

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

3 A. My name is Dana M. Ralston. My business address is 1407 West North Temple,  
4 Suite 210, and Salt Lake City, Utah 84116. My present position is Vice President  
5 of Coal Generation and Mining. I am responsible for the coal generation and mining  
6 resources owned by the Company.

7 **Qualifications**

8 **Q. Please describe your education and business experience.**

9 A. I have a Bachelor of Science Degree in Electrical Engineering from South Dakota  
10 State University. I have been responsible for Rocky Mountain Power coal  
11 generation fleet since January 2010. Prior to that, I held a number of positions of  
12 increasing responsibility with Berkshire Hathaway Energy for 35 years within the  
13 generation organization including the plant manager position at the Neal Energy  
14 Center, a 1,600 megawatt generating complex. In my current role, I am responsible  
15 for operation and maintenance of the coal generation fleet and mining.

16 **Purpose and Overview of Testimony**

17 **Q. What is the purpose of your testimony?**

18 A. The purpose of my testimony is to respond to proposed adjustments related to coal  
19 generation plant outages recommended by Daymark Energy Advisors  
20 ("Daymark"), filed on behalf of the Utah Division of Public Utilities ("DPU"), in

21 its Energy Balancing Account Audit for Rocky Mountain Power For Calendar Year  
22 2015 ("Daymark Report") , submitted in this proceeding. Specifically, I explain and  
23 support the actions taken by the Company that demonstrate its prudence with  
24 respect to the proposed outage adjustments on Craig Unit 1 and Jim Bridger Unit 1  
25 identified in the Daymark Report. I also respond to comments in the Daymark  
26 Report related to its view of the Company's responsibilities for contractor  
27 performance.

28 **Craig Unit 1 Outage**

29 **Q. Please summarize the Daymark Report recommendation regarding the outage**  
30 **at Craig Unit 1.**

31 A. The DPU and its consultant Daymark recommend a disallowance of replacement  
32 power costs for a forced outage at Craig Unit 1 that began October 31, 2014, and  
33 continued through January 6, 2015. The 2015 deferral period in the EBA filing  
34 included 133 hours of this outage.

35 **Q. Do you agree with the Daymark Report and recommendation? If not, why not?**

36 A. No. Rocky Mountain Power is not the operator of the Craig plant. The plant is  
37 operated by Tri-State Generation and Transmission Association, Inc. ("Tri-State").  
38 Consistent with prudent utility practice, Tri-State's management developed  
39 operating procedures and practices that employees are expected to follow and trains  
40 its employees to follow. In this specific case, the existing procedures at the time of

41 the incident required the operators to verify that the breaker for the D.C. oil pump  
42 was “racked in” or in the closed position. This was completed before the turbine  
43 was started. The disconnect switch that was open is not normally used and, during  
44 the investigation at the plant, Tri-State was unable to determine who operated the  
45 switch or why the switch was opened. The established practice is to coordinate any  
46 switching with the operations group prior to the work being done. In addition, there  
47 are alarms that indicate if power to the D.C. pump is available. During this period  
48 the control room operator missed that this alarm was active before the turbine was  
49 started. In the case of the disconnect switch, it is unclear what happened as Tri-State  
50 cannot find why or who moved the switch. In the case of the missed alarm, the  
51 operator has a practice in place of reviewing alarms during start up and, in this case,  
52 the control room operator made a mistake and overlooked the alarm.

53 **Q. Do you believe an appropriate standard of prudence was exercised by Tri-State**  
54 **its operation of Craig Unit 1?**

55 A. Yes. As described above, Tri-State had sufficient procedures and practices in place  
56 to avoid the type of incident that occurred. It prudently thought about and planned  
57 for the risks of operating a power plant. The specific incident that occurred was the  
58 result of human error, and not the lack of prudent procedures or practices. No  
59 realistic level of procedure and practices can fully insulate a thermal fleet operator  
60 from the risk and exposure resulting from human error.

61 **Q. How is the Company prudent in its participation in operation of the Craig**  
62 **plant?**

63 A. Rocky Mountain Power is a very active owner of its jointly-owned plants. The  
64 Company dedicates a full time employee to manage the interaction with all the  
65 jointly-owned plants. This person along with others has daily contact with the plants  
66 and questions and advances issues with the plants on matters of operations, budget,  
67 and planning. With this involvement the Company represents the best interests of  
68 our customers.

