

1 **Introduction**

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

4 A. My name is Douglas N. Bennion. My business address is 1407 West North  
5 Temple, Suite 270, Salt Lake City, Utah 84116. I am the Vice President of  
6 Engineering Services and Asset Management, supporting both the Company’s  
7 Rocky Mountain Power and Pacific Power Divisions.

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

9 A. I received a Bachelor of Science Degree in Electrical Engineering from the  
10 University of Utah and I am a registered professional engineer in the state of  
11 Utah. In addition to formal education, I have attended various educational,  
12 professional and electric industry seminars to remain current on industry issues. I  
13 joined the Company in 1978, and during those 35 years I have held various  
14 engineering and management positions of increased responsibility providing  
15 extensive experience working across PacifiCorp’s service territory prior to  
16 assuming my current position. Additionally, I have provided testimony on various  
17 matters before the Public Service Commission of Utah, the Idaho Public Utilities  
18 Commission, and the Wyoming Public Service Commission (the “Commission”).

19 **Q. Please describe your present duties.**

20 A. I am responsible for the engineering services and asset management functions for  
21 all of PacifiCorp's transmission and distribution system that generally applies to  
22 voltages less than 230 kilovolts. This department, through its technical expertise,  
23 provides assistance and leadership in providing safe, economic, and reliable

24 energy delivery to our customers. This includes developing material standards and  
25 design applications, engineering design services for all major projects, reliability  
26 analysis, and prioritizing investments to manage risk and planning future T&D  
27 investments to meet customer energy needs while maintaining industry reliability  
28 and operation standards.

29 **Purpose of Testimony**

30 **Q. What is the purpose of your testimony in this proceeding?**

31 A. The purpose of my testimony is to explain and support the T&D operating capital  
32 expenditures included in the Company's revenue requirement, with the exception  
33 of the large transmission main grid projects (i.e. generally 230 kV or higher),  
34 which will be addressed by Company witness Ms. Natalie L. Hocken.  
35 Specifically, my testimony includes an explanation of the Company's T&D  
36 operating capital investment plan, plant additions to support capacity increases,  
37 and justification for program funding for asset replacements and to support  
38 distribution reliability in Utah.

39 **Q. Please describe the major T&D investments that the Company is adding to**  
40 **rate base in this case.**

41 A. Between June 30, 2013 (the conclusion of the base period in this filing), and June  
42 30, 2015 (the conclusion of the test period), the Company will place into service  
43 approximately \$771.1 million of total transmission investment, as discussed in the  
44 direct testimony of Ms. Hocken. Of that amount my testimony addresses \$194.7  
45 million of non-main grid transmission investment. My testimony also addresses  
46 approximately \$178.4 million of Utah distribution investment. These investments

47 are summarized in the following table:

T&D Capital Investment (excluding large main grid transmission projects)	Total Non- Main Grid Investment (\$ millions)	Utah Allocated Transmission (\$ millions)	Utah Distribution (\$ millions)
System Reinforcement - Distribution			19.9
System Reinforcement - Transmission	49.1	21.0	
System Compliance - Distribution			12.5
System Compliance - Transmission	78.1	33.4	
New Residential Connections			46.4
New Commercial Connections			32.5
New Industrial Connections - Distribution			1.7
New Industrial Connections - Transmission	7.0	3.0	
Miscellaneous - Distribution			3.2
Asset Replacement - Distribution			56.7
Asset Replacement - Transmission	60.5	25.9	
Reliability - Distribution			5.5
Total	<b>194.7</b>	<b>83.3</b>	<b>178.4</b>

48 Significant distribution and T&D related projects in this filing include the  
49 following:

50 **West Point - New 138kV Line and Substation:** This project will construct  
51 approximately 4-miles of 138 kV line, build one (1) new 138-12.5 kV, 40 MVA  
52 substation (West Point) with four distribution feeders, and modify a 138 kV  
53 substation (Clearfield South) for the transmission tap to feed loads in the western  
54 sections of Davis and Weber Counties. The western sections of Davis and Weber  
55 Counties (consist of the following cities: Layton, Syracuse, West Point, Clinton,  
56 Hooper, and West Haven) have increased construction activity that require  
57 additional electric capacity to serve these developments. Numerous residential  
58 and commercial developments are being planned and constructed in this area. The  
59 customer load is currently served by distribution feeders that are approximately  
60 seven miles long and being fed from substations located near or east of the

61 existing Syracuse-Ben Lomond 138 kV transmission corridor. The capability of  
62 these distribution feeders and substations are limited to serve new customers and  
63 will become fully loaded in 2014. A new 138 kV line needs to be built on the west  
64 side of Weber and Davis Counties to support the construction of new substations  
65 capable of serving the new customers and expected energy loads.

