

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 Darrell T. Gerrard. My business address is 825 NE Multnomah
4 Street, Suite 1600, Portland, Oregon 97232. I am Vice President of Transmission
5 System Planning for PacifiCorp.

6 **Qualifications**

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

8 A. I have a Bachelor of Science degree in Electrical Engineering (Electric Power
9 Systems Major) from the University of Utah and Certificate of Completion with
10 Honors in Electrical Technology from Utah Technical College at Salt Lake. My
11 experience spans more than 30 years in the electric utility business and electric
12 power industry in general. I have working experience and have had management
13 responsibility for a number of functional organizations at PacifiCorp including
14 Area Engineering, Area Planning, Region Engineering, T&D Facilities
15 Management, Transmission, Substation and Distribution Engineering, System
16 Protection and Control, T&D Project Management and Delivery, Asset
17 Management, Electronic Communications, Hydro System Engineering,
18 Transmission Grid Operations, and most recently Transmission System Planning.

19 **Q. What are your responsibilities as Vice President of Transmission System**
20 **Planning?**

21 A. I am responsible for transmission planning activities required to support
22 PacifiCorp’s existing and future bulk transmission system and to ensure a safe and
23 reliable transmission system that provides economical service to our customers.

24 I am also responsible for the conceptual and detailed system planning and
25 architecture associated with the Company's long-term Energy Gateway
26 Transmission Expansion Plan ("Energy Gateway").

27 **Purpose and Summary of Testimony**

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

29 A. The purpose of my testimony is to support the test year costs associated with
30 capital investments in the Company's transmission system. The capital
31 investments that will be placed into service during the test year in this case
32 include the costs to plan and build the Mona-to-Oquirrh 500/345 kV transmission
33 project ("Mona-to-Oquirrh Project"), the costs to build the Clover substation, the
34 costs to upgrade the Terminal substation, and the costs of interconnecting the
35 Lake Side II generating plant. My testimony will provide evidence showing that
36 the Company was prudent in managing these costs, and that these investments
37 will be used and useful during the test year and beneficial to our retail customers.

38 **Q. Please summarize your testimony.**

39 A. First, I will provide a detailed description of the Mona-to-Oquirrh Project,
40 including its costs and current status. I will show that, given existing limited
41 capacity on the transmission system, the Mona-to-Oquirrh Project is needed to
42 support both short and long term energy demands. The project will strengthen the
43 overall reliability of the existing transmission system, and the project is necessary
44 to maintain the Company's compliance with mandated North American Electric
45 Reliability Corporation ("NERC") and Western Electricity Coordinating Council
46 ("WECC") reliability and performance standards. Our customers' demand for

47 energy continues to increase and the need for the Mona-to-Oquirrh Project at this
48 time, which was demonstrated during the Certificate of Public Convenience and
49 Necessity proceeding (“CPCN docket”) (Docket No. 09-035-54), has not
50 changed.

51 Second, I will show that the Company prudently managed the costs of the
52 Mona-to-Oquirrh Project by ensuring that it was built in an efficient and cost
53 effective manner for the benefit of our customers. Finally, I will discuss the other
54 capital investments included in the test year, and will demonstrate that these
55 investments, as well as the Mona-to-Oquirrh Project, will be used and useful for
56 our customers during the test year.

57 **Q. What are the projected costs included in this proceeding?**

58 A. The projected costs included in rate base in this proceeding are \$383 million for
59 the Mona-to-Oquirrh Project, \$76 million for the Clover substation, \$42 million
60 for upgrades at the Terminal substation, and \$19 million for the Lake Side II
61 generating plant transmission interconnection. Refer to Mr. Steven R.
62 McDougal’s plant additions Exhibit RMP___(SRM-2), p. 8.6.24.

63 **Description of the Mona-to-Oquirrh Project**

64 **Q. Please describe the Mona-to-Oquirrh Project.**

65 A. The Project is one component of the Company’s long range transmission plan and
66 consists of a single-circuit 500 kV transmission line originating from the Clover
67 substation (to be constructed near Mona in Juab County, Utah), extending
68 northward about 70 miles to the proposed future Limber substation (to be located
69 in Tooele County, Utah), and continuing as a double-circuit 345 kV line for

70 approximately 30 miles to the existing Oquirrh Substation in South Jordan, Utah
71 (refer to the project site map provided as Exhibit RMP____(DTG-1).

