

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of)	Docket No. 16-035-36
Rocky Mountain Power to Implement)	Direct Testimony of
Programs Authorized by the)	Danny A.C. Martinez
Sustainable Transportation and)	For the Office of
Energy Plan Act)	Consumer Services
)	

NONCONFIDENTIAL – REDACTED VERSION

November 9, 2016

1 **I. INTRODUCTION**

2
3 **Q. WHAT IS YOUR NAME, YOUR OCCUPATION AND YOUR BUSINESS**
4 **ADDRESS?**

5 A. My name is Danny A.C. Martinez. I am a utility analyst for the Office of
6 Consumer Services (“Office”). My business address is 160 E. 300 S., Salt Lake
7 City, Utah 84111.

8
9 **Q. PLEASE DISCUSS YOUR EDUCATION AND QUALIFICATIONS.**

10 A. I have B.S. and M.S. degrees in economics from the University of Utah. I also
11 have a M.P.A. degree from the University of Utah. My private and public sector
12 work experience spans over 25 years including ten years in financial services
13 and ten years teaching economics. In 2010, I was hired by the Office of
14 Consumer Services. At the Office, I have worked primarily in the areas of cost of
15 service (“COS”), rate design, and demand side management (“DSM”). I filed
16 testimony on cost of service and rate design issues in the last Questar Gas
17 general rate case (Docket 13-057-05). I also filed direct testimony on rate design
18 issues in Rocky Mountain Power’s past two general rate cases (Dockets 11-035-
19 200 and 13-035-184). Lastly, I have attended various training opportunities,
20 including an intensive course on cost of service and rate design issues.

21
22 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

23 A. I will present the Office’s analysis of certain projects included in the filing made
24 by Rocky Mountain Power Company (“RMP or “Company”) to implement the
25 Sustainable Transportation and Energy Plan (“STEP”) Act passed in the 2016
26 session by the Utah legislature. My analysis will address:

- 27
- 28 • The clean coal projects related to Nitrogen Oxide (“NOx”) emissions
reduction, and
 - 29 • The Gadsby Curtailment Program.
- 30
31

32 **II. PHASE ONE CLEAN COAL PROJECTS**

33

34 **Q. PLEASE DESCRIBE THE CLEAN COAL PROJECTS THAT ARE UNDER**
35 **REVIEW IN PHASE ONE OF THIS DOCKET?**

36 A. The phase one clean coal projects include two NOx reduction projects. These
37 projects include implementing an advanced neural network control system at the
38 Huntington 2 plant and utility scale demonstration of alternative NOx emissions
39 control technologies that may result in NOx decreases without the use of
40 Selective Catalytic Reduction (“SCR”).

41

42 **Q. WHAT CATEGORY IN THE STEP ACT DO THESE NOx REDUCTION**
43 **PROJECTS FALL UNDER?**

44 A. In Utah Code 54-20-104 subsection (1), the Utah Legislature authorized the
45 Public Service Commission of Utah (“Commission”) to approve a program before
46 July 1, 2017, subject to funding, that authorizes a large-scale utility to investigate,
47 analyze, and research clean coal technology.

48

49 **Q. DOES THE STATUTE CONTEMPLATE ANY SPECIFIC EVALUATION OF THE**
50 **PROJECTS PROPOSED WITHIN THE CLEAN COAL PROGRAM?**

51 A. Yes. Utah Code 54-20-104 subsection (2) specifically authorizes the Commission
52 to review the expenditures after the fact to ensure that they were made
53 “prudently in accordance with the purposes of the program.”

54

55 **Q. WHAT IS THE OFFICE’S POSITION REGARDING THE EVALUATION OF**
56 **THE CLEAN COAL PROJECTS AUTHORIZED BY THE STEP ACT?**

57 A. At a minimum, the Commission should require a showing by the Company that
58 expenditures have been made prudently and in accordance with the goals of the
59 program. The Office also believes that since public (i.e. ratepayer) money is
60 being used to fund this program, the public record should benefit from a
61 comprehensive evaluation of the costs, benefits, and other lessons learned from
62 the research and analysis of clean coal technologies. This additional reporting

63 should show how these STEP projects have advanced the Company's
64 understanding of clean coal technology.