69 **Q. What is your recommendation to the Commission with respect to the**  
70 **adjustment proposed by Daymark?**

71 A. As described above, the Craig Unit 1 outage was the result of a series of human  
72 error incidents and not the lack of prudently established procedures and practices.  
73 The adjustment proposed by Daymark presumes an unreasonable standard of  
74 perfection with respect to human performance. I, therefore, respectfully  
75 recommend that the Commission reject the adjustment proposed by Daymark.

76 **Jim Bridger Unit 1 Outage**

77 **Q. Please summarize the Daymark Report recommendation regarding the outage**  
78 **at Jim Bridger Unit 1.**

79 A. The Daymark Report recommends a disallowance of replacement power costs for  
80 a December 2015 outage at Bridger Unit 1 that was required to replace a turbine  
81 control valve stem that had been incorrectly installed by General Electric ("GE").  
82 Daymark's opinion is that a shim that was erroneously installed in the valve  
83 "ultimately led to the valve stem failure."

84 **Q. What guidance does Daymark use to determine the shim was incorrectly**  
85 **installed?**

86 A. The document Daymark uses is a GE maintenance document called GEK-72220.  
87 The document states: "do not put any shims between the top of the stem and bottom  
88 of the crosshead hole to make the pin holes line up. Our experience shows that  
89 shims will tend to deteriorate, thus resulting in a loose stem to crosshead connection  
90 which may then contribute to a broken stem."

91 **Q. Do you agree with the assertion of Daymark that GE installed the shims**  
92 **contrary to its own procedures?**

93 A. Yes, GE did install the shim in conflict with its procedures.

94 **Q. Do you agree with Daymark that the shims installed by GE ultimately led to**  
95 **the stem failure and the need for an outage to make the repair?**

96 A. No, based on the repair report and the metallurgical report, the cause of the failure  
97 was reverse bending high-cycle fatigue. The metallurgical report states:

98 “to an engineering degree of certainty, the failure of the shaft is the result of  
99 misalignment of the valve stem. The misalignment has resulted in the  
100 development of a bending stress at the crosshead and has caused mechanical  
101 wear on the machined surface of the stem. The surface of the stem also  
102 exhibits steps associated with the bottom of the bushing and at a location  
103 that appears to coincide with the first leakoff. These steps are also indicative  
104 of misalignment.”

105 In this case there were other issues identified that were contributing factors  
106 to the misalignment and the failure.

107 **Q. What were the other contributing factors?**

108 A. When the valve was repaired, the shim was removed and the stem replaced but  
109 there were issues discovered that needed to be repaired for the valve to meet  
110 specifications. The repair report notes that after the stem was replaced the runout  
111 or straightness of the stem was out of tolerance. Upon further investigation the  
112 crosshead guide needed to be replaced. This issue would have contributed to the  
113 misalignment.

114 **Q. Do you agree that GE’s failure to follow documented procedures was the direct**  
115 **result of the outage?**

116 A. No, as stated above the failure was caused by misalignment that caused high-cycle  
117 fatigue. In addition, a contributing factor was the runout caused by the crosshead

118 guide. The metallurgical report also states “the .0025 inch thick shim at the top of  
119 the stem (when it is threaded into the crosshead socket) does not appear to have  
120 played a role in the failure.”

121 **Q. Do you believe the Company met its standard of prudence in the management**  
122 **of the Jim Bridger Unit 1 overhaul outage?**

123 A. Yes, the Company competitively bid this work using a detailed specification of  
124 work and used a qualified contractor, the original equipment manufacturer  
125 ("OEM"), when performing this work. In addition the Company had its own  
126 representatives on site during the entire work process to monitor and manage the  
127 work. The Company could not have used a better entity to perform the work as GE  
128 was the original equipment manufacturer and is well-respected.

129 **Q. What is your recommendation to the Commission with respect to the**  
130 **adjustment proposed by Daymark?**

131 A. The Commission should reject Daymark’s recommendation as the Company has  
132 shown that the failure was not caused solely by the shim and that other factors  
133 contributed to the failure. In addition, the Company has shown that it prudently  
134 managed the work and contracting process and minimized risk to our customers by  
135 effective management of the contract. It would be inappropriate for the  
136 Commission to penalize the Company for something that was clearly out of its  
137 control, given the Company's management of the contract.

