

Hunter Holman Utah Bar No. (15165)
Utah Clean Energy
1014 2nd Ave.
Salt Lake City, UT 84103
(801) 363-4046
hunter@utahcleanenergy.org
Attorney for Utah Clean Energy

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power to Establish Export Credits for Customer Generated Electricity	DOCKET No. 17-035-61
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PREFILED SUR-SURREBUTTAL TESTIMONY OF KATE BOWMAN

ON BEHALF OF

UTAH CLEAN ENERGY

FEBRUARY 22, 2021

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1 **I. INTRODUCTION**

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

3 A. The purpose of my testimony is to address Rocky Mountain Power’s (“the Company”)
4 position that the Commission should amend the Export Credit Rate (“ECR”) to adopt the
5 lower capacity contribution value identified by witness Mr. Daniel MacNeil during the
6 testimony phase of this proceeding.¹ Silence on other issues raised by other parties does not
7 indicate my support for or objection to their positions.

8 **Q. Please summarize your testimony.**

9 A. The Company has not demonstrated that their proposed changes to the capacity
10 contribution value more accurately reflect the capacity contribution of exported solar
11 energy, or that their proposed methodology is common practice or used in other comparable
12 circumstances. I recommend the Commission decline to make changes to the previously-
13 approved capacity contribution methodology.

14 **II. DISCUSSION**

15 **a) Reconsideration of the Commission’s decision regarding the capacity contribution**
16 **value is not warranted**

17 **Q. Why does Rocky Mountain Power assert that the Commission should reconsider the**
18 **capacity contribution methodology at this time?**

19 A. Rocky Mountain Power recommends that the capacity contribution value used to calculate
20 the ECR should be lowered in response to Vote Solar and Vivint Solar’s Petition for
21 Review or Rehearing, filed on November 30, 2020. In Rocky Mountain Power’s Response

¹ 17-035-61, Rocky Mountain Power’s Response to Petitions for Review and/or Rehearing, December 15
2020, Page 17.

22 to the Vote Solar and Vivint Solar Petition, the Company asserts that if the Commission is
23 to revisit any element of the ECR calculation through rehearing, then the Commission
24 should also revisit its decision regarding the methodology for calculating the capacity
25 contribution value used to determine the ECR and rule in favor of Rocky Mountain
26 Power’s lower capacity contribution value.

27 **Q. Is it Rocky Mountain Power’s primary position that the Commission should re-**
28 **evaluate any elements of the ECR?**

29 A. No. The Company’s December 15 Response (“Response”) concludes with the finding,
30 “The Commission therefore fulfilled its statutory obligations and its actions were consistent
31 with expressed state policy when it reviewed and weighed the evidence presented,
32 established the ECR, and provided for periodic review of the ECR under Schedule 137.”²
33 The Company additionally states that the Commission’s determination of avoided
34 generation, transmission, and distribution costs “demonstrated that it considered all the
35 evidence and made determinations grounded in the record,”³ and that “The Commission
36 clearly determined that the 3.53 cent/kWh value was an appropriate one and based that on
37 evidence.” Yet the Company also states, “In sum, the Commission should not disturb its
38 decision. But if it does, the Commission should accurately account for the solar resources
39 currently operating on the Company’s system and adopt the 12% capacity contribution
40 value identified by MacNeil.”⁴ The Company’s Petition for Clarification and Alternatively
41 Petition for Rehearing did not request rehearing on this issue, and its response to Vote Solar

² 17-035-61, Rocky Mountain Power’s Response to Petitions for Review and/or Rehearing, December 15 2020, Page 25.

³ 17-035-61, Rocky Mountain Power’s Response to Petitions for Review and/or Rehearing, December 15 2020, Page 13.

⁴ 17-035-61, Rocky Mountain Power’s Response to Petitions for Review and/or Rehearing, December 15 2020, Page 17.

42 and Vivant Petition’s does not assert that the Commission erred in its determination of the
43 ECR. The Company simply seeks to re-litigate an issue that has been extensively
44 considered through pre-filed testimony and during the hearing that took place from
45 September 29 through October 2, 2020.

46 **Q. What issues did the Commission grant a rehearing for?**

47 A. In response to parties’ Petitions and Motions for clarification, review, and rehearing on
48 various topics, the Commission issued an Order on Agency Review or Rehearing on
49 December 23, 2020 and granted re-hearing on a narrow set of issues, specifically “the
50 carrying charge and capacity contribution values that should apply to avoided generation,
51 distribution, and transmission capacity costs in the ECR.”⁵

52 **Q. What did Vote Solar and Vivint Solar’s Petition recommend regarding the capacity
53 values used to calculate the ECR?**

54 A. In their Petition, Vote Solar and Vivint Solar requested that the Commission reconsider
55 several issues related to the ECR. Two of these issues relate to the capacity values used to
56 calculate the ECR. The first of these issues is the correct carrying charge used in
57 calculating the avoided Generation Capacity value. The second issue is the question of
58 whether the correct carrying charge value was applied to calculate the avoided
59 Transmission Capacity values.