65

66 **Q. DO YOU RECOMMEND ANY ADDITIONAL REPORTING REQUIREMENTS**
67 **FOR THE NO_x-RELATED CLEAN COAL PROJECTS?**

68 A. Yes. In order to capture the benefits of investigating, analyzing, and researching
69 clean coal technology, the stated statutory purpose of this program, the
70 Company should provide ongoing documentation of the various clean coal
71 projects to the Commission. For the NO_x reduction projects included in this filing,
72 the Office recommends that the Commission order the Company to provide
73 annual reports and a final, comprehensive evaluation.

74

75 Annual reports should provide sufficient reporting frequency to evaluate the
76 progress of these projects. The Office recommends that the annual reports
77 should include the following:

- 78 • Project performance information such as changes to NO_x emissions and
79 heat rates.
- 80 • Project expenditures including variances from the program budget with
81 explanations for variances.
- 82 • Qualitative information such as descriptions of the impacts on the
83 Huntington Plant or other unforeseen benefits and costs incurred by the
84 project.

85

86 In addition to the annual reports, the Office recommends that the Company file a
87 final evaluation for each NO_x reduction clean coal project proposed by the
88 Company and approved by the Commission.

89

90 **Q. PLEASE SUMMARIZE THE OFFICE'S RECOMMENDATION RELATED TO**
91 **THE CLEAN COAL PROJECTS IN THIS PHASE.**

92 A. The Office believes that the statute is quite prescriptive in authorizing the
93 Commission to approve clean coal projects. The Office recommends that the

94 Commission include in its order a requirement that the Company file annual
95 reports and a final evaluation of these projects with the Commission.

96

97 **III. GADSBY CURTAILMENT PROGRAM**

98

99 **Q. DOES THE OFFICE HAVE CONCERNS ABOUT THE GADSBY**
100 **CURTAILMENT PROGRAM?**

101 A. Yes. While the Office supports the Company's curtailment concept, it is
102 concerned about how the value of the replacement power is proposed to be
103 calculated in the event that Gadsby production is curtailed. The Company did
104 not sufficiently explain in its application how the value of the curtailment
105 replacement power cost is calculated and why the Four Corners ("FC") hub
106 would be appropriate to use as a proxy price for the replacement power instead
107 of using actual costs or other trading hubs utilized by the Company.

108

109 **Q. PLEASE DESCRIBE THE OPERATIONAL AND ACCOUNTING**
110 **PROCEDURES IF THE GADSBY CURTAILMENT OCCURS.**

111 A. In the Company's Exhibit E, section 7, the Company stated,
112 "UDAQ will provide 5 days-notice to RMP when air quality actions
113 will be issues. Energy Supply Management ("ESM") will then
114 determine whether Gadsby should be curtailed. If curtailment is
115 elected, Energy Supply Management ("ESM") ***will use models to***
116 ***determine the incremental Net Power Cost ("NPC") impact of***
117 ***the curtailment.*** ESM will then enter the curtailment volume and
118 cost in the Endur system, and provide notification to NPC and Load
119 Forecast group, NPC Finance and ESM Finance groups that a
120 Gadsby curtailment has occurred. If a month-end accrual is
121 required, NPC Finance will book the accrual. ***ESM will book the***
122 ***actual curtailment costs.***"¹ (Emphasis Added)

123

¹ Exhibit E – Gadsby Emissions Curtailment Program, Sustainable Transportation and Energy Plan, p. 6-7.

124 **Q. PLEASE DESCRIBE HOW THE INITIAL FILING ADDRESSED THE TOPIC OF**
125 **HOW THE REPLACEMENT POWER WOULD BE VALUED?**

126 A. The Company's application was unclear in its use of forecasted estimates and/or
127 actual curtailment replacement power cost data. While the Company outlined the
128 operational and accounting procedures for how the curtailment would be booked,
129 the Company did not articulate how the replacement value would be calculated
130 and whether the value would be based on forecast cost data or actual cost data.

