

Rocky Mountain Power
Exhibit RMP__(DLM-2R)
Docket No. 14-035-114
Witness: Douglas L. Marx

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Douglas L. Marx

RMP Responses to Data Requests

July 2017

14-035-114/ Rocky Mountain Power
February 21, 2017
Vote Solar Data Request 1.24

Vote Solar Data Request 1.24

Please confirm our understanding from the January 23 technical conference that there has been only one secondary transformer upgrade resulting from a residential solar installation.

- (a) Please provide the actual values for each of the cost components of the transformer upgrade (as outlined in subpart (b) above in the previous question).
- (b) Please describe the circumstances necessitating the upgrade, including the number of customers (and whether residential or commercial) served by the transformer.

Response to Vote Solar Data Request 1.24

- (a) The average cost of a transformer upgrade was \$8,757. The average salvage value of a replaced transformer was \$705.
- (b) Upgrades are assessed on a case by case basis and are the same for residential or commercial sites. Upgrades are required if the sum of generation will overload the transformer beyond rated capacity.

14-035-114/ Rocky Mountain Power
March 30, 2017
Vote Solar Data Request 3.7

Vote Solar Data Request 3.7

Follow up to RMP response to DPU6.5:

- (a) Please provide the calculation referenced in the response to DPU6.5(a).
- (b) For each upgrade whose costs are included in the \$251,166 (response to DPU6.5(b)), please identify the reason for the upgrade, the class and rate sheet of the customer(s) causing the upgrade, an accounting of the equipment upgraded, and an accounting of the cost of each upgrade.

Response to Vote Solar Data Request 3.7

- (a) See response to EFCA 1.25.
- (b) During review of the data it was determined that two projects may have been mis-coded and should not have been included in the original submittal. The revised total \$240,092. See Attachment Vote Solar 3.7.

UT 14-035-114
 Vote Solar 3.7

Attachment Vote Solar 3.7

Project	Reason	Customer Class	Equipment Upgraded	Total Cost of Work
1	Overload	Commercial	Transformer	\$ 13,219
2	Overload	Commercial	Transformer	9,476
3	Overload	Commercial	Transformer	10,729
4	Overload	Commercial	Transformer	10,211
5	Overload	Residential	Transformer	3,049
6	Overload	Commercial	Transformer	3,359
7	Overload	Residential	Transformer	5,775
8	Overload	Residential	Transformer	6,059
9	Overload	Commercial	Transformer	9,639
10	Overload	Commercial	Transformer	30,211
11	Overload	Commercial	Transformer	24,538
12	Overload	Commercial	Transformer	27,527
13	Overload	Commercial	Transformer	4,625
14	Overload	Residential	Transformer	5,108
15	Overload	Commercial	Transformer	9,782
16	Overload	Residential	Transformer	5,912
17	Overload	Residential	Transformer	4,217
18	Overload	Commercial	Transformer	4,095
19	Overload	Residential	Transformer	5,302
20	Overload	Residential	Transformer	3,640
21	Overload	Residential	Transformer	5,126
22	Overload	Commercial	Transformer	3,784
23	Overload	Commercial	Transformer	10,290
24	Overload	Commercial	Transformer	5,522
25	Overload	Residential	Transformer	2,046
26	Overload	Residential	Transformer	4,443
27	Overload	Commercial	Wire	1,693
28	Overload	Commercial	Transformer	2,780
29	Reverse Energy Flow	Commercial	Regulator Controls	7,936

14-035-114/ Rocky Mountain Power
March 30, 2017
Vote Solar Data Request 3.15

Vote Solar Data Request 3.15

As a follow up to Vote Solar 1.23:

- (a) In a typical secondary transformer upgrade situation, what would be the expected change in transformer capacity?
- (b) How many secondary transformer upgrades have there been over the past five years?
- (c) Of the transformers removed in the upgrades identified in (b), please identify the number of years each has been in service at the time of removal, and how many have been reused elsewhere on the RMP system?
- (d) What happens to the transformers not reused on the RMP system? If such equipment is sold for scrap metal, how is the revenue received from such sales reflected in the cost of service, and allocated to customer classes?

Response to Vote Solar Data Request 3.15

- (a) Upgrades for distribution transformers used in residential applications are 25 kVA increments.
- (b) There have been 27 transformers upgraded for solar installations since 2012. No data is available for solar upgrades prior to this time.
- (c) This data is not available. Distribution transformers are tracked as an asset class, not by individual units.
- (d) Transformers not reused are sold to rebuilders or scrap dealers. Salvage values are credited to the transformer capital account.

14-035-114/ Rocky Mountain Power
March 30, 2017
Vote Solar Data Request 3.16

Vote Solar Data Request 3.16

As a follow up to Vote Solar 1-24, please confirm our understanding from the January 23 technical conference that there has been only one secondary transformer upgrade resulting from a residential solar installation.

Response to Vote Solar Data Request 3.16

See response to Vivint 2.9.

14-035-114/ Rocky Mountain Power
March 30, 2017
Vote Solar Data Request 3.17

Vote Solar Data Request 3.17

Please identify the number of secondary transformer upgrades resulting from a commercial solar installation.

