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**BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

**IN THE MATTER OF THE APPLICATION ) CASE NO. PAC-E-19-08**  
**OF ROCKY MOUNTAIN POWER TO )**  
**CLOSE THE NET METERING PROGRAM ) DIRECT TESTIMONY OF**  
**TO NEW SERVICE & IMPLEMENT A ) JOELLE R. STEWARD**  
**NET BILLING PROGRAM TO )**  
**COMPENSATE CUSTOMER )**  
**GENERATORS FOR EXPORTED )**  
**GENERATION )**

**ROCKY MOUNTAIN POWER**

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**CASE NO. PAC-E-19-08**

**June 2019**

1 **Q. Please state your name, business address, and current position with PacifiCorp**  
2 **d/b/a Rocky Mountain Power (“Company”).**

3 A. My name is Joelle R. Steward. My business address is 1407 West North Temple, Suite  
4 330, Salt Lake City, Utah 84116. My title is Vice President of Regulation for Rocky  
5 Mountain Power.

6 **QUALIFICATIONS**

7 **Q. Please describe your education and professional background.**

8 A. I have a Bachelor of Arts degree in Political Science from the University of Oregon and  
9 a Masters of Public Affairs from the Hubert Humphrey Institute of Public Policy at the  
10 University of Minnesota. Between 1999 and March 2007, I was employed as a  
11 Regulatory Analyst with the Washington Utilities and Transportation Commission.  
12 I joined the Company in March 2007 as the Regulatory Manager responsible for all  
13 regulatory filings and proceedings in Oregon. From February 2012 through May 2016,  
14 I was a Director in charge of the work for the cost of service, pricing, and regulatory  
15 operations groups for the Company. In 2016, I became the Director of Rates and  
16 Regulatory Affairs and added responsibilities for regulatory affairs for Rocky Mountain  
17 Power. In November 2017, I assumed my current position as Vice President of  
18 Regulation for Rocky Mountain Power.

19 **Q. Have you testified in previous regulatory proceedings?**

20 A. Yes. I have filed testimony in proceedings before the public utility commissions in  
21 Idaho, Oregon, Utah, Washington, and Wyoming.

1 **PURPOSE AND SUMMARY OF TESTIMONY**

2 **Q. What is the purpose of your testimony?**

3 A. The purpose of my testimony is to introduce and support the Company's Application  
4 to establish a successor program for customer generators to the existing Net Energy  
5 Metering program ("Net Metering program") offered under Electric Service Schedule  
6 No. 135 – Net Metering Service ("Schedule 135"). I give an overview of the  
7 Company's filing, explain why the Company's proposals are in the public interest and  
8 identify the witnesses who support the details of the proposed changes.

9 **Q. Please provide a summary of the Company's proposals in this Application.**

10 A. The Company proposes closing Schedule 135 to applications received after  
11 December 31, 2019; allow existing customer generators to remain on Schedule 135  
12 until June 1, 2029 when they would be moved to Net Billing Services; approve a new  
13 program to enable customer generation, Electric Service Schedule 136 – Net Billing  
14 Services ("Schedule 136"), to begin February 1, 2020 and; authorize recovery of export  
15 credits through the energy cost adjustment mechanism.

16 Alternatively, if the Commission does not allow existing customer generators  
17 to remain on Schedule 135 as the Company proposes, the Company proposes  
18 modifications to Schedule 135 to provide a three-year transition to a net billing services  
19 program applicable to all current and future program participants.

20 **Q. Why is the Company recommending to close Schedule 135, cap it at levels effective**  
21 **on mid-night December 31, 2019 and open a new net billing program for customer**  
22 **generators at this time?**

23 A. The Company is recommending to replace the Net Metering program on Schedule 135

1 with a new net billing program on Schedule 136 in order to minimize cost shifting and  
2 send appropriate price signals to the growing population of customers interested in  
3 installing on-site generation. Because of the design of Schedule 135, non-participating  
4 customers are paying customer generators the retail volumetric rate for excess energy  
5 exported to the grid when that energy is available at much lower wholesale prices. The  
6 Company supports the development of cost-effective renewable energy and its  
7 customers' desire to install on-site generation, but simply wants to ensure that other  
8 customers are not adversely impacted through higher rates.

