

1 **Q. Please state your name, business address and present position with PacifiCorp**  
2 **dba Rocky Mountain Power (the “Company”).**

3 A. My name is Steven R. McDougal. My business address is 1407 West North Temple  
4 Street, Suite 330, Salt Lake City, Utah 84116. My present position is Director of  
5 Revenue Requirement for PacifiCorp.

6 **Q. Have you previously sponsored testimony in this proceeding?**

7 A. Yes.

8 **PURPOSE OF TESTIMONY**

9 **Q. What is the purpose of your rebuttal testimony?**

10 A. The purpose of my rebuttal testimony is to respond to and rebut certain issues raised  
11 by Division of Public Utilities (“DPU”) witnesses Mr. Robert Davis and Mr. David  
12 Thomson, Utah Office of Consumer Services (“OCS”) witnesses Mr. Bela Vastag,  
13 Ms. Cheryl Murray and Mr. Danny Martinez, and Utah Clean Energy (“UCE”)  
14 witness Ms. Sarah Wright. My testimony includes the Company's response to the  
15 direct testimony of parties on the following issues:

- 16 • The Carrying Charge for the Sustainable Transportation and Energy  
17 Plan Act ("STEP") pilot programs;
- 18 • The evaluation and analysis supporting the decision to proceed with the  
19 Solar and Energy Storage Program, and why it is appropriate;
- 20 • The Company’s proposed accounting for the benefits and costs  
21 associated with the Solar and Energy Storage Program, Blue Sky  
22 funding and cost allocation;
- 23 • The Gadsby Emissions Curtailment Program replacement power costs;

- 24                   •   Tariff sheet modifications; and  
25                   •   STEP Reporting Plan.

26   **STEP CARRYING CHARGE**

27   **Q.    Mr. Thomson recommends that the carrying charge for the STEP pilot**  
28       **programs be reset on an annual basis.<sup>1</sup> Does the Company agree with this**  
29       **recommendation?**

30   A.    Yes. As stated in paragraph 10 of the application in this docket and in my  
31        Supplemental Testimony filed on October 17, 2016,<sup>2</sup> the Company recommends  
32        that the Commission authorize the Company to use the carrying charge as  
33        determined pursuant to the Commission order in Docket No. 16-035-69. In that  
34        docket the Commission ordered the annual resetting of the carrying charge. The  
35        Company supports the annual resetting of the carrying charge for the STEP pilot  
36        programs.

37   **SOLAR AND ENERGY STORAGE PROGRAM**

38   **Q.    Please provide some background to the Company decision to propose the Solar**  
39       **and Energy Storage Program as part STEP.**

40   A.    As discussed in Exhibit D to the application in this docket, the Company projects  
41        that, by 2019, the nominal voltage on the transmission line in the area of this project  
42        will drop below the required industry standards. These standards are designed to  
43        protect Company and customer equipment from inadvertent mis-operation or  
44        damage due to voltage excursions. The transmission voltage problems are being

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<sup>1</sup> Direct Testimony of David Thomson filed November 9, 2016 in Docket No. 16-035-36, ll. 90-91.

<sup>2</sup> Supplemental Testimony of Steven R. McDougal filed October 17, 2016 in Docket No. 16-035-36, ll. 174-176.

45 caused by distribution load served from the line. In evaluating solutions to the  
46 projected voltage issues, the Company considered both transmission and  
47 distribution related solutions, including enhancement of the transmission  
48 infrastructure, or the installation of energy storage equipment on the distribution  
49 side of the system to reduce loading on the transmission line during peak load  
50 periods. The Company analysis concluded that the least initial cost solution to  
51 correct the projected voltage issues on the targeted line was to install an energy  
52 storage system on the distribution system to balance the load on the line by  
53 providing battery voltage support during peak loading periods. The Company  
54 developed the Solar and Energy Storage Program as a low initial cost option to meet  
55 the needs of the customers in the area and correct voltage issues on the targeted  
56 transmission line by balancing the load with battery storage equipment on the  
57 distribution system while gaining experience with the new technology as part of  
58 STEP.

