ By logical extension,
11 reducing market prices for a net market seller will have a negative financial impact. Thus,
12 while Idaho Power’s MRP component of the RVOS is zero, this value may actually
13 *overstate* solar’s value for this element.

E. Environmental Compliance

14 Consistent with the Commission’s direction to develop environmental compliance
15 values consistent with each utility’s most recently acknowledged IRP,³⁴ Idaho Power used
16 a zero value for this element in keeping with the Company’s 2015 and 2017 IRPs.³⁵ Idaho
17 Power currently has no projected environmental compliance costs and, as a result, has
18 no costs that could be avoided by increased solar generation.³⁶

³⁰ Idaho Power/200, Haener/24.

³¹ Staff’s Opening Brief at 19.

³² Staff’s Opening Brief at 18.

³³ Staff’s Opening Brief at 19.

³⁴ Order No. 17-357 at 13.

³⁵ Idaho Power/200, Haener/27-28.

³⁶ Idaho Power/200, Haener/27-28.

1 Despite acknowledging that Idaho Power “complied” by providing a value for this
2 element consistent with the Company’s IRP, Staff argues that Idaho Power’s analysis was
3 insufficient in light of “emerging events regarding carbon regulations in Oregon.”³⁷ Idaho
4 Power is not aware of any emerging events that would translate into a real cost for Idaho
5 Power or its customers. Staff previously agreed that the RVOS should not include
6 placeholder values for issues that are more properly the subject of public policy forums,
7 and therefore “no benefits or costs can actually accrue” to customers.³⁸ Absent legislative
8 action creating an actual cost or benefit for Idaho Power’s customers, it is appropriate to
9 keep Idaho Power’s avoided cost of environmental compliance for the RVOS at zero.

III. CONCLUSION

10 With the correction to the shaping of energy prices as suggested by Staff, Idaho
11 Power has fully complied with the Commission’s direction to implement each of the RVOS
12 elements using utility-specific values. Going forward, the Company continues to
13 recommend omitting the MPR, hedge value, environmental compliance, and RPS
14 compliance elements, as these values are properly zero (or negative) for Idaho Power.

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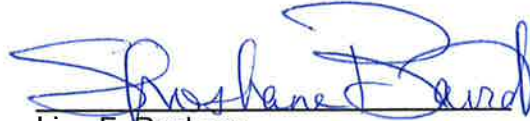
³⁷ Staff’s Opening Brief at 22.

³⁸ Docket. No. UM 1716, Staff’s Opening Brief at 12 (Aug. 26, 2016) (disagreeing with a proposal to create a placeholder value for solar’s possible societal benefits, such as reduced air emissions).

1 Idaho Power respectfully requests that the Commission approve the Company's
2 implementation as the most accurate reflection of the resource value of solar for Idaho
3 Power.

Dated this 9th day of August 2018.

McDowell Rackner Gibson PC



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