66 **EMS / SCADA Replacement / Upgrade:** This project will replace the existing  
67 EMS/SCADA system with a new system that supports present and projected  
68 future operational and compliance requirements. The existing system is running  
69 obsolete software. The underlying information technology platforms are no longer  
70 supported by the vendors and replacement components are very difficult to obtain.  
71 The system is critical to operations and is essential to provide safe, reliable power  
72 and maintain compliance with Federal Energy Regulatory Commission and North  
73 American Electric Reliability Corporation standards.

74 The capital investments mentioned above, as well as all of the other T&D capital  
75 projects included in the revenue requirement, are reflected in Mr. Steven R.  
76 McDougal's plant additions Exhibit RMP\_\_(SRM-3).

77 **Q. What benefits will Utah customers derive from the T&D capital projects**  
78 **included in this case?**

79 A. As described by Ms. Hocken, the Company's capital investments in T&D have  
80 the common customer benefit of increasing system capacity to accommodate  
81 customer load requirements and growth, and improving service quality and  
82 reliability. Transmission facilities are considered part of the Company's integrated  
83 network, and provide benefits to all customers in the Company's six-state retail

84 service territory, including Utah. It is, therefore, important that the Company  
85 complete the transmission projects included in this filing to provide adequate and  
86 reliable service to all of our customers. Additionally, distribution capital  
87 investments result in a direct benefit to our Utah customers, whether it is to  
88 connect new customers, reinforce, repair or upgrade the existing system, or to  
89 meet approved industry compliance requirements.

90 **System Reinforcement**

91 **Q. Please describe the system reinforcement portion of the capital investment**  
92 **plan.**

93 A. System reinforcement is investment made by the Company on behalf of  
94 customers to serve load growth; this case includes approximately \$19.9 million of  
95 system reinforcement at distribution level voltages in Utah and approximately  
96 \$49.1 million of non-main grid system reinforcement investment on the  
97 Company's transmission system. In general, upgrading or adding transformers  
98 and distribution feeders is initiated when thermal loading is projected to reach 105  
99 percent of thermal rating or when voltage delivery at the customer metering point  
100 is projected to fall outside of the American National Standards Institute ("ANSI")  
101 planning criteria. Rocky Mountain Power closely monitors the transmission and  
102 distribution system performance to identify loading issues that will require  
103 mitigation. Mitigation of issues identified during extreme hot weather that  
104 occurred during the summer of 2013 as well as those driven by increasing  
105 customer connections are included in the capital expenditures. When customers  
106 connect to the Company's electrical system, there is a possibility that customer

107 load additions/connections will cause thermal overloads or voltage levels to be  
108 outside of the ANSI range.

109 **System Compliance**

110 **Q. Please describe the system compliance portion of the capital investment plan.**

111 A. T&D compliance investments are those required by city, state or federal  
112 regulations. Customers may also request and fund projects in the compliance  
113 portion of the capital investment plan. RMP plans to place in service \$12.5  
114 million in Utah distribution system compliance capital additions and \$78.1  
115 million in Company transmission system compliance work. Examples of  
116 compliance driven projects and programs include the following:

- 117 • Environmental programs to mitigate bird mortality and spill prevention,  
118 control and countermeasure (“SPCC”) projects to mitigate probability of  
119 environmental contamination total \$3.4 million in Utah distribution and  
120 \$2.6 million in Company transmission additions;
- 121 • Modifications to facilities to meet National Electric Safety Code  
122 requirements total \$0.8 million in Utah distribution and \$1.8 million in  
123 transmission system additions;
- 124 • Additions to renew distribution and transmission access permits total \$0.4  
125 million for Utah distribution and \$3.3 million for the transmission system.
- 126 • Relocation of facilities for public works or customer requests, overhead to  
127 underground conversions and other miscellaneous customer or third party  
128 requests total \$7.9 million for Utah distribution and \$5.3 million for the  
129 transmission system.

