

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

| | | |
|--|---|------------------------------------|
| In the Matter of the Application |) | Docket No. 16-035-36 |
| of Rocky Mountain Power to |) | Phase 3 |
| Implement Programs Authorized |) | Direct Testimony of |
| By the Sustainable Transportation |) | James W. Daniel for the |
| And Energy Plan Act |) | Office of Consumer Services |

April 6, 2017

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EXHIBITS

OCS JWD-1 Prior Testimony of James W. Daniel

DIRECT TESTIMONY AND EXHIBITS OF JAMES W. DANIEL**I. EXPERIENCE AND QUALIFICATIONS**

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James W. Daniel. My business address is 919 Congress Avenue, Suite 800, Austin, Texas 78701.

Q. PLEASE OUTLINE YOUR FORMAL EDUCATION.

A. I received the degree of Bachelor of Science from the Georgia Institute of Technology in 1973 with a major in economics.

Q. WHAT IS YOUR PRESENT POSITION?

A. I am a Vice President of the firm GDS Associates, Inc. ("GDS") and Manager of GDS's office in Austin, Texas.

Q. PLEASE STATE YOUR PROFESSIONAL EXPERIENCE.

A. From July 1974 through September 1979 and from August 1983 through February 1986, I was employed by Southern Engineering Company. During that time, I participated in the preparation of economic analyses regarding alternative power supply sources and generation and transmission feasibility studies for rural cooperatives. I participated in wholesale and retail rate and contract negotiations with investor-owned and publicly-owned utilities, prepared cost of service studies on investor-owned and publicly-owned utilities, and prepared and submitted testimony and exhibits in utility rate and other regulatory proceedings on behalf of publicly-owned utilities, industrial customers, associations, and government agencies. From October 1979 through July 1983, I was employed as a public utility consultant by R.W. Beck and Associates. During that time, I participated in rate studies for publicly-owned electric, gas, water and wastewater utilities. My primary responsibility was the development of revenue requirements, cost of service, and rate design studies as well as the preparation and submittal of testimony and exhibits in utility rate proceedings on behalf of publicly-owned utilities, industrial customers and other customer groups. Since February 1986, I have held the position of Manager of GDS's office in Austin, Texas. In April 2000, I was elected as a Vice President of GDS. While at GDS, I have provided testimony in numerous regulatory proceedings involving electric,

29 natural gas, and water utilities, and I have participated in generic rulemaking proceedings.
30 I have prepared retail rate studies on behalf of publicly-owned utilities, and I have prepared
31 utility valuation analyses. I have also prepared economic feasibility studies, and I have
32 procured and contracted for wholesale and retail energy supplies.

33 **Q. WOULD YOU PLEASE DESCRIBE GDS?**

34 A. GDS is an engineering and consulting firm with offices in Marietta, Georgia; Austin,
35 Texas; Auburn, Alabama; Manchester, New Hampshire; Madison, Wisconsin; and
36 Orlando, Florida. GDS has over 160 employees with backgrounds in engineering,
37 accounting, management, economics, finance, and statistics. GDS provides rate and
38 regulatory consulting services in the electric, natural gas, water, storm, and telephone
39 utility industries. GDS also provides a variety of other services in the electric utility
40 industry including power supply planning, generation support services, energy
41 procurement and contracting, energy efficiency program development, financial analysis,
42 load forecasting, and statistical services. Our clients are primarily privately-owned
43 utilities, publicly-owned utilities, municipalities, customers of investor-owned utilities,
44 groups or associations of customers, and government agencies.

45 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY**
46 **COMMISSIONS?**

47 A. I have testified many times before regulatory commissions. A complete list of regulatory
48 proceedings in which I have presented expert testimony is provided as Exhibit OCS JWD-
49 1.

50 **II. INTRODUCTION**

51 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?**

52 A. I am testifying on behalf of the Utah Office of Consumer Services (“OCS”).

53 **Q. PLEASE DESCRIBE OCS.**

54 A. OCS is Utah’s utility consumer advocate. OCS represents residential, small commercial,
55 and agricultural consumers in various electric, natural gas, and telephone utility
56 proceedings before the Utah Public Service Commission (“PSC” or “Commission”).

