

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 Dana M. Ralston. My business address is 1407 West North Temple,  
4 Suite 320, Salt Lake City, Utah 84116. My present position is Vice President of  
5 Thermal Generation. I am responsible for the coal, gas and geothermal resources  
6 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 the Vice President of Thermal Generation for  
11 PacifiCorp Energy since January 2010. Prior to that, I held a number of positions  
12 of increasing responsibility with MidAmerican Energy Company for 28 years  
13 within the generation organization including the plant manager position at the Neal  
14 Energy Center, a 1,600 megawatt generating complex. In my current role, I am  
15 responsible for operation and maintenance of the thermal generation fleet.

16 **Purpose and Overview of Testimony**

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

18 A. The purpose of my testimony is to respond to proposed generation plant outage  
19 adjustments recommended by Mr. Philip Hayet and Mr. Danny A. C. Martinez in  
20 their direct testimony on behalf of the Utah Office of Consumer Services (“OCS”)  
21 and by Mr. Kevin C. Higgins in his direct testimony on behalf of the Utah  
22 Association of Energy Users Intervention Group (“UAE”). In doing so, I explain  
23 and support the actions taken by the Company that demonstrate the costs related to

24 the Chehalis, Craig, and Colstrip outages were prudent.

25 **Summary of Testimony**

26 **Q. Please summarize the Company's response to the adjustments pertaining to**  
27 **the Chehalis, Craig, and Colstrip outages as proposed by OCS and UAE.**

28 A. Mr. Hayet proposes adjustments related to the outage at Chehalis indicating that it  
29 was avoidable. He testifies that there was information available to the Company  
30 showing past problems with the Chehalis plant that could have been used to prevent  
31 the failure that occurred in 2013. My testimony demonstrates that the Company did  
32 not ignore any of the available information and, in fact, used all such information  
33 to support prudent decisions like taking additional steps to install equipment  
34 monitors and working with outside experts and the Original Equipment  
35 Manufacturers ("OEMs") of the equipment in question.

36 Second, in the case of the Craig outage, while an oversight of an operational  
37 procedure caused the outage, it is important to note that the Company is not the  
38 plant's operator. A disallowance of replacement costs related to the Craig outage  
39 would inappropriately penalize the Company based solely on the fact that it is a  
40 minority owner of the Craig plant. Under these circumstances, it is appropriate to  
41 view the outage in conjunction with the Company's entire generating fleet's  
42 equivalent availability ("EA") performance, which demonstrates that the Company  
43 prudently operates its generation fleet to our customers benefit.

44 Third, in the case of the Colstrip outage, Mr. Higgins' testimony does not  
45 go far enough in describing the findings of the root cause analysis which was  
46 performed by an independent third party. Specifically, the report states that the

47 Company's actions were consistent with standard industry practice and that nothing  
48 the Company did or could have done could have prevented the failure.<sup>1</sup>  
49 Nevertheless, Mr. Higgins notes that "while the report did not find RMP at fault",  
50 it is not reasonable for customers to bear the costs - apparently on the sole basis that  
51 it was an extended outage. It appears that Mr. Higgins' recommendation was based  
52 solely on the high costs of the replacement power. The evidence shows that the  
53 Colstrip outage was not a result of imprudent actions taken by the Company and  
54 that, in fact, the Company's actions were consistent with industry standards. Under  
55 these circumstances, there is no justification or basis for disallowing the Colstrip  
56 outage replacement power costs and Mr. Higgins' recommendations should be  
57 rejected.

#### 58 **Chehalis Outage**

59 **Q. How do you respond to Mr. Hayet's testimony related to the Chehalis outage?**

60 A. Mr. Hayet concludes in the case of the Chehalis outage the Company could have  
61 prevented the 2013 failure by using the information from the 2006 and 2011 failures  
62 as well as available monitoring data.

63 Based on information available to the Company at the time of the purchase  
64 of Chehalis Plant, there was no reason to believe further action was required as a  
65 result of the 2006 failure. Furthermore, in a subsequent report issued by NGK after  
66 the 2011 failure, NGK identified the most likely root cause of the 2006 event as

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<sup>1</sup> Root Cause Analysis Report on PPL Montana Colstrip 4 Core Failure Event, page 42, provided in response to UAE Data Request 2.4.

67 damage to the bushing assembly during initial installation, not a design defect or  
68 deficiency.

69 Despite a thorough investigation, a definitive root cause for the bushing  
70 failure in 2011 was never determined. The bushing manufacturer believed it was a  
71 transformer assembly issue and the transformer manufacturer suspected it was a  
72 bushing issue. ABB Inc. believed the failure was due to an internal bushing failure,  
73 but whether that was a manufacturing or installation related defect was not  
74 determined.

75 Mr. Hayet's testimony omits that there was no conclusive determination of  
76 the cause of either of the first two failures known at the time of the third failure.  
77 Because a definitive root cause was never determined, a resolution and the costs of  
78 the resolution of the issue would have been based on speculation, not driven by  
79 fact.

