

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application)	Docket No. 17-035-61
of Rocky Mountain Power to Establish)	
Export Credits for Customer)	Rebuttal Testimony
Generated Electricity)	of Cheryl Murray
)	For the Office of
)	Consumer Services

REBUTTAL TESTIMONY

OF

CHERYL MURRAY

FOR THE OFFICE OF CONSUMER SERVICES

APRIL 10, 2018

1 **Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.**

2 A. My name is Cheryl Murray; I am a Utility Analyst for the Office of Consumer
3 Services (Office). My business address is 160 East 300 South, Salt Lake City, Utah
4 84111.

5 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

6 A. I am testifying on behalf of the Office of Consumer Services (Office).

7 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS DOCKET?**

8 A. No, I have not.

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. Participants in this docket have proposed certain modifications to Rocky Mountain
11 Power's (RMP or the Company) proposed load research study methods. The purpose
12 of my testimony is to respond to a limited number of those suggested modifications. I
13 will not testify to the overall reasonableness of the Company's proposal or to every
14 issue raised by parties in their direct testimonies. Lack of response to any issue does
15 not indicate either agreement or disagreement with that issue.

16 **Q. WHAT SPECIFIC ISSUES WILL YOU ADDRESS?**

17 A. I will address the recommendations for the load research study to collect additional
18 information in addition to the data around which the study is designed and the
19 recommendation to separately evaluate residential and commercial customers.

20 **Q. WHAT ADDITIONAL INFORMATION HAVE SOME PARTIES**
21 **RECOMMENDED TO BE COLLECTED?**

22 A. Vote Solar recommends that RMP record the rooftop system capacity, the orientation,
23 and tilt angle of each system, the location (zip code), and estimated degree of
24 shading. Vote Solar observes that RMP could collect this data during its required visit
25 to each transition customer and further recommends that RMP should verify this
26 information for the grandfathered customers when they change out the meter.
27 (Gilliam Direct, lines 491 – 496) Utah Clean Energy similarly recommends that RMP
28 should collect information about orientation, tilt, and degree of shading of systems.
29 (Bowman Direct, lines 224 – 225) But Utah Clean Energy made a more specific
30 recommendation regarding the collection of location information to include the circuit
31 and substation for each customer. (Bowman Direct, lines 257 – 261) Also, Utah Clean
32 Energy further recommends collecting customer load characteristics via a
33 questionnaire that asks about appliances, air conditioning, evaporative cooling,
34 electric vehicle, LED lighting, battery storage, smart thermostats, and other relevant
35 appliances and devices. (Bowman Direct, lines 238 – 242)

36 **Q. DO THESE RECOMMENDATIONS REQUIRE MODIFICATION TO THE**
37 **PRIMARY DESIGN OF THE COMPANY’S PROPOSED LOAD RESEARCH**
38 **STUDY?**

39 A. Not necessarily. As Mr. Gilliam said, “[...]this is our one chance to gather
40 information that could be necessary to understand why exported energy exhibits
41 certain temporal and amplitude patterns.” (Gilliam Direct, lines 484 – 486) Utah
42 Clean Energy framed its recommendation as modifying the study design, but only
43 with respect to adding data collection not to the extent of changing variables or
44 expanding to a multi-dimensional sample. (Bowman Direct, lines 205 – 261)

45 **Q. WHAT IS THE OFFICE’S RESPONSE TO THESE RECOMMENDATIONS?**

46 A. The Office agrees with the recommendations to require RMP to collect additional
47 data with respect to the system characteristics. In particular, the Office agrees with
48 Vote Solar that RMP should take advantage of this opportunity and gather the
49 information for the transition customers especially since the Company must already
50 make a site visit. Over time, this data collection will become more significant and will
51 allow the Company and other parties to study the impacts of rooftop solar in more
52 detail by better understanding the differences among system designs and locations. In
53 fact, such data might be able to facilitate the development of more specific rate
54 designs to better match costs and benefits of different system designs. Thus, this
55 recommended data collection is a relatively low cost method of collecting
56 information likely to have relatively high value in the longer run.