57 **Q. WHAT WAS YOUR ASSIGNMENT IN THIS PROCEEDING?**

58 A. My assignment was to review and evaluate Rocky Mountain Power's ("RMP" or "the
59 Company") residential portion of the proposed plug-in electric vehicle ("PEV") incentive
60 program. The focus of my analysis was on the rate design used in the time of use pilot
61 program

62 **Q. PLEASE SUMMARIZE THE CONCLUSIONS AND RECOMMENDATIONS YOU
63 HAVE REACHED BASED UPON YOUR REVIEW AND ANALYSIS OF RMP'S
64 APPLICATION.**

65 A. Based upon my review and analysis, I have reached the following conclusions and
66 recommendations:

67 (1) RMP's proposed on-peak energy charge for their PEV TOU rate Option 2 is too
68 high and should be reduced.

69 (2) RMP's proposed on-peak periods for rate Option 2 include too many hours and
70 should be shortened.

71 (3) At the conclusion of the PEV TOU rate pilot program, RMP's report to the
72 Commission should include an analysis of the load research project, an analysis of
73 the survey of the PEV TOU rate pilot project participants, an analysis of the costs
74 and benefits attributable to PEV TOU rates, and a statistical analysis of the
75 differences in hourly energy consumption between the TOU pilot project
76 participants on Rate Options 1 and 2.

77 **Q. PLEASE BRIEFLY DESCRIBE RMP'S PROPOSED PEV PROGRAM.**

78 A. RMP's application in this docket is the Company's response to the electric vehicle
79 incentive provisions included in the Sustainable Transportation and Energy Plan Act
80 ("STEP"). Section 54-20-103(1) of STEP provides the following:

81 The commission shall, before July 1, 2017, authorize a large-scale
82 electric utility to establish a program that promotes customer choice in
83 electric vehicle charging equipment and service that includes: (a) an
84 incentive to a large-scale electric utility customer to install or provide
85 electric vehicle infrastructure; (b) time of use pricing for electric vehicle
86 charging; (c) any measure that the commission determines is in the public
87 interest that incentivizes the competitive deployment of electric vehicle
88 charging infrastructure.

89 STEP also provides that RMP can spend \$2 million per year for 5 years for its PEV program
90 and that RMP can recover the \$10 million total cost from ratepayers.

91 RMP'S proposed PEV program includes the following primary components:

- 92 (1) \$500,000 per year for customer outreach and education and for administration
93 which may include but not be limited to a 3rd party administrator,
- 94 (2) \$200,000 per year for a residential customer time of use ("TOU") pilot project,
- 95 (3) \$400,000 per year for non-residential customer incentives of up to \$3,000 for Level
96 2 PEV chargers,
- 97 (4) \$400,000 per year for incentives of up to \$30,000 for DC fast charging stations, and
- 98 (5) \$500,000 per year in grants for custom projects that support PEV infrastructure.

99 **Q. PLEASE DESCRIBE RMP'S PROPOSED RESIDENTIAL TOU RATE PILOT**
100 **PROJECT FOR PEV CUSTOMERS.**

101 A. The primary provisions for RMP's proposed residential TOU pilot project include:

- 102 (1) An incentive payment of up to \$200 per customer for signing up for the proposed
103 PEV TOU rate,

- 104 (2) An incentive payment of \$200 to customers that participate in the proposed load
105 research study,
- 106 (3) The choice of two TOU rate options, and
- 107 (4) A limit of 1,000 customers that may participate in the TOU rate pilot project.

108 **Q. PLEASE COMPARE RMP'S TWO PROPOSED TOU RATE OPTIONS.**

109 A. Both TOU rate options have the same on-peak and off-peak periods. On-peak hours
110 include the Monday through Friday (except holidays) hours of (1) 8:00 a.m. to 10:00 a.m.
111 and 3:00 p.m. to 8:00 p.m. for the months of October through April and (2) 3:00 p.m.
112 through 8:00 p.m. for the months of May through September.

113 The difference between the two TOU rate options is in the energy charge. The on-peak
114 and off-peak energy charges are provided on Table 1 below:

TABLE 1

| Rate Option | Proposed Energy Charge | |
|-------------|------------------------|--------------|
| | On-Peak | Off-Peak |
| Option 1 | 22.2755 ¢/kWh | 6.6881 ¢/kWh |
| Option 2 | 34.3753 ¢/kWh | 3.4003 ¢/kWh |

115

116 **Q. ARE THERE ANY OTHER SIGNIFICANT PROVISIONS IN RMP'S PROPOSED**
117 **TOU RATE?**

118 A. Yes. One of the requirements for participation in the proposed TOU pilot project is that a
119 customer must enroll for 12-month periods. The Company's proposed Residential Service
120 – Electric Vehicle Time-of-Use Pilot Option (Schedule No. 2E) includes a "Guarantee
121 Payment" provision. This provision limits the participants' exposure to increased charges
122 under the TOU rate options. A participant is guaranteed that their total annual charges
123 shall not exceed 10% over the charges the customer would have paid under the standard
124 residential service rate.

