

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

3 A. My name is Douglas N. Bennion. My business address is 1407 West North  
4 Temple, Suite 270, Salt Lake City, Utah 84116. I am the Vice President of  
5 Engineering Services and Capital Investment in the Company’s Rocky Mountain  
6 Power Division.

7 **Qualifications**

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 Utah.  
11 In addition to formal education, I have attended various educational, professional  
12 and electric industry seminars. I joined the Company in 1978, and during those 33  
13 years I have held various engineering positions of increased responsibility  
14 providing extensive experience working across PacifiCorp’s service territory prior  
15 to assuming my current position. Additionally, I have provided expert testimony  
16 on various matters before the Public Service Commission of Utah, the Idaho  
17 Public Utilities Commission, and the Wyoming Public Service Commission.

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

19 A. I am responsible for Rocky Mountain Power’s transmission and distribution  
20 (“T&D”) capital investment planning, which assists the Company in providing  
21 safe, economic, and reliable energy delivery to our customers. This includes  
22 prioritizing investments to manage risk, and planning future T&D investments to  
23 meet customer energy needs while maintaining system reliability standards.

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

25 A. The purpose of my testimony is to explain and support the T&D capital  
26 expenditures included in the Company's case, with the exception of the main grid  
27 transmission projects, which will be addressed by Mr. Darrell T. Gerrard.  
28 Specifically, my testimony includes an explanation of the Company's local T&D  
29 capital investment plan and plant additions.

30 **Q. Please describe Rocky Mountain Power's T&D assets in Utah.**

31 A. The Company owns and operates over 370 substations in Utah plus over 6,600  
32 miles of transmission lines and 21,100 miles of distribution lines. About 65 percent  
33 of the T&D lines are overhead conductors. The overhead transmission lines in  
34 Utah are supported by approximately 88,700 transmission poles or structures, and  
35 the distribution lines are supported by over 362,600 distribution poles. Over 1,000  
36 distribution feeder lines originate from Utah substations that serve  
37 approximately 792,600 Utah customers with about 109,300 overhead distribution  
38 transformers and 77,000 distribution pad-mounted transformers.

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, 2010, (the end of the base period in this case), and June 30,  
42 2012 (the end of the test period in this case), the Company will place into service  
43 approximately \$236.4 million of local transmission investment, not including  
44 main grid transmission investment, and approximately \$240.5 million of Utah  
45 distribution investment.

46 Some significant projects in the rate case include the following:

- 47
- **Cameron to Milford: New 138 kV Transmission and 138-46 kV Transformer 75 MVA (\$15.2m)** - This project will construct a new 138 kV source to the Milford area by installing a new 138 kV line from the Cameron substation to the Milford substation with a projected in service date of May 2012. The project includes the installation of a 138-46 kV transformer at the Milford substation required to serve the load in the Milford area. The Milford area's 46 kV system is radial and heavily dependent on generation from the Blundell plant to maintain 0.9 p.u. voltage when the area load exceeds 21.1 MW.
- 56
- **City Creek Center: New 40 MW Development for PRI Phase II (\$12.3m)** - Property Reserve Inc. (PRI) is developing the City Creek Center, which is a development in downtown Salt Lake City, Utah, that encompasses two and one half city blocks. The developed area also includes several building facilities that will remain unchanged but is required to be fed from the new power upgrades installed for the City Creek Center. This project is projected to be completed in May 2012.
- 63
- **Nibley: New 138-12.5 kV Substation and Rebuild seven Miles Transmission (\$11m)** - The electrical load in the south end of Cache County is supplied by four distribution substations owned by Rocky Mountain Power (Logan Canyon, Millville, Nibley and East Hyrum) and one municipal system (Hyrum City). This area includes about 6,000 Rocky Mountain Power customers plus the Hyrum City customers. The area's substations are fed by two parallel constructed 46 kV lines – the

70 Green Canyon-East Hyrum east and west lines. The load in the area has  
71 increased to the point where the loss of one of these 46 kV lines will cause  
72 an outage to customers since the remaining line does not have the capacity  
73 to support the entire load. The 46 kV system is fed by two 138-46 kV  
74 transformers (33.3 MVA each) at the Green Canyon substation. A loss of  
75 one transformer will overload the remaining transformer. This project will  
76 build a new 138-12.5 kV, 40 MVA substation with three 12.5 kV feeders,  
77 rebuild a seven mile section of 46 kV line to 138 kV and add two 138 kV  
78 circuit breakers at the Green Canyon substation that is required to address  
79 these operating and loading issues. This project is projected to be  
80 completed in May 2011.

