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Surrebuttal Testimony of Charles E. Peterson

I. INTRODUCTION

Q. Please state your name, business address and title.

A. My name is Charles E. Peterson; my business address is 160 East 300 South, Salt Lake City, Utah 84114; I am a Technical Consultant in the Utah Division of Public Utilities (Division, or DPU).

Q. Did you previously file testimony in this docket?

A. Yes. I filed direct and rebuttal testimony on behalf of the Division.

Q. What is the purpose of your rebuttal testimony in this matter?

A. I will provide comments regarding the rebuttal testimony of Ken Dragoon that was filed on behalf of Utah Clean Energy.

Rebuttal testimony was also filed by Rick Link for PacifiCorp and Philip Hayet on behalf of the Office of Consumer Services. Both Mr. Link and Mr. Hayet had similar concerns with Mr. Dragoon’s direct testimony and both supported the implementation of the wind and solar

21 capacity contribution values calculated by the Company.^{1, 2} I have no further comments to
22 make on Mr. Link's or Mr. Hayet's rebuttal testimony.

23
24 That there are issues and comments made by Messrs. Dragoon, Hayet, and Link not
25 specifically discussed in my surrebuttal testimony should not be necessarily construed to
26 mean that I agree, or that I disagree, with those issues and comments.

27

28

29 **II. COMMENTS ON KEN DRAGOON'S REBUTTAL TESTIMONY.**

30

31 **Q. What topics do you intend to address in your surrebuttal testimony?**

32 A. I will discuss four issues raised by Mr. Dragoon in his rebuttal testimony.

- 33
- The term "black box" as applied to the Company's PaR model

34

 - The suggestion that the Company should have chosen as a "test year" an
35 insufficiency period

36

 - The update of Arizona Public Service's capacity contribution values

37

 - The recommendation that the Commission keep the interim contribution values
38 in place while the issues Mr. Dragoon has raised are researched further

39
- 40

¹ Rebuttal Testimony of Rick T. Link, page 13.

² Rebuttal Testimony of Philip Hayet, pages 17-18.

41 **Q. What comments do you have related to the “black box” PaR model?**

42 A. In conjunction with calling the PaR model “largely a black box,”³ I noted that the Division is
43 unable “to audit the underlying calculations of the model.”⁴ Mr. Dragoon seems to make
44 much of the fact that I referred to the Company’s PaR model as a “black box” over pages 2
45 through 9, and again on page 18 of his rebuttal testimony. On lines 59-64 he admits that the
46 algorithms used in the PaR model “are proprietary to the vendor.” This means that those
47 algorithms have not been made available to the Division, or to the best of my knowledge,
48 anyone outside of the vendor to be scrutinized and validated. The only way Utah regulators
49 have had to evaluate the PaR model is to assess the reasonableness of the outputs given the
50 inputs made by the Company.

51

52 **Q. Mr. Dragoon complains that the 2017 “test year” used by the Company is a period of**
53 **resource sufficiency and that the capacity contribution values should be based upon a**
54 **period of resource insufficiency.⁵ What are your comments on that?**

55 A. Mr. Dragoon appears to believe that one of the reasons the capacity values are too low is due
56 to the use of the 2017 “test year.” He apparently believes that if a year of resource
57 insufficiency were used, then the capacity contribution values would increase. The current
58 Company estimate of the first year the Company will need to add a significant thermal
59 resource is 2028.⁶ In the meantime, including 2017, PacifiCorp’s load will be primarily met
60 with a combination of existing resources, additional demand side management programs, and

³ Direct Testimony of Charles E. Peterson, line 155.

⁴ Ibid. lines 156-157.

⁵ Rebuttal Testimony of Ken Dragoon, lines 227-230.

⁶ PacifiCorp 2015 Integrated Resource Plan, page 2.

61 front office transactions. In that regard 2017 appears to be a fairly typical year until 2028.
62 Therefore, Mr. Dragoon would appear to want the Commission to direct the Company to
63 base the capacity values on highly speculative assumptions about the state of the world
64 thirteen years from now and have ratepayers pay developers today based upon those highly
65 speculative assumptions. Whether or not it may be in some sense theoretically correct to use
66 a period when the Company must add new thermal resources, the Division believes that
67 given the timing of such a period is estimated to be relatively far into the future and highly
68 speculative, it is not in the public interest at this time to include such a period in these
69 calculations.