9 **Q. What does the Company propose regarding current Net Metering program**  
10 **participants who currently take service under Schedule 135?**

11 A. Recognizing their investments in on-site generation systems, the Company proposes to  
12 allow current Net Metering program participants to remain on Schedule 135 for  
13 approximately ten years. As of June 1, 2029, these Schedule 135 customers would be  
14 moved to Schedule 136.

15 **Q. Has the Commission previously recognized the probability of cost shifting to occur**  
16 **as a result of net metering?**

17 A. Yes. When Schedule 135 was approved in 2003, the Commission recognized program  
18 participants would probably shift costs to other customers. For that reason the  
19 Commission capped initial participation at 714 kilowatts and ordered the Company to  
20 monitor and report on the customer impacts of the program. The Commission's 2003  
21 order states:

22 The Commission finds that the proposed 714 kW cap is a reasonable initial cap  
23 for PacifiCorp's net metering program. We also find it reasonable, however, that  
24 the cumulative capacity limit be reviewed after that limit is reached. As part of  
25 that review, we expect a report from the Company regarding the required level

1 of subsidization by non-participants. The Commission recognizes that the full  
2 cost of the program we approve today may not be borne only by participants....  
3 As part of its report to the Commission, the Company should provide the  
4 differential between the net metering purchase price it pays at retail sales rates  
5 and the wholesale cost of alternative power supplies. We also expect further  
6 information from the Company regarding cost shifting and the Company's  
7 ability to recover customer costs from program participants.<sup>1</sup>

8 **Q. Has the Company evaluated if cost shifting is occurring?**

9 A. Yes. As demonstrated in the direct testimony of Company witness Mr. Robert M.  
10 Meredith in this Application, the Net Metering program for current customer generators  
11 shifts costs to non-net metering customers. The primary driver of the cost shift is that  
12 net metering customers are compensated at the full retail rate for excess output from  
13 their on-site generation.

14 In order to mitigate this cost shift, the Company proposes to compensate  
15 customers for energy exported to the grid from their customer generation system at a  
16 level that fairly reflects that energy's value to the system and holds other customers  
17 economically indifferent. To do this the Company proposes a new program, Electric  
18 Service Schedule No. 136 – Net Billing Services. Schedule 136 establishes time  
19 varying export prices to send accurate price signals to customers in order to maximize  
20 benefits to the utility's system, while protecting other customers from unfair and  
21 unexpected cost-shifting.

22 **BACKGROUND AND STATUS OF NET METERING**

23 **Q. What is net metering?**

24 A. Net metering is a billing construct for customers with customer generation systems

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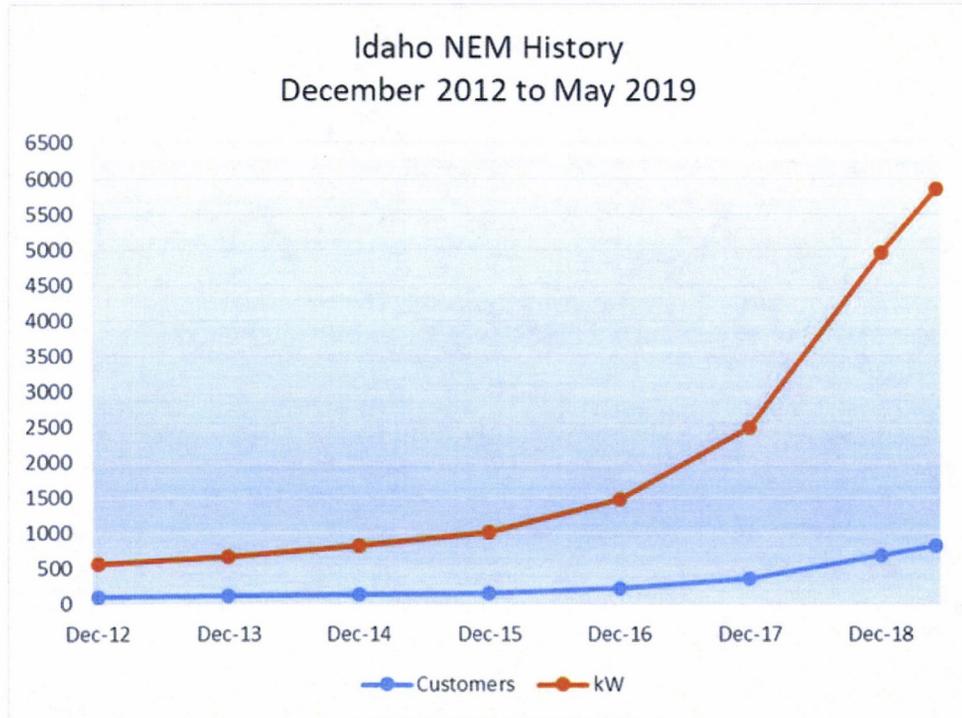
<sup>1</sup> *In the Matter of the Petition of NW Energy Coalition and Renewable Northwest Project to Establish Net Metering Schedules for PacifiCorp*, Case No. PAC-E-03-04, Order No. 29260 at 7 (June 20, 2003).