57 **Q. DOES THE OFFICE ALSO AGREE WITH THE RECOMMENDATION TO**
58 **COLLECT ADDITIONAL LOAD INFORMATION?**

59 A. The Office does not oppose the recommendation made by Utah Clean Energy to
60 collect information about electric end-use appliance saturation for load research
61 program participants if it can be accomplished relatively easily and at a relatively low
62 cost. However, the Office notes that this type of information varies over time even
63 within a single site and would need to be updated to be useful and relevant in future
64 rate designs. Further, sending a questionnaire could be done at a later date as
65 compared to the observation of rooftop solar system characteristics, which is more
66 easily accomplished now by taking advantage of a site visit that will already be done
67 by RMP.

68 **Q. WHAT RECOMMENDATIONS HAVE BEEN MADE TO SEPARATELY**
69 **STUDY RESIDENTIAL AND COMMERCIAL CUSTOMERS?**

70 A. Utah Clean Energy recommends that the load research study stratify residential and
71 commercial customers separately. (Bowman Direct, lines 321 – 322) In support of
72 this recommendation, Ms. Bowman discusses some of the key differences between
73 residential and small commercial solar installations. (Bowman Direct, lines 279 – 290
74 and 307 – 318) Vote Solar also recommended “parallel sampling and data gathering”
75 for residential and commercial customers and specifically referenced a sample design
76 provided by RMP in response to a workshop data request. (Gilliam Direct, line 526)
77 Vote Solar further recommended that RMP use that design modified to reflect RMP’s
78 commitment to a 95% confidence interval and other changes. (Gilliam Direct, lines
79 519 – 527) Mr. Gilliam also discusses differences between residential and
80 commercial customers in support of Vote Solar’s recommendation. (Gilliam Direct,
81 lines 509 – 517)

82 **Q. WHAT IS THE OFFICE’S RESPONSE TO THESE RECOMMENDATIONS?**

83 A. The Office agrees that the differences between residential and commercial solar
84 installations are significant enough to warrant separate study. Vote Solar notes that
85 although the Company “has 130 profile meters installed on Schedule 23 customers, it
86 does not indicate whether these customers have loads larger or smaller than 15 kW.
87 Further, RMP has provided no information about any similarities in load patterns
88 between residential customers under Schedules 1, 2, or 3 and small commercial
89 customers under Schedule 23.” (Gilliam Direct, lines 505 to 509) Mr. Gilliam goes
90 on to point out that the export characteristics of commercial customers are likely to be

91 different from those of residential customers. The Office agrees with Mr. Gilliam
92 that, “the values attributable to commercial rooftop solar are likely to vary from those
93 of the residential customers”. (Gilliam Direct, lines 516 – 517)

94 Utah Clean Energy raises similar concerns when it states, “Commercial
95 customers are more likely to have limited roof space relative to their electricity usage,
96 and as a result, tend to install smaller systems relative to their load (which can result
97 in minimal or no exports to the grid). (Bowman Direct, lines 284-286) The Office
98 asserts that understanding the differences in export patterns and level of exports
99 between the residential and commercial classes should be part of the load research
100 study.

101 The Office is concerned that not separating the load research between
102 residential and commercial participants may distort the results, thereby rendering the
103 load research study less useful. Thus, the Office recommends that the Commission
104 require the load research study to be expanded such that it evaluates residential and
105 commercial customers separately.

106 **Q. PLEASE SUMMARIZE THE POSITION AND RECOMMENDATIONS OF**
107 **THE OFFICE.**

108 A. The Office recommends that RMP be required to make the following changes to the
109 load research study:

- 110 1) Sample and evaluate residential and small commercial customers separately, and
- 111 2) Gather additional data about system characteristics including rooftop system
112 capacity, the orientation, and tilt angle of each system, estimated degree of shading,
113 and the location including the circuit and substation.

114 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

115 **A. Yes.**