81 The capital investments mentioned above, as well as all of the other T&D capital  
82 projects that are included in this case, are detailed in Company witness Mr. Steven  
83 R. McDougal's Exhibit RMP \_\_\_\_ (SRM-3).

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

86 A. The Company's capital investments in T&D have the common customer benefit  
87 of preserving or improving service quality, reliability, and the delivery of power  
88 to meet customer load requirements. Local transmission facilities are considered  
89 part of the Company's integrated network and provide benefits to Utah customers  
90 as well as benefits to all customers in the Company's six-state retail service  
91 territory. It is, therefore, important that the Company complete the transmission  
92 projects included in this filing as required to provide adequate and reliable service

93 to all of our customers. Additionally, distribution capital investments result in a  
94 direct benefit to our Utah customers, whether it is to connect new customers,  
95 reinforce, repair or upgrade the existing system, or meet mandated compliance  
96 requirements.

97 **System Reinforcement and Replacement**

98 **Q. Please describe the system reinforcement and replacement portion of the**  
99 **capital investment plan.**

100 A. System reinforcement is investment made by the Company on behalf of customers  
101 required to serve load growth; this case includes approximately \$72.9 million of  
102 system reinforcement at distribution level voltage in Utah and approximately \$92.3  
103 million of system reinforcement investment on the Company's local transmission  
104 system. Upgrading or replacing transformers and distribution feeders is required  
105 when thermal loading is projected to exceed 100 percent of thermal rating or when  
106 voltages are projected to fall outside of the American National Standards Institute  
107 (ANSI) planning criteria. When new customers connect, or when existing  
108 customers increase electric load, there is a possibility that customer load  
109 additions/connections will cause thermal overloads or voltage levels to be outside  
110 of ANSI range. Additional electrical infrastructure is required to address these  
111 issues.

112 Although Utah's load growth has slowed down from its peak in 2007 due  
113 to economic conditions, system reinforcement projects remain necessary. In Utah,  
114 about 8,600 new residential and 3,800 new commercial customers have been added  
115 to Rocky Mountain Power's electrical system in 2009, and 2010 is showing similar

116 results. Irrespective of the slower growth rates from our peak in 2007, growth is  
117 still occurring across our system.

118 Another category of capital investment essential to maintaining reliable  
119 service is replacing aging assets prior to failure and upgrading the system in  
120 specific areas in order to sustain or improve existing reliability levels. Due to  
121 normal aging processes, some assets are nearing the point of replacement, which  
122 may be preceded by increased failures and higher maintenance costs. Examples of  
123 assets targeted for replacement include substation equipment, transmission lines,  
124 distribution lines, poles and cross-arms, switchgear, and underground cable. As  
125 Rocky Mountain Power's system ages and demand increases, additional stress is  
126 placed on the Company's assets. This case includes approximately \$115.3 million  
127 of investment for the replacement of assets that are either allocated or directly  
128 assigned to Utah.

129 **System Compliance (\$102.1 million)**

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

131 A. T&D compliance investments are those required by city, state or federal  
132 regulations. Customers may also request and fund projects in the compliance  
133 portion of the capital investment plan. Examples include the following:

- 134 • Environmental programs to mitigate bird and raptor mortality;
- 135 • Overhead relocations or overhead to underground conversions for road  
136 construction, public works projects, or customer requests;
- 137 • Federal Communications Commission wideband mobile radio conversion  
138 to narrow band operation by 2012; and

139                   • Federal Energy Regulatory Commission substation security initiatives and  
140                   reliability initiatives.

141 **New Connects (\$111.2 million)**

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

143 A. New customer connections include residential, commercial, industrial, irrigation,  
144 other utilities, and street lighting. Residential and commercial customers typically  
145 account for the majority of the new connection costs. The residential market (new  
146 housing starts) has dropped off from historic highs due to the recession. The  
147 commercial and industrial sectors have also dropped off from historic highs. Even  
148 though new connections have slowed, a single commercial or industrial customer's  
149 load can put pressure on the transmission and distribution infrastructure of the  
150 Company. A challenge for the Company in making large commercial and  
151 industrial new connections is the sheer magnitude of the projects. For example,  
152 depending on the size of the new load and its proximity to existing transmission  
153 system facilities, adding just one substantial new commercial or industrial  
154 customer may exceed the operating limitations of the Company's local area  
155 transmission and distribution system or substation capacity. Significant planning,  
156 engineering and construction of transmission lines, substations, switching stations  
157 and other facilities are still necessary.