72 To accommodate the Mona-to-Oquirrh Project's transmission lines, the
73 Oquirrh substation must be upgraded and modified. In addition, the Company is
74 currently constructing the 500kV/345kV/183kV Clover substation located
75 approximately three miles south of the existing Mona substation. The Clover
76 substation was formally designated as "Mona Annex" during project siting and
77 the Utah CPCN process because the exact location and station name had not been
78 determined at that time. The Clover substation, with an in-service date of
79 December 14, 2012, is the southern termination point of the Mona-to-Oquirrh
80 Project and is necessary to provide local 138kV transmission service to reliably
81 support customers in the local area. The Clover substation will also be the
82 southern termination point for the future Gateway South project, although the
83 upgrades necessary to accommodate Gateway South are not being done at this
84 time, and the costs associated with those upgrades are not included in this
85 proceeding.

86 The future 500kV/345kV/138kV Limber substation will interconnect with
87 the Mona-to-Oquirrh Project and is scheduled for completion in May 2014. Costs
88 for the Limber substation fall outside of the current test period and are not
89 included in this proceeding.

90 **Q. What is the current status of the Mona-to-Oquirrh Project and the expected**
91 **in-service date?**

92 A. Construction on the Mona-to-Oquirrh Project began in March 2011. At this time,

93 construction access roads are in place for approximately 80 miles of the
94 transmission line path. Foundations have been constructed for approximately 220
95 of the structures, and approximately 100 of the single-circuit 500 kV lattice
96 towers have been erected. Delivery of the double-circuit 345 kV monopoles began
97 in December 2011. Construction of the Clover Substation started in August 2011.
98 The final grade was achieved for the 345 kV yard and 138 kV yard in December
99 2011 and January 2012 respectively. The installation of ground grid and major
100 equipment foundations began in January 2012, with equipment scheduled for
101 delivery beginning in March 2012. The timing of these activities supports the
102 projected December 14, 2012 in-service date for the Clover substation, and the
103 May 18, 2013 in-service date for the 500/345 kV transmission line between the
104 Clover and Oquirrh substations. See Exhibit RMP___(DTG-2) which contains
105 recent photos of construction progress on the Clover substation and the Mona-to-
106 Oquirrh Project.

107 **Q. What actions or steps have been taken to ensure the Mona-to-Oquirrh**
108 **Project will be placed in service on time and at its current cost forecast?**

109 A. The Company has in place a turnkey engineer, procure, and construct contract for
110 the Mona-to-Oquirrh Project that establishes a lump sum cost for design and
111 construction. The contract establishes monitoring and reporting controls to which
112 the contractor must adhere in completing the Mona-to-Oquirrh Project. These
113 include providing monthly progress reports on engineering, procurement, status of
114 construction to schedule, risks identified and cost expenditures. If the contractor
115 feels it necessary to request changes to the Mona-to-Oquirrh Project that would

116 affect the contract schedule or cost, the Company requires a strict review process
117 for the requested change. The contractor is not allowed to proceed with the
118 requested change until the Company approves the change.

119 **Prudence in Project Delivery**

120 **Q. How did the Company ensure that the costs expended to engineer, design,**
121 **site, and build the Mona-to-Oquirrh Project were the most cost effective for**
122 **its customers?**

123 A. From a planning perspective, the Company applied prudent industry standards to
124 identify the best transmission route and substation locations in order to balance
125 engineering requirements, environmental impacts, project costs, and impacts to
126 communities during the siting process, while ensuring that the siting criteria
127 requirements were met. This included the completion of project siting and routing
128 feasibility studies by the Company between 2005 and 2007, and the completion of
129 the National Environmental Policy Act (“NEPA”) Environmental Impact
130 Statement (“EIS”) process between January 2007 and February 2011, resulting in
131 an agency “Record of Decision.” This process determined the final “preferred”
132 transmission line route and substation locations, which were then incorporated
133 into the Company’s competitive bidding process for construction.

134 **Q. Please describe the Company’s competitive bidding process.**

135 A. The Company initiated a competitive bidding process to receive blind sealed bids
136 for the project to be delivered on a turnkey, fixed price, guaranteed completion
137 date basis using an engineer, procure, and construct (“EPC”) contract. The
138 competitive bidding process began in July 2009 and provided two separate blind-

139 sealed bidding opportunities. All bid responses were due in October 2009 and
140 again in June 2010 after additional information was provided to bidders allowing
141 a refinement of previously submitted design solutions and terms and conditions,
142 including price. Seven qualified bids were received in October 2009. After
143 extensive evaluations of bidder proposals and review of exceptions to work scope
144 and base terms and conditions from each bid proposal, the final two most
145 qualified bidders were identified. The Company received best and final offers
146 from the final two competing proposals in June 2010. The Company awarded the
147 contract and issued a notice of intent in December 2010, with a notice to proceed
148 issued in February 2011. This process resulted in the Company obtaining the
149 lowest risk evaluated cost for delivery of the Mona-to-Oquirrh Project.