59 **Q. Mr. Davis states that the Company's Solar and Energy Storage Program is**  
60 **different from other situs-assigned projects in that the intent of the Solar and**  
61 **Energy Storage Program is to relieve a system transmission issue. Do you**  
62 **agree with this assessment?**

63 A. As discussed above, the objective of the Solar and Energy Storage Program is to  
64 solve a voltage issue on the transmission system caused by distribution load in the  
65 area. This voltage issue can be fixed either through distribution-related projects or  
66 transmission-related projects as identified in the application. The Company

67 proposes to address the voltage issue by installing solar and battery storage  
68 equipment on the distribution system using the Solar and Energy Storage Program.

69 **Q. Both Mr. Davis and Mr. Vastag discuss evaluating the cost of the Solar and**  
70 **Energy Storage Program options using Utah allocated amounts.<sup>3,4</sup> Does the**  
71 **Company agree with the approach of Mr. Davis and Mr. Vastag?**

72 A. No. The Company analyzes all investment option decisions based on total company  
73 results. By looking at the Utah allocated costs, only a portion of the transmission  
74 costs are included in the analysis, creating an incorrect investment comparison that  
75 could lead to a suboptimal decision for the Company and its customers.

76 **Q. Why is it inappropriate to look at the decision on a Utah only basis?**

77 A. If all states were to look at transmission versus distribution investment decisions  
78 based solely on the costs to their particular state, states could choose the  
79 transmission project for investments in their state because a majority of the costs  
80 would be allocated to other states. This type of investment decision making would  
81 lead to suboptimal system operating results and increased overall costs to the  
82 Company and customers in all states. It is not prudent for the Company to make  
83 system investment decisions based on cost allocations.

84 **Q. What would be the result if the investment analysis method discussed by Mr.**  
85 **Davis and Mr. Vastag were adopted regarding the Solar and Energy Storage**  
86 **Program?**

87 A. The proposed investment analysis method may not select the Solar and Energy

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<sup>3</sup> Direct Testimony of Robert A. Davis filed November 9, 2016 in Docket No. 16-035-36, ll. 219-223.

<sup>4</sup> Direct Testimony of Bela Vastag filed November 9, 2016 in Docket No. 16-035-36, ll.194-197.

88 Storage Program unless other states are willing to pay a portion of the cost, leading  
89 the Company to explore other options and potentially missing out on an opportunity  
90 to investigate the impact of distributed energy resources on Utah customers.

91 **Q. How would costs be allocated if a targeted demand-side management (DSM)**  
92 **program were available and implemented in the area to reduce the peak**  
93 **loading and voltage issues in lieu of building a transmission line?**

94 A. DSM program costs are state-specific and assigned to the state implementing the  
95 programs. If DSM reduces the future need for system investments, the cost of the  
96 DSM is not system allocated.

#### 97 **SOLAR AND ENERGY STORAGE PROGRAM SYSTEM BENEFITS**

98 **Q. How will the benefits associated with the Solar and Energy Storage Program**  
99 **be passed back to Utah customers?**

100 A. The Company agrees with the recommendation of Mr. Davis<sup>5</sup> that the benefits of  
101 the Solar and Energy Storage Program should be passed back to Utah customers  
102 through the EBA. This will be done similar to the treatment of Black Cap Solar in  
103 Oregon such that Utah will be credited for the market value of the solar production.  
104 The one difference between the Solar and Energy Storage Program and the Oregon  
105 Black Cap Solar projects is the addition of the energy storage in Utah. The energy  
106 storage will enable the Company to shape the solar generation such that it can be  
107 used during peak hours. Therefore, the Company will look at the net impact of the

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<sup>5</sup> Direct Testimony of Robert A. Davis filed November 9, 2016 in Docket No. 16-036-16, ll. 241-242.

108 combined solar and storage project in passing the benefits of the Solar and Energy  
109 Storage Program to Utah customers.