80 **Q. What actions did the Company take in the absence of the definitive root cause**  
81 **of the failures?**

82 A. Due to the uncertainty of whether this was an anomaly or a widespread issue with  
83 the transformer or bushings, the Company proactively installed online dissolved  
84 gas analyzers and bushing monitoring equipment on the remaining transformers in  
85 2011 and 2012, respectively.

86 **Q. Was the new monitor data reviewed and considered by the Company in its**  
87 **decision to continue to operate the transformer prior to the failure?**

88 A. Yes. Although the data was not available "in real time" as the 2013 report  
89 recommends, the data was reviewed routinely.

90 Abnormal conditions were immediately reported to Chehalis Plant  
91 personnel from the bushing monitoring equipment. The statements made in the  
92 2013 report were improvements which have since been implemented. Mr. Hayet  
93 mentions that an “after-the-fact” review of the data was completed. While that is  
94 true, it suggests that the Company did not review the data prior to the event, which  
95 is incorrect. The Company conducted routine reviews of the data prior to the event,  
96 and when abnormal condition notices were sent to the Company the OEM was  
97 contacted for discussion. An abnormal condition was previously reported to the  
98 Company and found to be a false indication after discussions with the OEM. It was  
99 discovered that the OEM had incorrectly commissioned the equipment. This issue  
100 was corrected prior to the 2013 failure. The Company, through consultation with  
101 the OEM, monitored bushing health values carefully and was prepared to remove  
102 the transformer from service if the values reached critical limits. On the day of the  
103 failure, the bushing health monitor did not report values in either the non-critical or  
104 the critical alarm ranges.

105 **Q. Are there other concerns with the bushing monitors?**

106 A. Yes, as the 2013 Root Cause Analysis report states, “Some concerns remain about  
107 the validity of the measurements or the viability of the monitoring system.” All  
108 bushings deteriorate over time, but do not require immediate replacement. The  
109 Company was monitoring the situation using all of the information available at the  
110 time and the assumption by Mr. Hayet that the referenced 2013 Root Cause  
111 Analysis report recommendation would have changed the failure outcome is

112 incorrect because no alarm values existed on the day of the failure until the actual  
113 failure occurred.

114 In addition, the bushing monitors are not typical of transformer installations  
115 and in fact these are the only monitors in the entire Rocky Mountain Power fleet.  
116 The monitors were installed with the expectation they would provide valuable data  
117 to the Company but, as has been mentioned, the data accuracy has been  
118 questionable, causing false indications. The Company and the OEM continue to  
119 work to resolve these issues to improve the value of the system.

120 **Q. Did PacifiCorp implement the recommendation referenced by Mr. Hayet from**  
121 **the 2013 Root Cause Analysis?**

122 A. Yes. The Company implemented those recommendations after the report was  
123 issued.

124 **Q. What were the Company's options in 2011 without a definitive root cause of**  
125 **the failure?**

126 A. Because there was no root cause identified and the transformer and bushing  
127 manufacturer asserted each of their designs was sound, the Company had two  
128 options: 1) install additional monitoring equipment to see if a failure mode and  
129 imminent failure could be identified, or 2) replace both remaining transformers at  
130 a cost of over eight million dollars, not including the associated outage time  
131 required to procure and install the transformers.

132 **Q. What did the Company do after the 2013 failure to prevent future failures?**

133 A. In conjunction with bushing suppliers and insulation experts, the Company installed  
134 higher rated bushings on unit 2 (the only remaining FUJI transformer) from a

135 different supplier and custom modified the bushing shields. Based on the  
136 engineering review by the insulation experts, we believe this will provide a superior  
137 design compared to the original design.

138 **Q. Do you believe the Company used all available information prudently to**  
139 **minimize risk of future failure?**

140 A. Yes. Based on the full battery of tests, the involvement in the root cause analysis of  
141 the transformer and bushing OEM, outside experts, and the PacifiCorp subject  
142 matter experts, the Company was diligent in attempting to find the root cause.  
143 Without definitive root cause and because the failure modes were identified as  
144 being different in 2006 and 2011, the Company took prudent and proactive actions  
145 to monitor the issue and did not just replace the equipment in question at a cost of  
146 over eight million dollars. The Commission should reject Mr. Hayet's  
147 recommendation for removal of the outage costs for the Chehalis event.