125

III. TOU ENERGY RATE DIFFERENTIAL

126 **Q. DO YOU AGREE WITH RMP'S PROPOSED TOU RATE DIFFERENTIAL**
127 **BETWEEN THE ON-PEAK AND OFF-PEAK ENERGY CHARGE?**

128 A. No. There is a substantial difference between the rate differentials for the two rate options.
129 As shown in Table 1 above, the rate differential between the on-peak and off-peak energy
130 charge is 15.4874¢ per kWh for rate Option 1 and is 30.9750¢ per kWh for rate Option 2.
131 Another comparison is the ratio of the on-peak energy charge to the off-peak energy charge.
132 For rate Option 1 this ratio is 3.3 to 1 while the rate Option 2 ratio is 10.1 to 1. RMP's
133 proposed TOU rate differential for rate Option 2 is too severe and unsupported and should
134 be reduced.

135 **Q. WHAT IS THE BASIS FOR RMP'S PROPOSED TOU RATE DIFFERENTIALS?**

136 A. RMP witness Robert Meredith explains the Company's basis for their proposed rate
137 differentials on page 13, line 291, to page 14, line 307 of his direct testimony. For rate
138 Option 2, the off-peak energy charge is set at a per kWh level to only recover the energy-
139 related costs designated in RMP's last rate case. According to RMP, that average energy-
140 related cost amount is 3.4003¢ per kWh. All demand-related costs, as identified by RMP,
141 are recovered in the rate Option 2 on-peak energy charge. For rate Option 1, the off-peak
142 energy charge is arbitrarily set to halfway between the "average" residential price of energy
143 of 10.1759¢ per kWh and the average only energy-related cost amount of 3.4003¢ per kWh.

144 **Q. DO YOU AGREE WITH RMP'S BASIS FOR THE OFF-PEAK ENERGY RATE**
145 **FOR ITS PROPOSED RATE OPTION 2?**

146 A. No. Not only is the off-peak energy rate too low, it also causes the on-peak energy rate in
147 rate Option 2 to be too high. The Company's proposed off-peak energy rate for rate Option
148 2 only recovers energy-related costs, such as fuel and variable operation and maintenance
149 ("O&M") expenses. This rate basis is contrary to RMP's arguments for opposing the
150 current net metering ("NEM") for customer-owned distributed generation ("DG"). The
151 primary reason for RMP's opposition to NEM is that a residential customer with DG such
152 as solar panels is not paying its fair share of the Company's distribution system used to
153 serve the customer. Using this argument, if a customer on rate Option 2 significantly shifts
154 usage to off-peak hours, the customer will avoid paying for distribution-related costs. This

155 will in turn result in other customers having to pay for those costs. In my opinion, the rate
156 Option 2 rate structure is a non-starter and should not be used for the pilot program.

157 **Q. DO YOU HAVE A RECOMMENDED REVISED TOU RATE OPTION 2?**

158 A. Yes. I recommend setting the off-peak energy charge in rate Option 2 to recover the
159 average energy-related costs as proposed plus the distribution-related costs. All costs not
160 recovered in the \$6.00 customer charge and in the off-peak energy charge would be
161 recovered in the on-peak energy charge. This would result in rate Option 2 energy charges
162 of 24.1235¢ per kWh for on-peak and 6.2707¢ per kWh for off-peak. The ratio of the on-
163 peak to off-peak energy charge for this rate is 3.8 to 1.

164 **Q. HOW WOULD YOU DETERMINE THE RATE DIFFERENTIAL FOR TOU
165 RATE OPTION 1?**

166 A. I would recommend determining the on-peak and off-peak energy charges for rate Option
167 1 similar to RMP's proposed methodology. That is to set the off-peak energy charge to
168 halfway between the average residential price of energy of 10.1759¢ per kWh and my
169 recommended off-peak energy charge for rate Option 2 of 6.2707¢ per kWh. Also, all
170 costs not recovered in the \$6.00 customer charge and off-peak energy charge would be
171 recovered in the on-peak energy charge.