110 **Q. How will the benefits of the Solar and Energy Storage Project be calculated?**

111 A. The benefits will be calculated using the same methodology as the Black Cap solar  
112 project in Oregon, by taking the market price of the Four Corners market index  
113 multiplied by the net output of the Solar and Energy Storage Program, on a monthly  
114 basis for heavy and light load hours. Using the Four Corners market index to value  
115 the net energy of the Solar and Energy Storage Program is also consistent with the  
116 calculation of the Gadsby Emissions Curtailment Program.

117 **Q. Is this consistent with Mr. Davis' recommendation?**

118 A. Mr. Davis recommends that the total output of the project be a benefit to Utah.<sup>6</sup> It  
119 is unclear in his recommendation how to treat the inputs into the Solar and Energy  
120 Storage Program, since energy storage provides output and requires an energy input  
121 to charge the battery. The Company's proposal is to look at the hourly net input and  
122 output of the project in measuring the Utah benefits.

123 **BLUE SKY FUNDING**

124 **Q. Does the Company agree with the recommendation of Ms. Wright that Blue**  
125 **Sky funding should not be used to fund the solar portion of the Solar and**  
126 **Energy Storage Program because it represents a deviation from the purpose**  
127 **of the Blue Sky Program?<sup>7</sup>**

128 A. No. The Qualifying Initiatives section of the Blue Sky Tariff Schedule No. 70

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<sup>6</sup> *Id.*

<sup>7</sup> Direct Testimony of Sarah Wright filed November 9, 2016 in Docket No. 16-035-36, ll. 146-147.

129 provides that Blue Sky funding can be used "for research and development projects  
130 encouraging Renewable Energy in order to accelerate marketability of Renewable  
131 Technologies." The proposal for funding the solar portion of the Solar and Energy  
132 Storage Program fully aligns with allowed funding purposes in Schedule No. 70.  
133 Moreover, as noted in the direct testimony of Douglas L. Marx, the Company has  
134 received numerous requests for "steel in the ground" Blue Sky projects.<sup>8</sup> This  
135 project is the first of its kind and, as explained by Mr. Marx, may support the  
136 development of additional integrated renewable installations in the future.

137 **Q. Do you agree with Ms. Wright's proposal that if Blue Sky funding is utilized**  
138 **to fund a portion of the Solar and Energy Storage Program, a grant program**  
139 **should be established to provide community organizations energy credits**  
140 **based on the kilowatt-hours generated by the solar project?**<sup>9</sup>

141 A. No. The energy generated by the solar installation that UCE proposes to grant to  
142 community organizations is not "excess generation" and could not logically be  
143 counted as an additional generation resource available for a grant program. As  
144 explained in the direct testimony of Mr. Marx, the generation captured from the  
145 proposed photovoltaic installation is being used to reduce the loads on the  
146 distribution circuit.<sup>10</sup> Therefore, there would be no creation of excess generation  
147 that would be available as a credit to other Company customers. Furthermore, the  
148 cost of the program is being paid for by all of the Company's customers in Utah,

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<sup>8</sup> Direct Testimony of Douglas L. Marx filed September 12, 2016 in Docket No. 16-035-36, ll. 85-87.

<sup>9</sup> Direct Testimony of Sarah Wright filed November 9, 2016 in Docket No. 16-035-36, ll.169-173.

<sup>10</sup> Direct Testimony of Douglas L. Marx filed September 12, 2016 in Docket No. 16-035-36, ll. 77-78.

149 and the benefits of the energy produced should be a benefit to all customers and not  
150 to just those receiving grants.

151 **Q. Are there other concerns with the grant program proposed by Ms. Wright?**

152 A. Yes. The administrative costs to create a grant program that applies credits to  
153 customer bills would require additional funding, including the creation of a new  
154 rate schedule, billing system modifications and ongoing program management.

155 **GADSBY EMISSIONS CURTAILMENT PROGRAM**

156 **Q. Please summarize the recommendation of Mr. Martinez regarding the Gadsby**  
157 **Emissions Curtailment Program.**

158 A. Mr. Martinez recommends that the Gadsby Emissions Curtailment Program be  
159 approved but without specifically approving the method for calculating the  
160 replacement power.<sup>11</sup> He also recommends additional filing requirements in the  
161 EBA to support the replacement power costs of the Gadsby Emissions Curtailment  
162 Program.