131
132 **Q. DID THE OFFICE ASK THE COMPANY FOR ADDITIONAL EXPLANATION OF**
133 **HOW THE COMPANY WOULD DETERMINE THE VALUE OF THE**
134 **CURTAILMENT REPLACEMENT POWER COST?**

135 A. Yes. In OCS Data Request question 3.4 ("OCS 3.4"), the Office asked the
136 Company to document how the value of the replacement power will be
137 determined when the Gadsby curtailment occurs. The Office also asked if the
138 replacement power value will be based solely on proxy due to dispatch modeling
139 analysis or based on actual costs incurred resulting from the curtailment.

140
141 **Q. WHAT WAS COMPANY'S RESPONSE TO OCS 3.4?**

142 A. In OCS 3.4, the Company stated:

143 "The replacement costs will be based on actual gas costs and
144 actual market prices. The dispatch model would be used to
145 determine if the Gadsby plant would have run and the amount of
146 lost energy from the curtailed generation. The replacement power
147 costs would then be calculated using actual costs in the following
148 formula:

149
150
$$\text{Actual } NG_{WF} \times \text{Heat Rate}_G = \text{Generation Costs}_G$$

151
$$\text{Market Price}_{4C} - \text{Generation Costs}_G = \text{Spark Spread}$$

152
$$\text{Spark Spread} \times \text{Curtailed Generation} = \text{Replacement Power Costs}$$

153
154 Where:

155 *Actual NG_{WF} = Actual Natural Gas Cost per MMBTU for Wasatch*
156 *Front*
157 *Heat Rate_G = Gadsby Heat Rate from Dispatch Model*
158 *Generation Costs_G = Gadsby Generation Costs per MWh*
159 *Market Price_{4C} = Actual Monthly Four Corners Market Price”*
160

161 **Q. DOES THIS RESPONSE ALLEVIATE THE OFFICE’S CONCERN ABOUT**
162 **HOW THE ACTUAL DATA WILL BE USED IN THE COMPUTATION OF THE**
163 **VALUE OF THE CURTAILMENT REPLACEMENT POWER?**

164 A. No. The Company’s response to OCS 3.4 specified two types of actual data that
165 are inputs to the calculation. However, the formula also shows that replacement
166 costs are calculated using the actual FC hub market price as a proxy, rather than
167 actual replacement power costs. During the actual hours of curtailment,
168 purchases of the Company from the FC hub could comprise all, some, or none of
169 their actual market purchases during those hours. Thus, the replacement costs
170 appear to fundamentally be based upon a proxy, not actual costs of replacement.
171 Yet, Exhibit E indicates that the actual curtailment costs are booked. If actual
172 costs of replacement power purchases were booked by the Company, then there
173 would be no need for a market price proxy.

174

175 **Q. DOES THE OFFICE OBJECT TO THE COMPANY’S USE OF THE FOUR**
176 **CORNERS TRADING HUB FOR A MARKET PROXY?**

177 A. No. The Office is concerned that the Company did not indicate in its application
178 the reason for using the FC trading hub instead of other trading hubs for its
179 power valuation.

180

181 **Q. DID THE OFFICE ASK THE COMPANY FOR AN EXPLANATION FOR USING**
182 **THE FOUR CORNERS HUB INSTEAD OF OTHER TRADING HUBS?**

183 A. Yes. In OCS Data Request 3, the Office asked the Company for justification in
184 using the Four Corners trading hub instead of another energy trading hub.
185 Question 3.6 (“OCS 3.6”) asked the Company to explain why the FC trading hub

186 is the appropriate market for pricing the replacement power cost and not other
187 energy trading hubs such as the COB, Mona, or Mid C markets.

188

189 **Q. HOW DID THE COMPANY JUSTIFY WHY IT USED THE FC MARKET FOR ITS**
190 **MARKET PRICE IN ITS REPLACEMENT POWER COST CALCULATION?**

191 A. In response to OCS 3.6, the Company stated, "The Company has typically used
192 the FC market when valuing energy from East side resources **based on**
193 **geographical proximity.**" (Emphasis Added)

194

195 **Q. HAS THE COMPANY RECENTLY USED A DIFFERENT TRADING HUB AS A**
196 **MARKET PROXY WITHIN THE UTAH JURISDICTION?**

197 A. Yes. Recently the Company used the a different market hub in a manner similar
198 to how the market price proxy is used in this program to value transactions
199 located in close proximity to those at issue in this program.² The Company
200 described that market hub as a good proxy for purchases made to serve the east
201 side of the PacifiCorp system. Thus, the Company's use of the FC market in this
202 proceeding was surprising.