138 **Responsibility for Contractors**

139 **Q. Have you reviewed the Daymark Report with regard to the Company's**  
140 **responsibility for the actions of its contractors?**

141 A. Yes.

142 **Q. Do you agree that there is reason for concern, as expressed by Daymark,**  
143 **regarding the Company's oversight and control over its contractors?**

144 A. No, the Company competitively bids work using detailed specification of work and  
145 using qualified contractors. In addition, the Company has its own representatives  
146 on site during the work process to monitor and manage the work. The purpose of  
147 the Company representatives is to manage the contract with the vendor and to  
148 ensure the work is completed within prudent utility standards. Daymark's  
149 comments suggest that the Company should be observing each task a contract  
150 employee makes to ensure it is done correctly. This is an unreasonable standard and  
151 would result in significant costs due to increased labor needed and increasing the  
152 time needed for outages due to overly burdensome oversight. It is particularly  
153 unreasonable in this case given the work was performed by GE, the manufacturer  
154 of the equipment and a very well respected company with significant experience.

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155 **Q. Does the Company use effective processes for selecting and working with**  
156 **contractors?**



157 A. Yes. The Company uses prudent and effective utility standards when managing  
158 contractors. With the size of the generation fleet and the amount of complex work  
159 to be completed the Company does an excellent job managing this risk for the  
160 benefit of our customers. As I will discuss later in my testimony this can be seen in  
161 the availability numbers for the Company.

162 **Q. What is your recommendation to the Commission with respect to Daymark’s**  
163 **proposal for further investigation of Company practices for selection and**  
164 **oversight of contractors?**

165 A. While the Company would be willing to have further discussions with the DPU on  
166 its practices for the selection and oversight of contracts, as I have stated, the  
167 Company uses prudent and effective utility standards when selecting and managing  
168 contractors.

169 **Prudent Management of Generating Fleet**

170 **Q. Please demonstrate the benefit that the Company's customers receive as a**  
171 **result of the prudent management of the Company's generating fleet.**

172 A. In 2015, the average Equivalent Availability (“EA”) for the Company coal fleet on  
173 an ownership basis was █████ percent while the 2014 NERC average for a  
174 comparable fleet was 81.49 percent. This is approximately █████ percent better  
175 than the industry average and a significant benefit to our customers, even with the  
176 outages Daymark identifies included. The 2014 industry average is used because

177 the 2015 data has not been released at this time. When reviewing the Craig plant  
178 performance history it also has good performance when compared to units in the  
179 same size range. The five year average (2011 to 2015) for the Craig plant is [REDACTED]  
180 percent while the five year NERC average (2010 to 2014) for plants in that same  
181 size category as the Craig units was [REDACTED] percent. This demonstrates that the Craig  
182 plant has consistently outperformed the NERC average for the benefit of our  
183 customers. The Bridger plant also has a history of good performance when  
184 compared to units in the same size range. The five year average (2011 to 2015) for  
185 the Bridger plant is [REDACTED] percent while the five year NERC average (2010 to 2014)  
186 for plants in that same size category as the Bridger units was [REDACTED] percent. This  
187 demonstrates that the Bridger plant has also consistently outperformed the NERC  
188 average for the benefit of our customers.

189 **Conclusion**

190 **Q. Do you believe it would be an equitable outcome of the proceeding to attribute**  
191 **and assign outage costs to the Company? If not, why not?**

192 A. No. The Company prudently manages its thermal generation fleet for the benefit  
193 of customers. The company-wide view shows a significant benefit to our customers  
194 and should not be ignored by imposing an unreasonable standard of perfection on  
195 the Company as a fleet operator and, in this case, as a manager. It would be a  
196 mistake to hold the Company liable for replacement costs as there is no evidence

197 the Company was imprudent. For these reasons, I respectfully request that the  
198 Commission reject the outage adjustments proposed by Daymark in this  
199 proceeding.

200 **Q. Does this conclude your response testimony?**

201 A. Yes.