172 **Q. HOW DO YOUR RECOMMENDED TOU ON-PEAK AND OFF-PEAK ENERGY
173 CHARGES COMPARE TO RMP'S PROPOSAL?**

174 A. My Table 2 below shows RMP's and my revised on-peak and off-peak energy charges for
175 both rate Options 1 and 2:

176

TABLE 2

| Comparison of RMP Proposed and OCS Recommended On and Off-Peak Energy Charge | | | | |
|--|--------------------------|--------------------------|--------------------------------------|--------------------------------------|
| Description | RMP Option 1 (a) | RMP Option 2 (b) | OCS Recommended Option 1 (c) | OCS Recommended Option 2 (d) |
| On-Peak Rate (¢/kWh) | 22.2755 | 34.3753 | 17.1496 | 24.1235 |
| Off-Peak Rate (¢/kWh) | 6.7881 | 3.4003 | 8.2233 | 6.2707 |
| Difference (¢/kWh) | 15.4874 | 30.9750 | 8.9263 | 17.8528 |
| On-Peak to Off-Peak Ratio | 3.3 : 1 | 10.1 : 1 | 2.1 : 1 | 3.8 : 1 |

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178 **Q. HOW DO THESE TOU RATE DIFFERENTIALS AND THE ON-PEAK TO OFF-**
179 **PEAK ENERGY CHARGE RATIOS COMPARE TO PEV TOU RATES OF**
180 **OTHER UTILITIES?**

181 A. My Exhibit OCS JWD-2 compares those statistics for RMP's proposed rate options, my
182 recommended rate options, and other utilities' PEV TOU rates. The comparisons
183 contained on my Exhibit OCS JWD-2 demonstrate that my proposed PEV TOU rates are
184 more in line with what other utilities charge.

185 **IV. ON-PEAK AND OFF-PEAK HOURS**

186 **Q. HOW DID RMP DETERMINE ITS ON-PEAK AND OFF-PEAK PERIODS?**

187 A. As described on page 10, line 221, through page 11, line 239, of the direct testimony of
188 RMP witness Robert Meredith, the Company reviewed system coincident peak ("CP")
189 demands and distribution CP demands used for its last five class cost of service studies
190 ("COSS") filed with the Commission. Based upon this review, the Company determined
191 that the summer peaks occurred during the late afternoon/early evening hours and that the
192 winter peaks occurred during both the late afternoon/early evening hours and the morning
193 hours. RMP then selected as the on-peak hours the time periods that captured the vast
194 majority of those peaks.

195 **Q. DO YOU AGREE WITH RMP'S PROPOSED DEFINITION OF ON-PEAK AND**
196 **OFF-PEAK HOURS FOR BOTH OF ITS PROPOSED RATE OPTIONS?**

197 A. No. For purposes of the pilot project, I agree with RMP's definitions of on-peak and off-
198 peak hours for my revised rate Option 2 discussed in the prior section of my direct
199 testimony. However, I do not believe that both rate options should utilize the same TOU
200 time periods for the pilot project. The purpose of the pilot project should be to obtain
201 information on how to best structure any PEV TOU rate that may be proposed in the future.
202 I do not believe using the same TOU time periods for both rate options will adequately
203 accomplish that objective.

204 **Q. WHAT PEV TOU TIME PERIODS DO YOU RECOMMEND BE USED FOR**
205 **RATE OPTION 1?**

206 A. I believe that the definition of on-peak hours should be more restrictive. In my opinion,
207 the data provided by RMP in support of their proposed definitions of on-peak and off-peak

208 periods supports a narrower definition of on-peak hours. The Company's use of a "vast
209 majority" of periods in which system peaks or distribution peaks occurred during the test
210 years used in its previous five rate cases resulted in including periods in which peaks rarely
211 occurred. In some of those instances, or rare peak periods, the Company excluded some
212 periods that had the same low frequency of peak occurrences as periods that were included
213 in RMP's definition of on-peak hours. For example, RMP's definition of winter on-peak
214 hours included the period 8:00 a.m. through 10:00 a.m. Monday through Friday. The data
215 RMP relied upon showed 18 occurrences of a system peak during the 8:00 to 9:00 a.m.
216 hour but zero occurrences in the 9:00 to 10:00 a.m. hour. For the distribution system peaks,
217 there were zero peaks during the 8:00 to 9:00 a.m. hour and only one peak during the 9:00
218 to 10:00 a.m. hour. There was also one distribution system peak that occurred during the
219 11:00 a.m. to noon hour during the winter period. Even using RMP's "vast majority"
220 approach, I would only use the 8:00 to 9:00 a.m. hour as part of the on-peak hours during
221 the winter. This would consistently exclude both of the winter morning hours in which
222 peaks rarely occurred. Using my more restrictive determination of on-peak hours, for Rate
223 Option 1, I would recommend using the following definitions of on-peak and off-peak
224 hours.

