



Idaho Public Utilities Commission

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MEMORANDUM

**TO: PARTIES OF RECORD
COMMISSION SECRETARY**

FROM: SEAN COSTELLO

DATE: JANUARY 11, 2018

**SUBJECT: DIRECT TESTIMONY OF MICHAEL MORRISON
CASE NO. IPC-E-17-13**

Please find enclosed the Revised Direct Testimony of Michael Morrison in IPC-E-17-13. The following are summaries of the revisions:

1. Staff made an error related to its use of the Company's DSM avoided cost rate data set. Dr. Morrison inadvertently stated that Idaho Power's 2016 DSM avoided cost rates were used to estimate an average net metering customer's bill in the hypothetical related to the calculation of net metering avoided cost rates. Dr. Morrison actually used Idaho Power's 2015 DSM avoided cost rates. *See Revised Morrison Direct at 11, line 9;*
2. Staff made a typographical error. In Dr. Morrison's Direct Testimony, Table 1, Row 4, Column 2 was entered incorrectly as \$1,164.34, when the actual value should be \$1,161.34. *See id.* at 11, line 9. As a further result of this revision, Dr. Morrison's testimony should be revised, on page 12, line 2, to read: "A portion of the \$234.59 difference represents the avoided cost due to excess energy provided by the net metering customer (\$133.96), and is therefore not a subsidy . . ." *See id.* at 12, line 2; and
3. Staff made an error as it relates to the computation of net metering and non-net metering peaks. As a result of revising and aligning the methodology used to compute both net metering and non-net metering peaks in Dr. Morrison's testimony, the following revisions should be made:
 - a. Page 18, line 10 should read: "On average, net metering customers demand less power (2.451 kW) than non-net metering customers . . ." *See id.* at 18, line 10; and
 - b. Page 19, line 2 should read: "Using data provided by the Company, we find that net metering customers' average non-coincident peak was greater (4.508 kW) than that of non-net metering customers . . ." *See id.* at 19, line 2.

Specific details are provided in the enclosed Revised Direct Testimony. Please do not hesitate to contact me if you have any questions regarding these changes.

Sean Costello
Deputy Attorney General

1 in my analysis.

2 Q. Please summarize your analysis.

3 A. Because residential customers account for most
4 net metering generation capacity, and virtually all net
5 metering growth, my analysis focused on Residential
6 Schedule 1 customers. I used the Company's 2016 rates
7 for all analyses. In order to estimate an average net
8 metering customer's bill under Staff's proposal, I
9 used 2015 DSM avoided cost rates; however, as I indicated
10 earlier, I believe that the exact methodology for
11 calculating net metering avoided cost rates should be
12 determined in a separate docket. I have summarized my
13 analysis in Table 1.

Annual Average	Non-NEM Customers	NEM Excluding Schedule 84 Credit	NEM with Schedule 84 Credit (Current Rates)	NEM Staff Proposal
kWh Consumed	11,781	13,113	13,113	13,113
Excess kWh	0	3,444	3,444	3,444
Billed kWh	11,781	13,113	9,669	13,113
Bill before Excess Generation Credit	\$ 1,001.61	\$ 1,161.34	\$ 926.75	\$ 1,161.34
Excess Generation Credit	N/A	N/A	N/A	\$ 133.96
Final Bill	\$ 1,001.61	\$ 1,161.34	\$ 926.75	\$ 1,027.38

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16
17
18
19 Table 1: Consumption and billing for average non net metering (Non-
NEM) and Net Metering (NEM) customers under current rates and
20 Staff's Proposal.

21 Q. Currently, what is the magnitude of the cost
22 shift under Schedule 84?

23 A. Under Schedule 84, a net metering customer's
24 monthly excess generation is subtracted from her monthly
25 consumption, and so an average net metering customer pays
substantially less (\$926.75/yr) than she would pay

1 without the Schedule 84 excess energy credit
2 (\$1,161.34/yr). A portion of the \$234.59 difference
3 represents the avoided cost due to excess energy provided
4 by the net metering customer (\$133.96), and is therefore
5 not a subsidy. The remaining \$100.63 represents the cost
6 shift from an average residential net metering customer
7 to the general body of residential ratepayers. A summary
8 of consumption, excess generation, and billing
9 information can be found in Table 1.

10 Q. Does Staff's proposal eliminate all intraclass
11 subsidies?

12 A. Staff's proposal eliminates all intraclass
13 subsidies that are due to the Schedule 84 Net Metering
14 program; however, intraclass subsidies that are not
15 related to net metering remain in place. By virtue of
16 their slightly greater average consumption (Table 1),
17 there would be a small subsidy from average net metering
18 customers to non-net metering customers; however, as
19 discussed earlier, this type of cost shift is not unique
20 to net metering customers.