163 **Q. Why does the Company propose using a market price proxy when calculating**  
164 **the replacement power costs of the Gadsby Emissions Curtailment Program?**

165 A. In the event Gadsby is curtailed, in real-time, the Company would optimize the  
166 dispatch of its available generating units as a system and use market transactions to  
167 economically balance the system. Determining the actual cost of real-time  
168 curtailment would be burdensome, and potentially controversial, as it would require  
169 a comparison to a counterfactual for the real-time duration of the curtailment. A  
170 market proxy provides an independent and verifiable fair value of the energy. Using

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<sup>11</sup> Direct Testimony of Danny Martinez filed November 9, 2016 in Docket No. 16-035-36, ll 241-245



171 the market proxy as the Company described in response to data request OCS 3.4,  
172 as shown in Figure 1 below and contained in Exhibit RMP\_\_\_\_(SRM-R1), provides  
173 a reasonable, quantifiable, and transparent approach when determining the  
174 replacement power costs for the Gadsby Emissions Curtailment Program. This is  
175 also consistent with the approach used for valuing Utah's benefit related to the Solar  
176 and Energy Storage Program.

Figure 1

$$\text{Actual } NG_{WF} \times \text{Heat Rate}_G = \text{Generation Costs}_G$$

$$\text{Market Price}_{4C} - \text{Generation Costs}_G = \text{Spark Spread}$$

$$\text{Spark Spread} \times \text{Curtailed Generation} = \text{Replacement Power Costs}$$

Where:

*Actual  $NG_{WF}$  = Actual Natural Gas Cost per MMBTU for Wasatch Front*

*Heat Rate<sub>G</sub> = Gadsby Heat Rate from Dispatch Model*

*Generation Costs<sub>G</sub> = Gadsby Generation Costs per MWh*

*Market Price<sub>4C</sub> = Actual Monthly Four Corners Market Price*

177 **Q. Should the method for determining the replacement power costs of the Gadsby**  
178 **Emissions Curtailment Program be determined and approved by the**  
179 **Commission in this proceeding?**

180 A. Yes. The calculation method, based on the Four Corners market index, as outlined  
181 in Figure 1 above and in Exhibit RMP\_\_\_\_(SRM-R1), provides a reasonable  
182 estimation of the replacement power costs. The Company would also support the  
183 calculation of replacement power costs based on other market price indices,  
184 specifically, the Palo Verde or the Mid-C market hubs. However, the market to be  
185 used should be determined in this docket to avoid potential disputes in future  
186 proceedings.

187 **Q. What is the Company's proposal relating to the Gadsby Emissions**  
188 **Curtailment Program?**

189 A. The Company respectfully proposes that the Commission approve the Gadsby  
190 Emissions Curtailment Program and recovery of the replacement power calculated  
191 as described in Figure 1 above and in Exhibit RMP\_\_\_\_(SRM-R1) using market  
192 pricing at the Four Corners market hub, as recommended by the Company, or if the  
193 Commission chooses, market pricing at either the Palo Verde, or the Mid-C market  
194 hubs.

195 **Q. Would the Company proceed with implementation of the Gadsby Emissions**  
196 **Curtailment Program if it were approved but without determining the method**  
197 **of calculating the replacement power?**

198 A. No. The Company could not reasonably accept the risk of replacement power cost  
199 recovery under the Gadsby Emissions Curtailment Program without a Commission-  
200 approved method of calculating replacement power.

201 **TARIFF SHEET MODIFICATIONS**

202 **Q. Ms. Murray recommends that the Company cancel Schedule 195 and create**  
203 **a new tariff with a new schedule number for the STEP surcharge tariff.<sup>12</sup>**

204 **Does the Company agree with this recommendation?**

205 A. Yes, the Company agrees to cancel Schedule 195 and create a new tariff with a new  
206 schedule number for the STEP surcharge tariff. Exhibit RMP\_\_\_\_(SRM-R2)  
207 contains the proposed cancellation of Schedule 195. Exhibit RMP\_\_\_\_(SRM-R3)  
208 contains the proposed Schedule 196 replacing Schedule 195.