1 interconnected to the grid that allows them to net their energy exported to the grid  
2 against the energy for which they are billed. In other words, net metering customers are  
3 compensated for their exported energy at the retail energy rate.

4 **Q. Has the Company experienced significant growth in its Net Metering program?**

5 A. Yes. For the first several years after implementation of the program growth was very  
6 slow. However, from 2012 to 2015 the program grew between 10 to 20 percent a year.  
7 In 2016 participation jumped 40 percent, then by 65 percent in 2017 and most recently,  
8 the Net Metering program participation increased by 90 percent in 2018. In addition to  
9 significant growth with customer participation the size of customers' generation  
10 facilities is also increasing. Table 1 summarizes the number of customers and kilowatts  
11 of customer-owned generation interconnected to the Company's system.

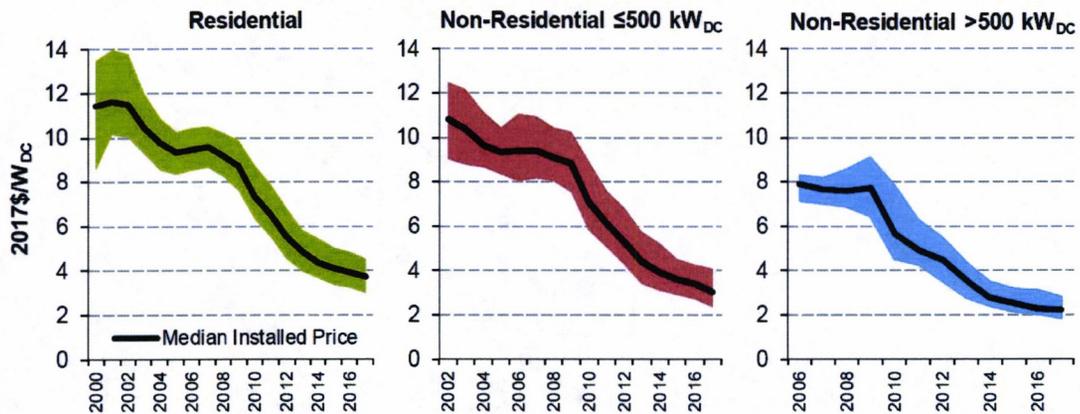
12 **Table 1 - RMP Interconnected Customer Owned Generation**



1 Q. How has customer generation changed since the Company first implemented its  
2 Net Metering program in 2003?

3 A. The cost of customer generation systems, particularly photovoltaic solar, has fallen  
4 precipitously since 2003. In 2003, the national median cost of a customer sited  
5 residential solar system was about \$10 per watt. In 2017 that median price had fallen  
6 to about \$3.70 per watt. Table 2 shows this trend of lower prices for customer solar  
7 generation.

8 **Table 2 Installed Price Trends for Distributed Photovoltaic Systems in the United States: 2000-2017<sup>2</sup>**



Notes: Solid lines are median prices, and shaded areas are 20<sup>th</sup>-to-80<sup>th</sup> percentile ranges. Statistics shown only if at least 20 observations are available for a given year and customer segment. See Table 1 for annual sample sizes.