70

71 **Q. In his criticism of your use of the data on Figure 1 on page 10 of your direct testimony,**
72 **Mr. Dragoon specifically refers to an update of the Arizona Public Service capacity**
73 **contribution estimates, suggesting that if these updated numbers were used “the**
74 **Division might well reconsider its conclusion....”⁷ What is your comment on this**
75 **claim?**

76 A. Mr. Dragoon does not discuss the actual numbers from this report, but merely states that the
77 new study gives capacity results “approximately 50% higher.”⁸ The table he cites, Table 2-2,
78 shows that for 2015 the capacity contribution values on incremental solar generation will be
79 34.1 percent for both the “Expected Penetration Case” and the “High Penetration Scenario”
80 and 41.9 percent for the “Low Penetration Scenario.” The capacity contribution values of

⁷ Dragoon Op. Cit., lines 318-322, and 325-326.

⁸ Ibid., lines 320-321.

81 additional capacity in future years decline rapidly and in 2025 the incremental capacity
82 contribution value under the “Expected Penetration Case” is only 5.3 percent.⁹ The 2015
83 values are noticeably higher than the approximately 15 percent capacity contribution values
84 at a 5 percent penetration level for Arizona Public Service (APS) that can be read from
85 Figure 1 on page 10 of my direct testimony.¹⁰

86
87 However, the Division’s “reconsideration of its conclusion” is that these revised APS figures
88 do not support Mr. Dragoon’s thesis. On the contrary, they clearly support the calculations of
89 the Company. Arizona is generally expected to be a superior location for solar generation
90 facilities as can be seen from even a casual glance at a solar resource potential map.¹¹ Only
91 areas in southernmost Utah approximate areas in Arizona. Southwestern Arizona appears to
92 be generally superior to anywhere in Utah. Nevertheless, the PacifiCorp solar calculations are
93 nearly identical to the updated 2015 figures for Arizona.

94

95 **Q. Mr. Dragoon recommends that “[t]he Commission should continue to use the currently**
96 **effective “interim” capacity values for solar resources until further review and analysis**
97 **of the company’s PAR model results is complete.”¹² What is the Division’s position on**
98 **this recommendation?**

⁹ The study can be reviewed online at https://azenergyfuture.files.wordpress.com/2013/04/2013_updated_solar_pv_value_report.pdf (last accessed June 9, 2015)

¹⁰ The Arizona study update assumes that the solar will be of the fixed-tilt variety only, which has a somewhat lower capacity contribution value than the single axis tracking technology that is generally assumed to be used for large QF projects in Utah.

¹¹ See, for example, <http://energy.gov/maps/solar-energy-potential> (last accessed June 9, 2015).

¹² Dragoon rebuttal, lines 383-385.

99 A. The Division believes that this recommendation should be rejected. There is no evidence that
100 the interim solar capacity values continue to be even approximately correct. Indeed, in his
101 direct testimony, Mr. Dragoon himself could only propose that the solar capacity values
102 might be as high as 73.4 percent compared to the interim rate of 84.0 percent.¹³ And as
103 shown in my rebuttal testimony and the rebuttal testimonies of Mr. Link and Mr. Hayet, this
104 73.4 percent figure is based upon flawed reasoning and adjustments that appear to be
105 designed to maximize the resulting capacity contribution value.

106
107 Parties have had since last October to review and analyze the PaR model results and the
108 details of the Company's capacity contribution calculations. The Division believes that there
109 has been no substantive demonstration of error in the Company's models or that the results
110 are otherwise unreasonable. In the Division's view, relatively vague concerns about some
111 points of the Company's modeling at this juncture do not justify any further delay in
112 adopting new capacity contribution values for solar.¹⁴

113
114 On the other hand, the Division believes that there is substantial evidence in support of the
115 Company's capacity contribution values. No one has suggested that there is a miscalculation
116 in the capacity contribution formulas used by the Company. Aside from Mr. Dragoon, no one
117 believes that the results of the Company's PaR model require further study. Finally, as cited

¹³ Direct Testimony of Ken Dragoon, table at line 411.

¹⁴ Mr. Dragoon now accepts the Company's wind capacity contribution value as reasonable. (See Dragoon rebuttal, lines 341-353).

118 in my direct testimony and described above regarding the Arizona updates, the values
119 themselves are within a reasonable range.

120

121 **III. CONCLUSIONS AND RECOMMENDATIONS.**

122

123 **Q. What are your conclusions?**

124 A. The Division concludes that there is no evidence to support continuing the interim capacity
125 contribution values authorized by the Commission in Docket No. 12-035-100. Furthermore,
126 the Division continues to believe that there is substantial evidence to support the accuracy
127 and reasonableness of the Company's proposed capacity contribution values.

128

129 **Q. What is the Division's recommendation?**

130 A. The Division continues to recommend that the Commission approve the wind and solar
131 capacity contribution values as proposed by the Company.

132

133 **Q. Does this conclude your surrebuttal testimony?**

134 A. Yes.

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