130 • Projects and investment programs necessary to comply with the Federal  
131 Energy Regulatory Commission, and the North American Electric  
132 Reliability Corporation's reliability standards total \$65.1 million in  
133 transmission system additions. These investments are designed to improve  
134 the reliability of the transmission system.

135 **New Connections**

136 **Q. Please describe the new connection portion of the capital investment plan.**

137 A. New customer connections include residential (Utah distribution connections  
138 budgeted at \$46.4 million), commercial (Utah distribution connections budgeted  
139 at \$32.5 million), industrial (Utah distribution connections budgeted at \$1.7  
140 million and Company transmission connections budgeted at \$7.0 million),  
141 irrigation, street lighting and miscellaneous other distribution connections are  
142 budgeted at \$3.2 million. Residential and commercial customers account for the  
143 majority of the new connection costs. The residential market (new housing starts)  
144 and commercial new connect volumes are expected to increase in Utah through  
145 the rate case period. For the period January 2011 through December 2012, an  
146 annual average of 9,915 new residential and commercial customers was  
147 connected to the system in Utah. The volumes included from the end of the base  
148 period through the end of the test period assume an annual average of 14,146 new  
149 residential and commercial connections. The increase in volume is based on the  
150 rebound in the housing market and large increases that have occurred in 2013 and  
151 projections that these increases will continue through the Test Period. Even with  
152 this large increase, the volumes remains significantly below highs experienced in

153 2008 - 2009 where over 25,000 new connections were made annually. Industrial  
154 volumes are relatively small but remain volatile as they are primarily driven by  
155 the manufacturing and data center industries.

156 A challenge for the Company in making large commercial and industrial new  
157 connections is the sheer magnitude of the projects. For example, depending on the  
158 size of the new load and its proximity to existing transmission system facilities,  
159 adding just one substantial new commercial or industrial customer may exceed  
160 the operating limitations of the Company's local area transmission system or  
161 substation capacity. Extensive planning, engineering and construction of  
162 transmission lines, substations, switching stations and other facilities will still be  
163 necessary.

#### 164 **Asset Replacements**

165 **Q. Please describe the asset replacement portion of the capital investment plan.**

166 A. The replacement of failed or deteriorating assets is essential to maintaining and/or  
167 improving reliable service. The revenue requirement in this case includes \$56.7  
168 million in Utah distribution replacements and \$60.5 million for Company  
169 transmission replacements. Due to normal aging processes, some assets are at or  
170 near the point of replacement, which may be preceded by increased failures and  
171 higher maintenance costs. Some assets may be replaced upon failure and others  
172 identified via inspection, testing and maintenance program results as approaching  
173 end of life and are identified for proactive replacement. Examples of assets  
174 subject to replacement include substation equipment, transmission poles,  
175 conductor and insulators, distribution line equipment such as transformers poles



176 and conductor, switchgear, and underground cable.

177 **Q. Please explain how Rocky Mountain Power determines the amount and**  
178 **timing of T&D capital investments.**

179 A. The Company begins with mandated compliance requirements, customer service  
180 requests, system reinforcement projects to serve load growth, asset replacements  
181 and functional upgrades and reliability improvement needs to prepare budgets for  
182 T&D investments. Data evaluated includes the results of testing and inspection  
183 programs, a review of actual and projected load readings on equipment, review of  
184 regulatory requirements and existing commitments, historical run rates for  
185 customer driven activities and failure / fault rates. This information is analyzed  
186 and programs or preliminary project scopes are developed and initial project  
187 estimates are created to mitigate the identified issues. Once the project budget is  
188 approved, the Company initiates a process to complete detail planning, detail  
189 design engineering, and detail project scheduling, resulting in a more refined cost  
190 estimate and projected in-service date. When a project moves to the delivery  
191 (construction) phase, the Company uses internal business controls to measure and  
192 monitor the progress to ensure projects are delivered within scope and budget.  
193 The Company uses these activities to provide quality at the lowest long-term cost  
194 required to meet the needs of our customers.