203

204 **Q. DID THE OFFICE COMPARE MARKET PRICES IN EVALUATING WHICH**
205 **MARKET SHOULD SERVE AS A MARKET PROXY?**

206 A. Yes. The Office issued OCS Data Request #6 ("OCS 6") to the Company. In
207 OCS 6, the Office requested market price data of markets that serve the
208 PacifiCorp system and the Utah jurisdiction over the past five years. The
209 Company's response to question OCS 6.3 provided data for three markets: FC,
210 Mid C and Palo Verde markets. The Office ran summary statistics based on the
211 months when curtailment would most likely occur. The statistics were run
212 December through February, starting from December 2011 through February

² See Docket BEGIN CONFIDENTIAL [REDACTED] END
CONFIDENTIAL.

213 2016 to test if there were significant differences in the market prices between the
214 trading hubs the Company utilizes.

215
216 As the table below shows, the FC market had the lowest average flat price but
217 the market prices between market hubs were not significantly different.

	Flat Price Average	Flat Price Standard Deviation
Four Corners	\$28.72	8.2568
Palo Verde	\$28.99	9.6381
Mid C	\$29.54	14.025

224
225

226 **Q. DID THE OFFICE CONCLUDE WHICH MARKET WOULD BE THE BEST**
227 **PROXY FOR VALUING CURTAILMENT REPLACEMENT POWER?**

228 A. No, the Office did not reach a specific conclusion regarding an appropriate price
229 proxy. In fact, it remains unclear why a market price proxy is necessary.
230 However, if a proxy is shown to be necessary, then the Office asserts that the
231 Company should choose the market which reflects the Company's actual cost of
232 purchasing the replacement power, which presumably would be the market with
233 the lowest cost. Because the appropriate hub to reflect actual practice may
234 change over time, the Office recommends that when the Company files for STEP
235 funds in the EBA to offset the costs of the Gadsby curtailment, the Company
236 should be required to justify what market it used to purchase the curtailment
237 replacement power.

238

239 **Q. PLEASE SUMMARIZE THE OFFICE'S RECOMMENDATION FOR THE**
240 **GADSBY CURTAILMENT PROGRAM.**

241 A. The Office recommends that the Commission should approve the Gatsby
242 Curtailment Program without specifically authorizing the method of calculation for
243 replacement power costs. Instead, the Office recommends that the Commission

244 should impose an additional filing requirement for the Company in its annual EBA
245 filing if it seeks STEP funds for Gadsby curtailment in that year. The additional
246 filing requirement should include the following:

- 247 • The calculation of replacement power from the curtailment as described in
248 OCS 3.4 including all supporting documentation supporting the calculation
249 inputs used.
- 250 • The market price it used in calculating replacement power and other market
251 prices for comparative purposes and to ensure that the Company purchased
252 curtailment replacement power at the least cost.

253 If the Commission prefers to resolve the accounting issues in this docket rather
254 than in future EBA true-up dockets, then it should require the Company to better
255 justify the use of a market proxy instead of actual replacement costs.
256

257 **IV. CONCLUSION**

258 **Q. PLEASE SUMMARIZE THE OFFICE'S RECOMMENDATIONS RELATED TO**
259 **PHASE ONE OF THIS DOCKET.**

260 A. The Office recommends the following to the Commission:

- 261 • The Company should file annual reports with the Commission on NOx
262 Reduction Programs.
- 263 • The Company should file a final evaluation report at the end of each NOx
264 Reduction Program.
- 265 • The Commission should order an additional filing requirement for the
266 Company in its annual EBA filing if it seeks STEP funds for Gadsby
267 curtailment. The additional filing requirement should include the following:
 - 268 ○ The calculation of replacement power from the curtailment as
269 described in OCS 3.4 including all supporting documentation for the
270 calculation inputs used.
 - 271 ○ The market price it used in calculating replacement power and
272 other market prices for comparative purposes and to ensure that
273 the Company purchased curtailment replacement power at the
274 least cost.

275 o The justification documentation for changing the market price proxy
276 if the Company changes the market proxy.

277

278 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

279 **A.** Yes it does.