Response to Vote Solar Data Request 3.17

There have been 16 transformers upgraded for commercial solar installations since 2012. No data is available for solar upgrades prior to this time.

14-035-114/ Rocky Mountain Power
March 30, 2017
Vote Solar Data Request 3.18

Vote Solar Data Request 3.18

As a follow up to Vote Solar 1-25, please identify the costs of each of the ten upgrades noted in the response, and how such costs were recovered.

Response to Vote Solar Data Request 3.18

Please see Attachment Vote Solar 3.18.

UT 14-035-114
Vote Solar 3.18

Attachment Vote Solar 3.18

Project	Customer Class	Total Cost of Work
A	Residential	\$ 1,140
B	Residential	421
C	Commercial	1,272
D	Commercial	3,455
E	Commercial	765
F	Commercial	1,693
G	Commercial	1,793
H	Commercial	2,317
I	Commercial	218
J	Commercial	779

14-035-114/ Rocky Mountain Power
February 20, 2017
Vivint Solar Data Request 2.9

Vivint Solar Data Request 2.9

Please state how many transformer upgrades have been required as a result of rooftop solar systems in RMP's service territory.

- (a) Please provide the average cost of each transformer upgrade.
- (b) Please provide the salvage value of the replaced transformer.
- (c) What is the typical solar saturation level required, by transformer type, to require a transformer upgrade?
- (d) Please explain who bears the full cost of the transformer upgrade.

Response to Vivint Solar Data Request 2.9

To date, 26 transformers have been upgraded.

- (a) The average cost of a transformer upgrade was \$8,757.
- (b) The average salvage value of a replaced transformer was \$705.
- (c) When the total connected solar overloads the transformer beyond rated capacity a transformer upgrade would be required.
- (d) The customer whose solar installation causes the overload condition per Rocky Mountain Power (RMP) Electric Service Regulation No. 1, State of Utah.

14-035-114/ Rocky Mountain Power
February 20, 2017
Vivint Solar Data Request 2.10

Vivint Solar Data Request 2.10

Please provide the number of secondary line upgrades that have been required as a result of rooftop solar systems in RMP's service territory.

- (a) Please provide the average cost of each line upgrade.
- (b) What is the typical solar saturation level required to require a line upgrade?
- (c) Please explain who bears the full cost of the line upgrade.
- (d) Please provide supporting data.

Response to Vivint Solar Data Request 2.10

To date, 10 secondary lines have been upgraded.

- (a) The average cost of a secondary line upgrade was \$1,385.
- (b) When the total connected solar overloads the secondary line beyond rated capacity a line upgrade would be required.
- (c) The customer whose solar installation causes the overload condition per Rocky Mountain Power (RMP) Electric Service Regulation No. 1, State of Utah.
- (d) RMP Utah Electric Service Regulation No. 1.

14-035-114/ Rocky Mountain Power
May 9, 2017
USEA Data Request 2.1

USEA Data Request 2.1

Please identify *by class* how many substations, transformers, and service upgrades, were requested and inspected by RMP during the test period applicable to the ACOS and CFCOS (the “Test Period”).

Response to USEA Data Request 2.1

There were six commercial class transformer upgrades and one residential class transformer upgrade required in calendar year 2015.

14-035-114/ Rocky Mountain Power
 May 9, 2017
 USEA Data Request 2.2

USEA Data Request 2.2

For each request or inspection identified in response to Request No. 2.1, please provide an accounting that includes:

- (a) the date the request or inspection was made;
- (b) the corresponding customer's name and/or account number;
- (c) where applicable, the name of the contractor performing the service; and
- (d) where applicable, the technology upgrade required for approval.

Response to USEA Data Request 2.2

See the following table for the requested details:

USEA 2.2(a) Date Initiated	USEA 2.2(b) Site ID	USEA 2.2(c) Contractor	USEA 2.2(d) Equipment Upgraded	USEA 2.3 Customer Count	
				NEM	Non-NEM
9/30/2015	252579032 001	RMP Crews	Transformer ¹	2	1
2/4/2015	363936202 001	RMP Crews	Transformer	1	0
8/10/2015	148624534 001	RMP Crews	Transformer	1	0
8/26/2015	021340799 001	RMP Crews	Transformer	1	0
10/30/2015	401893076 001	Sturgeon	Transformer	1	0
12/23/2015	905843411 001	RMP Crews	Transformer	1	1
10/30/2015	723465739 001	RMP Crews	Transformer	2	0

¹Residential upgrade. All others are commercial.

14-035-114/ Rocky Mountain Power
May 9, 2017
USEA Data Request 2.3

USEA Data Request 2.3

For each upgrade paid for by a net-metering customer, please provide the number of non net-metering customers and the amount of kW used by non net-metering customers that benefited from the upgrade.

Response to USEA Data Request 2.3

See USEA 2.2 for customer counts. This count shows net metering and non-net metering customers served by the transformer. The upgrades were completed solely for the benefit of the net metering customer to serve their needs.