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<sup>12</sup> Direct Testimony of Cheryl Murray filed November 9, 2016 in Docket No. 16-035-36, ll. 92-95.

209 **Q. Ms. Murray further recommends a correction to the Company’s proposed**  
210 **tariff sheet 195.2 identifying Contract 3 as being a \$154,410/monthly charge,**  
211 **which should be identified as an annual charge.<sup>13</sup> Does the Company agree**  
212 **with this recommendation?**

213 A. Yes, the Company agrees with the recommended correction. The correction is  
214 incorporated in the Company’s proposed Schedule 196 contained in  
215 Exhibit RMP\_\_\_(SRM-R3), which replaces Schedule 195.

216 **Q. Mr. Thomson recommends that the Company’s proposed Tariff Sheet 195.1**  
217 **include the term “Pilot Program” and that it make note of the program period**  
218 **of five years.<sup>14</sup> Does the Company agree with this recommendation?**

219 A. Yes, the Company agrees with this modification proposed by Mr. Thomson. The  
220 recommendations are incorporated in the Company’s proposed Schedule 196  
221 contained in Exhibit RMP\_\_\_(SRM-R3).

222 **Q. Mr. Davis<sup>15</sup> and Ms. Murray<sup>16</sup> recommend removing the line referencing 2017**  
223 **shown in Table 2 Available Capacity in the Company’s proposed modification**  
224 **to Tariff Sheet 107.4. Does the Company agree with this recommendation?**

225 A. Yes. The line in Table 2 for 2017 Capacity was inadvertently not removed.  
226 Exhibit RMP\_\_\_(SRM-R4) contains the proposed correction to Tariff Sheet 107.4.

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<sup>13</sup> Direct Testimony of Cheryl Murray filed November 9, 2016 in Docket No. 16-035-36, ll. 98-101.

<sup>14</sup> Direct Testimony of David Thomson filed November 9, 2016 in Docket No. 16-035-36, ll. 214-215.

<sup>15</sup> Direct Testimony of Robert A. Davis filed November 9, 2016 in Docket 16-035-36, ll.418-421.

<sup>16</sup> Direct Testimony of Cheryl Murray filed November 9, 2016 in Docket 16-035-36, ll. 69-71.

227 **Q. Ms. Murray recommends modifying the “APPLICABLE” section in the**  
228 **Company’s proposed Tariff Sheet 107.1.<sup>17</sup> Does the Company agree with Ms.**  
229 **Murray’s proposed modification?**

230 A. Yes. The Company agrees with the modification proposed by Ms. Murray as  
231 follows:

232 *APPLICABLE: All customers that have received a capacity*  
233 *reservation and paid the required deposit under the Solar Incentive*  
234 *Program as of December 31, 2016.*

235 Exhibit RMP\_\_\_\_(SRM-R5) contains the proposed modification to Tariff Sheet  
236 107.1.

237 **Q. Were there any other changes to the tariff sheets?**

238 A. Yes. The cost adjustment percentages on proposed Schedule 196 were updated to  
239 reflect the price change on November 1, 2016 for Schedule 94 - Energy Balancing  
240 Account (“EBA”) Pilot Program. The calculation of the revised Schedule 196  
241 prices is included in the Company’s workpapers. Additionally, pursuant to the  
242 proposed cancellation of Tariff Schedule 195 and creation of Tariff Schedule 196,  
243 resulting changes have been proposed to Electric Service Schedules, Sheet B.1 and  
244 Schedule 80 contained herein as Exhibit RMP\_\_\_\_(SRM-R6) and  
245 Exhibit RMP\_\_\_\_(SRM-R7) respectively.

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<sup>17</sup> *Id.* at ll. 58-61.

246 **STEP REPORTING PLAN**

247 **Q. Do other parties recommend reporting requirements in addition to what the**  
248 **Company has already proposed?**

249 A. Yes. The DPU and OCS each provide detailed recommendations regarding the  
250 reporting requirements on the STEP programs the Company should be required to  
251 provide annually, and at the end of the pilot period.