195 **Capital Efficiencies**

196 **Q. Please describe the initiatives to apply efficiencies to the delivery of the**  
197 **capital investment plan.**

198 A. The capital investments in T&D are made by the Company on behalf of

199 customers to accommodate customer load requirements and growth, and  
200 improving service quality and reliability. The Company strives to find efficiencies  
201 that will reduce costs while still providing safe, quality and reliable service to our  
202 customers. The Company recently concluded a review where major equipment  
203 specifications were modified to more closely align with common industry  
204 standards. This effort resulted in providing an estimated \$1.35 million in annual  
205 savings within the T&D capital plan.

206 **Q. How do you apply the efficiencies to the capital projects?**

207 A. These efficiencies will apply to the equipment purchased in support of system  
208 capital investments, for both transmission projects throughout Rocky Mountain  
209 Power and Pacific Power and distribution projects in Utah. The engineering  
210 design scopes will be prepared utilizing these revised equipment specifications.

211 **Reliability**

212 **Q. Please describe the reliability portion of the capital investment plan.**

213 A. The Company's reliability investment program is designed to reduce the number  
214 and impact of power interruptions to its customers. The Company continues to  
215 refine its approaches and processes to be more efficient at deploying resources to  
216 improve electric service reliability. It uses state of the art tools to rapidly  
217 implement reliability improvements as outage patterns emerge that indicate  
218 performance is straying from the expected. Included in the case is \$5.5 million in  
219 distribution plant additions that are specifically targeted to improve reliability.

220 • The Company transitioned from its historic Service Standards Program to  
221 newly-developed state reliability rules in Commission Rule R746-313,

222 which were the product of collaboration amongst municipal electric  
223 cooperatives, Commission staff, Division and other stakeholders over an  
224 18 month time period. This collaboration has helped focus the Company's  
225 programs to align with stakeholder concerns and exemplifies the manner  
226 in which the Company believes reliability goals should be set.

227 • The Company's reliability plans are targeted to deliver on two key areas.  
228 First, they will ensure performance consistent with the baselines that were  
229 developed in Docket No. 13-035-01, which establish that the Company's  
230 rolling 365-day performance will be between 152 and 201 minutes for  
231 outage duration, with outage frequency between 1.3 and 1.9 events. Next,  
232 the plan will designate worst performing feeders, engineer solutions and  
233 implement them to achieve a 20 percent improvement in their reliability  
234 metrics.

235 • The Company's performance is the result of continued leverage of  
236 industry-leading processes and tools for reliability management, including  
237 web-based outage investigative tools, area improvement teams (which are  
238 comprised of local personnel throughout the state) and other analytical  
239 tools.

240 The Company is confident that with the completion of planned transmission and  
241 distribution reliability investments, Utah's service reliability will continue to meet  
242 the baseline performance levels committed to, and to maintain overall electric  
243 service reliability for its customers.

244 **Summary and Conclusion**

245 **Q. Please summarize your testimony.**

246 A. The T&D capital expenditures included in this case are essential in meeting  
247 Rocky Mountain Power customers' needs and maintaining system reliability  
248 standards. In particular, the proposed T&D capital expenditures are required in  
249 order to:

- 250 • Serve new customers (industrial, commercial, and residential) that require  
251 an extension of the Company's existing infrastructure.
- 252 • Serve existing customers through system reinforcement (expansion or  
253 increase in capacity) of existing infrastructure.
- 254 • Serve general load growth to maintain acceptable reliability and service.
- 255 • Comply with orders issued by regulatory, state or local governmental  
256 entities.

257 The Company's transmission and generation projects are part of an integrated,  
258 system-wide, high voltage system that provides the foundation to move resources  
259 throughout the western United States, thus providing service and reliability  
260 benefits to Utah customers.

261 **Q. Are the T&D capital investments included in this case in the public interest**  
262 **and do you recommend that the Commission include them in the Company's**  
263 **rate base?**

264 A. Yes. The T&D capital investments included in this case are in the public interest  
265 for the reasons that I mentioned earlier in my testimony, including serving the  
266 public with safe, adequate and reliable service. For these reasons, I recommend

267 that the Commission approve these investments for inclusion in the Company's  
268 rate base.

269 **Q. Does this conclude your direct testimony?**

270 **A. Yes.**