9 The factors contributing to lower prices for customer solar photovoltaic installations  
10 include reductions in the cost of equipment like panels and inverters as manufacturers  
11 have gained greater economies of scale as well as reductions in soft costs like labor,  
12 marketing and overheads. Nationally, customer sited solar has grown dramatically from  
13 a relatively fringe technology to a more mature market. When there were very few

<sup>2</sup> GALEN BARBOSE & NAIM DARGHOUTH, LAWRENCE BERKLEY NAT'L LABORATORY, TRACKING THE SUN, INSTALLED PRICE TRENDS FOR DISTRIBUTED PHOTOVOLTAIC SYSTEMS IN THE UNITED STATES at 18 (2018), available at <https://emp.lbl.gov/tracking-the-sun>.

1 installed customer generation systems, it may have made some sense for the Company  
2 to offer its Net Metering program. However, the current Net Metering program that  
3 pays customer generators a price for their exports to the grid far in excess of its value  
4 is no longer sustainable without adverse impacts on other customers.

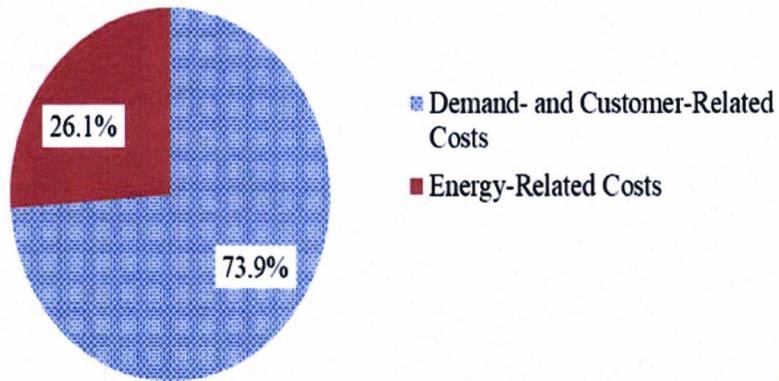
5 **Q. What is the scope of the cost shifting that occurs under the current Net Metering**  
6 **program?**

7 A. Net metering compensates customers with on-site generation that provide excess  
8 energy back onto the grid at the full retail energy rate. For smaller customers such as  
9 residential, most of the fixed costs to pay for and maintain the Company's system are  
10 recovered through these volumetric energy charges. The figures below show the split  
11 between fixed charges and energy charges for residential customers based on the cost  
12 of service study from the last general rate case updated for costs from the 2017 Results  
13 of Operations report.<sup>3</sup> While 73.9 percent of the costs to serve residential customers are  
14 essentially fixed costs for recovery of operations and investments already made to serve  
15 customers, only 7.8 percent of those costs are recovered through fixed charges.  
16 Therefore, approximately 89 percent of the fixed cost recovery is subject to the  
17 customer's volumetric kilowatt-hour usage.

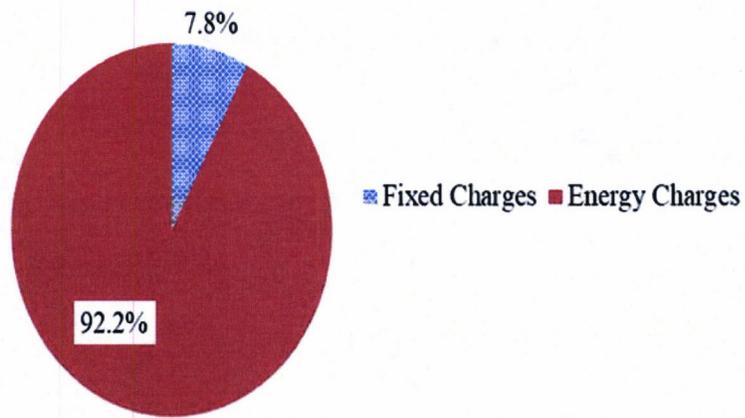
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<sup>3</sup> Case No. PAC-E-11-12.

### Residential Cost of Service



### Residential Charges



- 1 Q. Why is such a large percentage of fixed costs recovered through volumetric energy  
2 charge?
- 3 A. Largely due to policy decisions made to incent conservation a majority of fixed costs  
4 are recovered through the volumetric energy rate. Average retail energy charges range

1 from 14.94 cents per kilowatt hour<sup>4</sup> to 3.99 cents per kilowatt hour.<sup>5</sup> A large part of the  
2 explanation for the differences in energy rates between Schedule 1 and Schedule 6 is  
3 that the majority of fixed costs are recovered through the customer charge and demand  
4 charge rather than volumetric energy rate.