252 **Q. Does the Company support these detailed recommendations?**

253 A. Not entirely. Mr. Vastag recommends that for the Solar and Energy Storage Program  
254 the Company develop a “proposal of realistic allocation methods that would result  
255 in an equitable matching of costs and benefits...”<sup>18</sup> The Company believes that the  
256 proposal discussed previously in my testimony of giving Utah the benefits of the  
257 net power cost difference through the EBA meets this requirement. Therefore, the  
258 requirement proposed by Mr. Vastag should be satisfied by including the net power  
259 cost benefits of the Solar and Energy Storage Program in the EBA.

260 **Q. Please provide an update on the Company’s STEP reporting plan, including**  
261 **the recommended additional reporting requirements supported by the**  
262 **Company.**

263 A. Based on the input received by the parties, the Company proposes to file with the  
264 Commission an annual report on all approved STEP programs at the same time as  
265 the year-end results of operations report. The annual STEP report will consist of the  
266 following:

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<sup>18</sup> Direct Testimony of Bela Vastag filed November 9, 2016 in Docket No. 16-035-36, ll. 208-210.

267 STEP Accounting (Total STEP and by individual STEP program)

268 Actual and final project costs by year consisting of the following:

- 269 ▪ Annual collection (budget)
- 270 ▪ Annual spend
- 271 ▪ Committed Funds
- 272 ▪ Uncommitted funds
- 273 ▪ External OMAG expenses

274 Individual STEP Program Status Updates

- 275 • Program objective
- 276 • Accounting (including an explanation for any unforeseen budget
- 277 issues)
- 278 • Milestones
- 279 • Key Findings / Challenges / Lessons Learned
- 280 • Program benefits
- 281 • Results / Assessment of potential future applications for similar
- 282 projects

283 Final comprehensive program evaluation reports will be filed upon program  
284 completion.

285 The annual status updates on NOx reduction clean coal projects will also include  
286 the following:

- 287 • Project performance information such as changes to NOx emissions
- 288 and heat rates,
- 289 • A copy of all proposals and reports that the Company received or
- 290 produced relating to NOx projects since the previous report, and
- 291 • An offer to host a post-NOx report workshop to address questions
- 292 and concerns.

293 In addition to filing the annual STEP report with the Commission, the  
294 Company also agrees to the following reporting requirements:

295

EBA Filing

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- If STEP funds are used for Gadsby Emissions Curtailment Program,

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the Company will include in the annual EBA filing the following:

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- The calculation of replacement power from the curtailment, including all supporting documentation for the calculation inputs used based on an approved Commission methodology.

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- The market price used in calculating replacement power and other market prices.

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- The justification documentation for changing the market price proxy, if applicable.

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**CONCLUSION**

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**Q. Please summarize your rebuttal testimony.**

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A. As supported by the Company's application in this docket, the testimony of

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Company witnesses accompanying the application, and in my rebuttal testimony

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the Company recommends the Commission find as follows:

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- The Company has properly evaluated the cost-effectiveness of its Solar and Energy Storage Program;

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- The Company-proposed accounting treatment will properly allocate to Utah customers the benefits of the Solar and Energy Storage Program through the EBA;

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- It is appropriate to allow Blue Sky funding for the solar portion of the Solar and Energy Storage Program;

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- It is not appropriate or feasible to establish a grant program to benefit community service organizations based on the kilowatt-hours generated by the solar portion of the Solar and Energy Storage Program;

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- The replacement power costs resulting from operation of the Gadsby Emissions Curtailment Program should be calculated using the Four Corners trading market;

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- The various Tariff Sheet modifications reflecting modifications and needed corrections addressed by parties are approved; and

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- The Company proposed reporting plan provides all appropriate STEP reporting information requested by various parties in the docket.

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327           The Company further respectfully recommends the Commission approve all issues  
328           under consideration in Phase One of this docket as outlined in my rebuttal testimony  
329           and the application and testimony of other Company witnesses in this docket.

330   **Q.    Does that conclude your rebuttal testimony?**

331   A.    Yes