60 **Q. Are these two issues related to the Company’s requested change?**

61 A. No. They are separate issues. The carrying charge factor is used to convert the cost of a
62 utility investment to an annual per-kilowatt cost. The capacity contribution value is a
63 measure of a resource’s ability to meet demand, and therefore its ability to defer

⁵ 17-035-61, PSC Order on Agency Review or Rehearing and Notice of Virtual Scheduling Conference, December 23 2020, Page 15.

64 investments in capacity. Although both figures are used as part of the calculation of the
65 avoided generation and distribution capacity values, re-examination of one does not
66 logically necessitate re-examination of the other. Vote Solar and Vivint Solar's Petition has
67 asked the Commission to reconsider input values used to calculating the capacity value
68 embedded in the ECR, while the Company is requesting to re-litigate the methodology used
69 to calculate capacity contributions embedded in the ECR.

70 **Q. Does the Company's Response provide new information regarding the appropriate**
71 **determination of capacity contribution?**

72 A. No. The position the Company has taken in their December 15th Response is a direct re-
73 iteration of information the Company previously introduced in rebuttal testimony.⁶ Mr.
74 MacNeil referenced the same calculations in his hearing statement on September 29th
75 2020.⁷ The Commission had ample opportunity to consider the Company's proposal and to
76 question witnesses during the hearing. Given this, there is no need to reconsider the issue of
77 how to calculate the capacity contribution value through the re-hearing.

78 **b) The company's proposed capacity contribution methodology is neither common**
79 **practice nor demonstrated to be more accurate than the Commission-approved**
80 **methodology**

81 **Q. What is the Company's rationale for asking the Commission to reconsider the**
82 **capacity contribution?**

83 A. The Company's assertion that the capacity contribution value should be revisited hinges on
84 a statement from the Commission's order, in which the Commission distinguished between
85 the Company's proposed capacity contribution value and that of Vote Solar's by noting

⁶ 17-035-61, Rebuttal Testimony of Mr. MacNeil, July 15 2020 (lines 721 – 726).

⁷ 17-035-61, Reporter's Transcript from September 29 2020, page 162.

86 “RMP’s proposed capacity contribution values include planned future resources,”⁸ whereas
87 Vote Solar’s does not. The Company’s justification for requesting reconsideration of the
88 capacity contribution value is that the Commission’s approval of Vote Solar’s capacity
89 contribution value is premised on a misunderstanding of Dr. Milligan’s methodology.

90 **Q. Why does the Company propose that a 12% capacity contribution value is more**
91 **appropriate than the value approved by the Commission?**

92 A. The 12% capacity contribution value that Rocky Mountain Power proposed results from
93 several modifications Mr. MacNeil has made to Dr. Milligan’s calculations. First, Mr.
94 MacNeil “replicated Milligan’s approach using 2019 actual load and export credit data,”⁹
95 instead of the load and solar export data used by Dr. Milligan in his analysis. Using these
96 different inputs, Mr. MacNeil calculated “a 19% capacity contribution based on
97 systemwide load only and a 22% capacity contribution based on Utah load only.”¹⁰ Next,
98 Mr. MacNeil repeated the calculation using “Utah load net of actual hourly output of the
99 Company’s solar resources in Utah during 2019”¹¹ to result in a capacity contribution value
100 of 12%.

101 **Q. How do you respond RMP’s decision to use a different set of load and export credit**
102 **data?**

103 A. The first modification performed by Mr. MacNeil, the use of the Company’s 2019 load and
104 export credit data, does not affect the calculation’s accounting for utility-scale solar
105 resources currently operating on Rocky Mountain Power’s system – the Company’s stated
106 issue with the approved capacity contribution calculation. Instead, Mr. MacNeil is relying

⁸ 17-035-61, PSC Order, October 30 2020, Page 15.

⁹ 17-035-61, RMP Response to Petitions for Review and/or Rehearing, December 15 2020, Page 15.

¹⁰ 17-035-61, RMP Response to Petitions for Review and/or Rehearing, December 15 2020, Page 15

¹¹ 17-035-61, Rebuttal Testimony of Mr. MacNeil, July 15 2020, Page 34

107 on different sets of customer load and export credit data as inputs to the calculation.