5 **Q. How do retail rates compare to the value of energy exported to the grid from**  
6 **customer generation?**

7 A. The actual value of the energy from customer onsite generation, as presented in  
8 Company witness Mr. Daniel J. MacNeil's testimony, is only 2.486 cents per kilowatt  
9 hour.<sup>6</sup> To better understand the extent of cost shifting caused by the current Net  
10 Metering program, Mr. Meredith presents a cost of service study showing that the  
11 Company under-collects, relative to the cost of service, approximately \$378 per year  
12 from residential customers and approximately \$651 per year from Schedule 23  
13 customers on the current net metering program.<sup>7</sup> The under-collection relative to the  
14 cost of serving these customers will result in higher rates to all customers. With no  
15 change to the net metering program this subsidy from non-net metering customers to  
16 net metering customers will continue to increase with each new system that gets  
17 installed.

18 **Q. Has this cost shifting been recognized by the Staff of the Idaho Public Utilities**  
19 **Commission?**

20 A. Yes, Commission staff previously raised a concern about this issue:

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<sup>4</sup> See the Company's Schedule 1 tariff. From May through October, all energy in excess 700 kilowatt hours in a monthly billing period is priced at 14.9382 cents per kilowatt hour for Schedule 1 residential customers.

<sup>5</sup> See the Company's Schedule 6 tariff. Energy is priced at 3.9880 cents per kilowatt hour for Schedule 6 customers.

<sup>6</sup> Direct Testimony of Daniel J. MacNeil, Exhibit PAC 201.

<sup>7</sup> Direct Testimony of Robert M. Meredith at 8.

1 Staff believes the proposal to credit customer generators at full retail rates will  
2 pay customers more than the actual value of the generation... Net metering  
3 allows PacifiCorp to avoid some generation costs and perhaps some  
4 transmission costs, but few, if any, other costs. Under the proposed new tariff,  
5 customer generation is not credited based on the avoided cost of generation and  
6 transmission, but at the full retail rate.

7 For the Commission to accept a net metering tariff where customer generation  
8 is credited at full retail rates, it must be willing to accept the fact that PacifiCorp  
9 may not recover its full costs of providing service from net metering customers.  
10 Those costs that are uncollected must either come from PacifiCorp through its  
11 shareholders or from other customers collectively. Initially, the subsidy for net  
12 metering customers is paid by PacifiCorp through shareholders. After a general  
13 rate case, the subsidy of net metering customers would presumably be shifted  
14 to the general body of ratepayers.<sup>8</sup>

15 **Q. Has the Commission taken other actions recently around net metering?**

16 A. Yes. This Commission recognized net metering customers' usage warranted creation of  
17 a separate class and opened an investigation into the valuation of excess energy for  
18 Idaho Power.<sup>9</sup>

19 **Q. Are other states taking action to address net metering?**

20 A. Yes. With declining solar panel prices and the resultant boom in rooftop installations,  
21 other parts of the country have taken notice of the unsustainable cost shifting that net  
22 metering presents. Across the country, there are numerous regulatory proceedings  
23 underway to investigate net metering. Several commissions have approved changes to  
24 address the cross subsidization related to their states' net metering program. The  
25 Arizona Corporation Commission has approved a transition away from retail net  
26 metering to a structure where export credits are based upon the cost of purchased power

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<sup>8</sup> *In the Matter of the Petition of NW Energy Coalition and Renewable Northwest Project to Establish Net Metering Schedules for PacifiCorp*, Case No. PAC-E-03-04, Staff Comments at 3-4 (May 2, 2003).

<sup>9</sup> *See In the Matter of the Application of Idaho Power Company for Authority to Establish New Schedules for Residential and Small General Service Customers with On-Site Generation*, Case No. IPC-E-17-13, Order No. 34046 at 16 (May 9, 2018).

1 agreements for large scale solar.<sup>10</sup> In Hawaii, net metering is no longer available and  
2 new customer generators must enroll in alternative programs.<sup>11</sup> The Kansas  
3 Corporation Commission approved a three-part rate plan for distributed generation  
4 customers.<sup>12</sup> Closer to home, in accordance with a multi-party settlement in Utah, net  
5 metering was closed to new applications November 15, 2017, and a new transition  
6 program was initiated for new customer generators.<sup>13</sup> In the transition program new  
7 customer generators are compensated for their exported energy at a price that is lower  
8 than retail energy rates. A new proceeding will be undertaken in Utah in 2020 to set an  
9 export credit value for future customer generators.