158                   The recent economic recession has reduced the number of new customer  
159 connections in Utah over the past couple of years; however, Utah's customer base  
160 is still growing. During 2009, Rocky Mountain Power connected over 12,000 new  
161 customers in Utah with 2010 showing similar numbers at the time of this writing.

162 **Q. Please explain how load growth on the T&D system has been modified by the**  
163 **reduction in new connects.**

164 A. Each year the Company completes an analysis of its system performance to  
165 understand the impacts load growth has had on the transmission and distribution  
166 system. Substation transformer and distribution feeder loading continues to  
167 increase; thus, thermal capacities are being approached. Required investment in  
168 system reinforcement is still necessary to accommodate load growth caused by  
169 new and existing customers to mitigate thermal loading and maintain service  
170 voltage standards.

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

173 A. The Company begins with mandated/compliance requirements, customer service  
174 requests, system reinforcement projects based on load growth projections, asset  
175 replacements and functional upgrades to prepare budgets for T&D investments.  
176 Through the planning process, a preliminary project scope is identified and initial  
177 project estimates are created to approximate project costs. Once the project budget  
178 is approved, the Company initiates a process to complete detail planning, detail  
179 design engineering, and detail project scheduling, resulting in a more refined cost  
180 estimate and in-service date. When a project moves to the delivery (construction)  
181 phase, the Company uses internal business controls to measure and monitor the  
182 progress to ensure projects are delivered within the approved scope and budget.  
183 The Company uses these activities to provide quality at the lowest long-term cost  
184 required to meet the needs of our customers.



185 **Reliability**

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

187 A. The Company's reliability investment program is designed to reduce the number  
188 and impact of power interruptions to its customers.

189 In recent years the Company has taken advantage of improved outage data  
190 and reliability tools to create targeted reliability programs. Since 2002, the  
191 Company improved its ability to collect and manage customer outage data with  
192 the Outage Management System. As a result, Rocky Mountain Power has  
193 changed processes to allow the Company to better target investments towards  
194 portions of the distribution system where reliability performance levels could be  
195 improved. For example, in 2010 the Company introduced area improvement  
196 teams. Area improvement teams develop strategies to improve reliability  
197 performance in targeted areas experiencing an increase in outages when compared  
198 to prior years. These teams consist of management, field engineering, field  
199 operations and reliability engineering personnel. These teams develop reliability  
200 plans by incorporating the people that are actually performing the corrective work  
201 and leveraging their local knowledge. The past three years of experience with the  
202 Company reliability programs have shown that the Company should continue to:

- 203
- 204 • Focus on reducing the impact of interruptions that can be controlled with  
205 preventative programs, such as replacing failure prone equipment (as  
206 identified from documented historical performance) and completing  
vegetation management programs.
  - 207 • Promptly and safely restore uncontrollable service interruptions, such as

208 vehicles hitting power poles and customers or contractors damaging  
209 underground cables via dig-ins.

210 This approach allows the Company to be more efficient as it continuously seeks to  
211 improve electric service reliability for all customers.

212 **Q. Please summarize your testimony.**

213 A. The T&D capital expenditures included in this case are essential and required in  
214 meeting Rocky Mountain Power customers' needs and maintaining or improving  
215 system reliability standards. In particular, the proposed T&D capital expenditures  
216 are required in order to:

- 217 • Serve new customers (industrial, commercial, and residential) that require  
218 reinforcement and/or extensions of the Company's existing infrastructure.
- 219 • Serve existing customers through system reinforcement (expansion or  
220 increase in capacity) of existing infrastructure.
- 221 • Maintain acceptable reliability and service.
- 222 • Comply with orders issued by regulatory, state or local governmental  
223 entities.

224 The Company's transmission and generation projects are part of an  
225 integrated, system-wide, high voltage system that provides the foundation to  
226 move resources throughout the western United States, thus providing service and  
227 reliability benefits to Utah customers. Additionally, these investments contribute  
228 to meeting the performance standards program that the Company has committed  
229 to through 2011.

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

233 A. Yes. The T&D capital investments included in this case are in the public interest  
234 for the reasons that I mentioned earlier in my testimony, including serving the  
235 public with safe, adequate and reliable service. For these reasons, I recommend  
236 that the Commission approve these investments for inclusion in the Company's  
237 rate base.

238 **Q. Does this complete your direct testimony?**

239 A. Yes.