148 **Craig Outage**

149 **Q. How do you respond to Mr. Hayet's testimony related to the Craig outage?**

150 A. Mr. Hayet is technically correct on the root cause but has ignored PacifiCorp's lack  
151 of control and responsibility in the matter. First, PacifiCorp does not operate the  
152 Craig plant. Tri-State Generation and Transmission Association, Inc. is the operator  
153 of the plant. Consistent with good utility practice, Tri-State's management has  
154 developed operating procedures that employees are expected to follow, and Tri-  
155 State trains its employees to follow these procedures. It is inevitable for human  
156 error to occur, such as overlooking an operating procedure when managing the large  
157 amount of information and alarms that occur during a unit trip event as in the case

158 of the Craig event. In this specific case, Tri-State's operating procedures, if they  
159 had been followed, would have prevented the extended outage at Craig. However,  
160 it is unreasonable to penalize PacifiCorp for a third party's performance when  
161 PacifiCorp has no contractual ability to seek recourse from the third party. In this  
162 case Mr. Hayet is suggesting that because a mistake was made by the operator of  
163 the Craig plant, the mistake should be imputed to the Company, solely because it is  
164 part (minority) owner of the plant. Under these circumstances, it would be  
165 appropriate to review how the Company's operating statistics compare to industry  
166 standards. In addition, the processes and procedures were in place to effectively  
167 manage the issue showing that prudent steps were taken and that a human error was  
168 the cause of the incident.

169 **Q. Do you agree with the review of the outages Mr. Hayet performed?**

170 A. The Company believes that reviewing outages is a good practice. However, the  
171 Company believes that in evaluating the outages, total generating fleet performance  
172 should be taken into account. Prudence is not the same as perfection. It is inevitable  
173 that some outages may occur and that in some cases human error may have  
174 contributed to them. However, if, even taking them into account, the Company is  
175 performing at a better than average level, this indicates that the Company is  
176 operating its generation assets prudently. By penalizing the Company for a specific  
177 problem (in particular a problem that was not caused by the Company), but not  
178 giving it credit for above standard performance, Mr. Hayet is imposing higher than  
179 a prudence standard.



180 In 2013 the average EA for the PacifiCorp thermal fleet on an ownership  
181 basis was 90.65 percent, while the 2012 NERC average for a comparable fleet was  
182 82.60 percent. This is over eight percent better than the industry average and a  
183 significant benefit to our customers even with the outages Mr. Hayet identifies  
184 included. The amount of possible MWHs available in the eight percent  
185 improvement over the industry average using the same methodology Mr. Hayet  
186 uses for calculating losses shows our customers are receiving a significant benefit  
187 and Mr. Hayet's recommended adjustments should be rejected. In addition the  
188 adjustments proposed by Mr. Martinez are based on Mr. Hayet's testimony so they  
189 too should be rejected.

190 **Colstrip Outage**

191 **Q. How do you respond to Mr. Higgins' testimony regarding the Colstrip outage?**

192 A. Mr. Higgins testifies that "[w]hile the report did not find RMP at fault for the outage  
193 it notes that the insulation problem was "most likely caused during the prior outage  
194 by rotor insertion, skid pan damage or air gap baffle installation." Mr. Higgins does  
195 not suggest the Company should have done anything differently yet still  
196 recommends a disallowance of prudently incurred costs. The root cause report was  
197 conducted by a third party. The third party reported:

198 [i]n our opinion, PPL did everything according to standard industry  
199 practice such as hiring the OEM (Siemens) to perform the  
200 maintenance, performing El Cid testing on the core, operating their  
201 unit according to industry practice, (since there was no indication  
202 of mis-operation), and protecting the unit with adequate relay  
203 protection. Nothing they did or could have done, could have  
204 prevented this failure.

205 Based on the processes that were in place, based on the fact that the root cause  
206 report did not find fault by the RMP and that RMP could not have done anything to  
207 prevent the failure, Mr. Higgins' adjustment should be summarily rejected. The  
208 Company managed this prudently and no evidence has been presented that shows  
209 the Company was not prudent.

210 **Q. Is there other evidence that demonstrates the Company's prudent practices as**  
211 **they relate to operating plants?**

212 A. Yes, the Company's total generating fleet performance should be taken into account  
213 as evidence of the Company's prudent practices in regards to operating plants. In  
214 addition, prudence is not the same as perfection. The Company is performing at a  
215 better than average level, which indicates that overall the Company is operating its  
216 generation assets prudently. By penalizing the Company for a specific problem that  
217 even the third party report found could not have been prevented, and ignoring the  
218 Company's excellent operational performance, Mr. Higgins is imposing a higher  
219 than prudence standard.

220 **Q. What do you mean by "excellent" operational performance?**

221 A. In 2013, the average EA for the PacifiCorp thermal fleet on an ownership basis was  
222 90.65 percent. The 2012 NERC average for a comparable fleet was 82.60 percent.  
223 This is over eight percent better than the industry average and a significant benefit  
224 to our customers. The number of possible MWHs available in the eight percent  
225 improvement over the industry average using the same methodology Mr. Higgins  
226 uses for calculating losses shows our customers are receiving a significant benefit.

227 For the foregoing reasons Mr. Higgins recommended adjustment should be  
228 rejected.

229 **Q. Does this conclude your rebuttal testimony?**

230 A. Yes.