#### 10 REQUEST FOR RELIEF

11 **Q. What is the Company requesting in this Application?**

12 A. The Company requests that the Commission:

- 13 1) Approve closing Electric Service Schedule No. 135 – Net Metering Service to  
14 new applications received after midnight December 31, 2019;
- 15 2) Allow existing net metering customers and those that apply before January 1,  
16 2020, to continue to stay on Schedule 135 until no later than June 1, 2029.
- 17 3) Approve Electric Service Schedule No. 136 – Net Billing Services for new  
18 customer generators effective February 1, 2020;

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<sup>10</sup> Iulia Gheorghiu, *Arizona regulators approve lower rooftop solar credits for TEP, UNSE customers*, UTILITYDIVE (Sept. 12, 2018), <https://www.utilitydive.com/news/arizona-regulators-approve-lower-rooftop-solar-credits-for-tep-uns-custome/532107/>.

<sup>11</sup> *Net Energy Metering*, HAWAIIAN ELECTRIC, <https://www.hawaiianelectric.com/products-and-services/customer-renewable-programs/net-energy-metering>.

<sup>12</sup> *KCC approves settlement agreement lowering rates for Westar Customers*, KANSAS CORPORATION COMMISSION (Sept. 27, 2018), <http://www.kcc.state.ks.us/news-9-27-18>.

<sup>13</sup> *See Investigation of the Costs and Benefits of PacifiCorp's Net Metering Program, Order Approving Settlement Agreement*, Docket No. 14-034-114 before the Public Service Commission of Utah (Sept. 29, 2017).

1 4) Approve an \$85 application fee and a compensation for exported energy at a  
2 fair cost-based level, as described in Mr. MacNeil's testimony, that reflects its  
3 value such that other non-participating customers are held economically  
4 indifferent;

5 5) Approve the creation of separate customer classes for residential and Schedule  
6 23 customer generators for the cost of service study to be used in future  
7 ratemaking proceedings in order to evaluate if the characteristics of customer  
8 generators are sufficiently different from other customers to justify changes in  
9 retail rate design.

10 If the Commission determines that there should be no distinction between existing  
11 and new customer generators and both should be subject to the same program, the  
12 Company recommends that all customer generators be subject to a Net Billing  
13 program whose export credit price transitions over a three-year period from average  
14 retail energy charges to the cost-based level, as described in Mr. Meredith's  
15 testimony ("Alternative Transition Plan").

16 **Q. Why is Rocky Mountain Power proposing closing Schedule 135 to new service?**

17 A. As noted from prior orders the Commission and staff have acknowledged, and the  
18 Company's cost of service studies have demonstrated, that the current Net Metering  
19 program shifts costs to non-net metering customers. Schedule 135 compensates net  
20 metering customers at their full retail rate, well above the fair value of the exported  
21 energy provided. This erroneous price signal along with the other factors I've discussed  
22 is incenting customers to install on-site generation at accelerating rates each year. The  
23 Company believes it is time to protect non-participating customers from cost shifting

1 and send the appropriate price signal to customers so they can make better informed  
2 financial decisions when they decide if they want to invest in on-site generation. In this  
3 Application, the Company respectfully asks the Commission to approve a new program  
4 to enable customer generation and to determine the fair value of exported energy  
5 provided by customer generators.

6 **Q. Why is now the right time for the Commission to take action on net metering?**

7 A. As shown above, customer generation is growing fast and taking steps now to address  
8 the unsustainable subsidy that net metering creates will help alleviate most of the cost  
9 shifting from occurring. As the cost of photovoltaic solar systems continues to decline,  
10 we can only expect more customer generation installations. Without the appropriate  
11 price signal, customer generation adoption in Idaho could accelerate at an  
12 unprecedented rate, similar to what happened with qualified facilities. Pricing exported  
13 energy appropriately will send the correct price signals to customers and help ensure  
14 that customers do not invest tens of thousands of dollars in home generation systems  
15 based upon erroneous information about the value of that generation.