225 On-Peak: October through April inclusive ---
226 8:00 a.m. to 9:00 a.m. and 5:00 p.m. to 8:00 p.m.
227 Monday through Friday, except Holidays
228 May through September inclusive –
229 4:00 p.m. to 7:00 p.m.
230 Monday through Friday, except Holidays
231
232 Off-Peak: All other times
233

234 **Q. WILL USING THIS DEFINITION OF ON-PEAK AND OFF-PEAK HOURS**
235 **RESULT IN A HIGHER DIFFERENTIAL BETWEEN THE ON-PEAK AND OFF-**
236 **PEAK ENERGY CHARGE FOR RATE OPTION 1?**

237 A. Yes, it will.

238 **Q. DO TOU RATES WITH HIGH ON-PEAK AND OFF-PEAK RATE**
239 **DIFFERENTIALS HAVE FEWER ON-PEAK HOURS?**

240 A. Yes. As part of my analysis of RMP's proposed PEV TOU rate, I have reviewed the PEV
241 TOU rate structures of several other utilities. Some of these other TOU rates include

242 critical peak or other TOU rates including critical peak or super peak rates for a very limited
243 number of hours. In addition, for PEV TOU rates with only two price periods (on-peak
244 and off-peak), there is a relationship between the rate differential and the number of on-
245 peak hours. My Exhibit OCS JWD-3 compares the on-peak and off-peak hours for several
246 utilities with RMP's proposed PEV TOU rate. By comparing this exhibit and my Exhibit
247 OCS JWD-2, high rate differentials between the on-peak and off-peak energy charge are
248 associated with fewer on-peak hours.

249 **Q. DID YOU CALCULATE NEW ENERGY CHARGES FOR RATE OPTION 2**
250 **USING THESE REVISED ON-PEAK AND OFF-PEAK HOURS?**

251 A. No.

252 **V. RMP'S REPORT TO THE COMMISSION**

253 **Q. DOES STEP REQUIRE RMP TO FILE A REPORT WITH THE COMMISSION**
254 **THAT DISCUSSES THE RESULTS OF ITS PROPOSED PEV PROGRAM?**

255 A. Yes. At the end of the 5-year PEV program provided for by STEP, RMP is required to
256 provide a report to the Commission on the results of the PEV program.

257 **Q. HAS RMP DESCRIBED THE INFORMATION IT INTENDS TO INCLUDE IN ITS**
258 **PEV PROGRAM REPORT TO THE COMMISSION?**

259 A. Yes. Company witness Robert Meredith lists the items RMP plans to include in its report
260 to the Commission on page 7 of his direct testimony.

261 **Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING ADDITIONAL**
262 **MINIMUM REQUIREMENTS FOR RMP'S REPORT?**

263 A. Yes. RMP's report to the Commission should also include the following items:

264 (1) An analysis of the results of the load research program,

265 (2) An analysis of the survey responses of the PEV TOU pilot project participants,

266 (3) An analysis of the costs and benefits attributable to the PEV program components
267 for both PEV program participants and non-participants, and

268 (4) A statistical analysis of the differences in hourly energy consumption between the
269 TOU pilot project participants on Rate Options 1 and 2.

270

VIII. SUMMARY AND CONCLUSIONS

271

Q. WHAT SUMMARY AND CONCLUSIONS HAVE YOU REACHED?

272

A. Based upon my review and analysis, I have reached the following conclusions and recommendations:

273

274

(1) RMP's proposed on-peak energy charge for their PEV TOU rate Option 2 is too high and should be reduced.

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(2) RMP's proposed on-peak periods for rate Option 2 include too many hours and should be shortened.

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(3) RMP's proposed payment cap or guarantee for PEV TOU rate pilot program participants should not be for the entire 12-month period.

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(4) RMP should be required to determine the costs and benefits for both participants and non-participants in the proposed PEV program.

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(5) At the conclusion of the PEV TOU rate pilot program, RMP's report to the Commission should include an analysis of the load research project, an analysis of the survey of the PEV TOU rate pilot project participants, an analysis of the costs and benefits attributable to PEV TOU rates, and a statistical analysis of the differences in hourly energy consumption between the TOU pilot project participants on Rate Options 1 and 2.

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Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

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A. Yes.