21 **THE COMPANY'S NET ZERO CUSTOMER ANALYSIS**

22 Q. What are net zero customers, and why are they
23 important?

24 A. As we have already discussed, Schedule 84
25 allows net metering customers to "bank" energy credits

Q. Would Staff's proposal correct the intraclass cost shift from net zero customers to non-net metering customers?

A. Yes. Under Staff's proposal, net zero customers would pay full retail rates during hours in which they are net consumers of energy, and receive credit for excess energy at avoided cost rates. Because avoided cost rates compensate customers only for costs that they allow the Company to avoid, there would be no impact to non-net metering customers.

NET METERING VS. NON-NET METERING CONSUMPTION PATTERNS

Q. How do consumption patterns of net metering customers differ from those of non-net metering customers?

A. There is little difference in the consumption characteristics that cause the Company to incur fixed costs. The primary consumption characteristics that cause the Company to incur fixed costs are contribution to coincident peak (CP), group non-coincident peak (NCP), and individual peaks. These are summarized in Table 2.

Peak Type	Non-Net Metering (kW)	Net Metering (kW)
Average Individual Peak (kW)	9.13	11.42
Average Contribution to System CP (6/29/2016, 7:00 pm)	2.861	2.451
Non-Net Metering Group Non Coincident Peak (7/26/2016 7:00 pm)	2.992	
Net Metering Group Non Coincident Peak (12/18/2016, 9:00 am)		4.508

Table 2: Peak magnitudes and times for net metering and non-net metering customers.

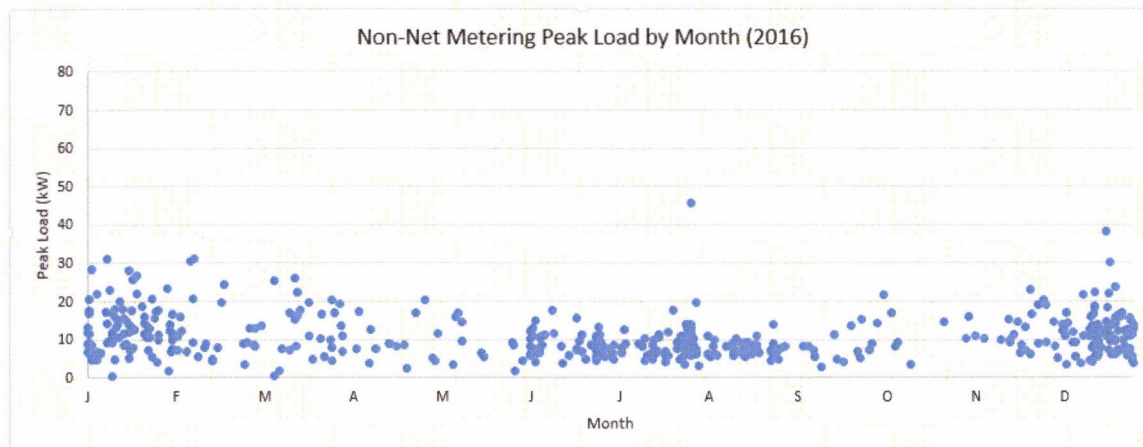


Figure 4: Non-Net Metering Peak Load by Month for Stratified Random Sample of residential non-net metering customers.

There are some small differences between the two groups. On average, net metering customers demand less power (2.451 kW) than non-net metering customers (2.861 kW) at system coincident peak (June 29th between 6:00 pm and 7:00 pm). Power consumed at coincident peak is an important component of the Coincident Peak factor used to allocate fixed generation and transmission costs in Cost-of-Service studies. Had the Company performed a Cost-of-Service Study, it would likely have allocated slightly less generation and transmission plant cost to net metering customers. Given the large fraction (94%) of residential net metering systems using solar generation, it isn't surprising that summertime coincident peak consumption of net metering customers is reduced.

Class non-coincident peak is an important component of the Non Coincident Peak factor used to

1 allocate distribution plant in cost-of-service studies.
2 Using data provided by the Company, we find that net
3 metering customers' average non-coincident peak was
4 greater (4.508 kW) than that of non-net metering
5 customers (2.992 kW). As a group, net metering customers
6 peak during the winter rather than during the summer.

7 On the other hand, individual peak loads are
8 important determinants of costs that the Company expends
9 on distribution plant, and in particular, on the costs of
10 secondary transformers and service drops. Average
11 individual net metering peaks are somewhat higher
12 (11.420 kW) than those of non-net metering customers
13 (9.130 kW).

14 Had the Company performed a Cost-of-Service
15 Study, it is difficult to determine whether it would have
16 allocated more or less distribution plant to net metering
17 customers than to non-net metering customers.

18 I should reiterate that these differences are
19 quite small relative to the total variability among
20 Schedule 1 customers. Had the Company conducted a Cost-
21 of-Service study, it is likely that they would have
22 determined the differences in the overall costs of
23 serving these two groups to be very small.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 11TH DAY OF JANUARY 2018, SERVED THE FOREGOING **REVISED PAGES FOR THE DIRECT TESTIMONY OF MICHAEL MORRISON**, IN CASE NO. IPC-E-17-13, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

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