108 Changing the vintage or source of the customer load and export data is unrelated to RMP's
109 stated issue with the capacity contribution value.

110 **Q. Will there be a need to change the customer load and export credit data used as inputs**
111 **to the calculation in the future?**

112 A. Yes, updating the ECR calculations on an annual basis will require use of current load and
113 export credit data, so this issue may warrant consideration in the future as part of the
114 Schedule 137 annual update. The Commission has invited interested parties to file
115 comments on the procedure and scope of annual updates to Schedule 137, and it would be
116 appropriate to consider comments regarding the load and export credit data that should be
117 used as inputs to this calculation going forward. Vote Solar's testimony in this proceeding
118 was informed by their own load research study, so unless Vote Solar intends to conduct an
119 annual load research study going forward it may be necessary to define the set of load and
120 export credit data that should be used for annual updates to the ECR calculation.

121 **Q. How do you respond to the second modification, Rocky Mountain Power's decision to**
122 **remove utility-scale solar generation from Utah load?**

123 A. The capacity contribution methodology approved for use in calculating the ECR measures
124 the ability of exported solar energy to contribute to meeting customer load. Clearly, any
125 reduction to the load forecast for any reason will result in calculation of a lower capacity
126 contribution value. If customer load is reduced, then the value of a resource that could
127 serve that load will be lessened. The Company has not demonstrated that removing the
128 actual hourly output of only utility-scale solar resources from the load forecast results in a
129 more accurate measure of the ability of rooftop solar to meet demand. The Company has

130 also not demonstrated that this modified capacity contribution calculation is based on an
131 accepted practice that has been used by other utilities, or in other relevant applications.

132 **Q. Does the Company’s modification reflect the resources currently operating on the**
133 **system more accurately than the capacity contribution calculation approved by the**
134 **Commission?**

135 A. No. The capacity contribution method that the Commission has approved is based on the
136 export profile of solar generation and a forecast of customer load. The calculation
137 determines the ability of rooftop solar exports to meet demand during periods of high load.
138 The calculation uses recent data that reflects existing system conditions for these two
139 variables. Rocky Mountain Power’s proposal distorts this calculation through a
140 modification that only accounts for one resource type, utility-scale solar, and completely
141 ignores other resources currently operating on the system.

142 **Q. Has the Company acknowledged the need to consider the overall system resource mix**
143 **when determining the capacity contribution value for a specific resource?**

144 A. Yes. The Company has been actively working to evolve methodologies for determining
145 capacity contribution for individual resources through their Integrated Resource Planning
146 process. For example, in the 2019 IRP the Company describes an updated capacity
147 contribution study (the ECP Method), described as follows:

148 *“The ECP Method analysis demonstrates that incremental additions of solar*
149 *resources have a declining capacity contribution, and that incremental additions*
150 *of wind resources have a declining capacity contribution. However, these effects*
151 *do not occur in isolation. For instance, to the extent that the additional solar*
152 *generation is reducing loss of load events during times when wind is low, the*
153 *remaining loss of load events may occur during times when wind generation is*
154 *high, resulting in a higher capacity contribution for wind.”¹²*
155

¹² Rocky Mountain Power 2019 Integrated Resource Plan, Appendix N – Capacity Contribution Study, Page 397.

156 The Company's ECP Method analysis found that increasing penetration of one resource
157 type may result in a higher capacity contribution for other resource types. An analysis of
158 either resource in isolation does not provide a full picture of that resource's capacity
159 contribution because it ignores how resources interact with each other. Another takeaway
160 from this analysis is that the order in which resources are evaluated will affect their
161 capacity contribution. To summarize, decrementing utility-scale solar generation from the
162 load forecast without consideration of other resources on the Company's system does not
163 provide a more accurate picture of rooftop solar's contribution to meet system load.
164 Instead, it intentionally suppresses the capacity contribution value.

165 III. CONCLUSION

166 **Q. Please summarize your conclusions.**

167 A. I recommend that the Commission affirm the capacity contribution value methodology
168 approved in their October 30, 2020 Order. The only party proposing modifications to this
169 value, Rocky Mountain Power, is not seeking to make corrections to the calculation used to
170 determine the capacity contribution value; rather they seek to use Vote Solar and Vivint
171 Solar's Petition for Review and Re-hearing on other calculation issues to re-litigate the
172 capacity contribution methodology, an issue that has already been discussed and considered
173 at length. The Commission may wish to consider stakeholder input regarding appropriate
174 parameters for the load and export credit data sets to be used in the calculation of the
175 annual update to the ECR, but need not alter their findings regarding the capacity
176 contribution value for Schedule 137 at this time.

177 **Q. Does that conclude your testimony?**

178 A. Yes.