16 **Q. Why would it be appropriate for the Commission to make the Company's**  
17 **proposed changes outside of a general rate case?**

18 A. The Company is not proposing changing retail rates for service from the Company at  
19 this time; it is recommending a new net billing program to provide compensation at the  
20 fair value for the exported energy provided to the grid. Net metering incentivizes  
21 customer generation much like demand-side management programs incentivize energy  
22 efficiency. As conditions change for the economics of energy efficiency, the Company  
23 files for changes to its demand side management tariffs and does so outside of rate

1 cases. Similarly, the conditions for customer generation have changed since the time  
2 when the Company's first net metering tariff was approved. It is prudent for the  
3 Commission to approve these changes at this time without waiting for the Company's  
4 next general rate case.

5 **Q. How does the Company propose to treat current net metering customers?**

6 A. The Company supports keeping the current net metering customers on the existing Net  
7 Metering program Schedule 135 for approximately 10 years. Current customers made  
8 investments based on the current structure, this respects the customers' need for  
9 reasonable certainty for recovery of their investments. Mr. Meredith shows that 10  
10 years will provide a reasonable amount of time for customers to recover their  
11 investment. As of June 1, 2029, the Company would move all Schedule 135 customers  
12 to the applicable customer generation program in effect at that time.

13 **Q. Why would it be appropriate for current Net Metering program participants to**  
14 **continue taking service under Schedule 135 even though the Company proposes**  
15 **to close Schedule 135 to new participants?**

16 A. The compensation structure of the new net billing program is substantially different  
17 from the structure within the Net Metering program under Schedule 135. Requiring  
18 current Net Metering customer generators to transition immediately to a new  
19 compensation structure would produce adverse bill impacts for them. Many existing  
20 net metering participants likely purchased their systems at much higher prices than a  
21 new prospective buyer could purchase today. New customers would make their  
22 decision to invest in customer generation facilities based on the compensation structure  
23 under proposed Schedule 136.

1 **Q. How does Schedule 136 achieve a fair and balanced outcome for all customers?**

2 A. A customer with on-site generation should be paid for the exported energy at a rate that  
3 is competitive with what customers pay for other energy with similar characteristics,  
4 instead of the full retail rate. The Company does not propose paying less than market  
5 value for exported energy—it just does not believe non-participating customers should  
6 subsidize customers with on-site generation. A fair and balanced solution is achievable  
7 while maintaining Idaho's low energy rates, which are among the lowest in the nation.  
8 The Company's request is simple; customers should pay the cost for the energy they  
9 use and exported energy from a customer's on-site generation should receive a fair  
10 value for that energy.

11 **Q. What is the proposed structure for the new Net Billing program?**

12 A. The Company proposes the implementation of a Net Billing program that would  
13 provide credits to customer generators for all energy exported to the grid from their  
14 generation system. Compensation for exported energy will vary based on the time at  
15 which energy is exported with different prices for summer and winter and on- and off-  
16 peak times. All energy usage provided by the Company will be at customers'  
17 applicable electric service schedule rate, which is applicable to all similarly situated  
18 customers. Energy generated and consumed on-site will offset kilowatt-hours that  
19 would otherwise have been provided by the Company.

20 **Q. Please explain the Company's proposed Alternative Transition Plan.**

21 A. In the event that the Commission determines that current and future customer  
22 generators should be subject to the same compensation rates as matter of law or  
23 policy, the Company recommends a three-year transition period, applicable to all

1 customers, from current net metering to the proposed net billing program. This  
2 transition approach would mitigate bill impacts on current customers and set  
3 appropriate price signals for future program participants. Mr. Meredith explains the  
4 proposed transition rates in more detail.

5 **Q. Please identify the witnesses supporting the Company's filing and the subject of**  
6 **their testimony.**

7 A. This filing is supported by Company witness Mr. MacNeil, who describes the valuation  
8 of excess exported customer generation, and Mr. Meredith, who demonstrates the level  
9 of cost shifting from net metering customers to other customers and presents the  
10 Company's proposed rate design, application fee and other program details.

11 **Conclusion**

12 **Q. What is your recommendation for the Commission?**

13 A. The Company requests that the Commission approve the proposals set forth in this  
14 Application which address the current problems with the Net Metering program and  
15 offers needed changes that balance the interests of all customers.

16 **Q. Does this conclude your direct testimony?**

17 A. Yes.