150 **Q. With respect to the construction of the Mona-to-Oquirrh Project, how did**
151 **the Company ensure that the costs to build the project were controlled for**
152 **the benefit of customers?**

153 A. EPC contracts are regarded in the industry as a prudent approach to control costs
154 and manage design, procurement, and construction risks. EPC contracts provide
155 schedule and cost certainty to the benefit of customers and, where possible, cap
156 potential cost escalations upon the occurrence of defined risks. EPC contracts also
157 ensure more timely delivery of needed testing, commissioning, and in-service
158 dates to support system needs and help ensure ongoing transmission system
159 reliability.

160 The fixed-price EPC contract for the Mona-to-Oquirrh Project has strong
161 provisions to control cost and schedule variances. Where cost and schedule

162 variances were not included in the fixed price for certain contingent aspects of the
163 work scope, these items were identified as risk items and a contingent capped
164 price and schedule allowance were agreed to before contract execution.
165 Contingent risk items were limited to defined occurrences such as weather delays
166 and environmental impacts.

167 **Q. How does the Company ensure the requirements and terms and conditions of**
168 **the EPC contract are met?**

169 A. The Company implements a management oversight structure that is responsible
170 for ensuring that the requirements and terms and conditions of the EPC contract
171 are met during the entire project construction cycle. This includes a detailed
172 reporting requirement for the contractor regarding cost and schedule to be
173 submitted on a monthly basis. Also, the Company implements a quality assurance
174 and quality controls program with qualified third-party inspectors to conduct
175 onsite inspections during construction. The Company conducts a rigorous review
176 of proposed changes in work requests by the contractor, which require Company
177 approval before work associated with the requested change begins. The Company
178 also obtains unit pricing during the EPC competitive bidding process to secure
179 competitive market pricing should unforeseen changes to the project scope be
180 required.

181 **Benefits of the Project**

182 **Q. How will the Mona-to-Oquirrh Project benefit the Company's customers?**

183 A. The Mona-to-Oquirrh Project is a key component required for executing the
184 Company's current and future integrated resource plans, which require reliable

185 transport of designated network resources to network loads. Executing those plans
186 is necessary to ensure an adequate, reliable, and low cost supply of energy is
187 available and benefits our customers. Having adequate long-term transmission
188 system capacity is fundamental in developing and executing those integrated
189 plans. The importance of planning for and securing adequate transmission system
190 capacity for purposes of the Company's resource planning is documented in
191 Volume I, pages 4 and 5, of the Company's Integrated Resource Plan ("IRP")
192 dated March 31, 2011.

193 **Q. What analysis has the Company performed to quantify the benefits that the**
194 **Mona-to-Oquirrh Project provides to all of the Company's customers?**

195 A. The Mona-to-Oquirrh Project, including its associated costs and benefits, has been
196 evaluated on multiple occasions over the last several years to reflect changes in
197 the Company's business environment and to ensure it continued to meet customer
198 needs and provided desired benefits. I will briefly discuss the results from these
199 detailed evaluations below.

200 Evaluation of the Mona-to-Oquirrh Project began in early 2007 as part of
201 the overall Energy Gateway analysis, where net power cost calculations were
202 compared against Energy Gateway construction costs and the preferred resource
203 portfolio in the Company's IRP at the time. Benefits were calculated for the entire
204 Energy Gateway project, and the analysis showed a significant benefit to all of the
205 Company's customers, including those in Utah. Since the Energy Gateway project
206 and its segments are planned to be delivered over the course of several years, the
207 Company intention is to perform additional and specific analysis for each

208 individual Energy Gateway segment over time. A white paper entitled Summary
209 of Energy Gateway Financial Analysis, dated November 19, 2009, summarizes a
210 very detailed analysis that was performed on Energy Gateway, including analysis
211 of the Mona-to-Oquirrh Project through 2009. The analysis showed significant
212 benefits for all customers in moving forward with Energy Gateway, including the
213 Mona-to-Oquirrh Project. A copy of this analysis paper was provided to the Utah
214 Division of Public Utilities in a data request during the CPCN hearing process for
215 the Mona-to-Oquirrh Project and is attached as (Confidential Exhibit
216 RMP____(DTG-5).

217 **Q. Has additional analysis been performed since 2009 regarding the cost and**
218 **benefits of the Mona-to-Oquirrh Project?**

219 A. Yes. In further analysis performed in August 2010, variable power production
220 cost savings were calculated through the IRP Production and Resource Model
221 (“PAR”) with and without the entire Energy Gateway project for a 50-year period,
222 discounted back to net present values. The variable production cost inputs used
223 four different combinations of CO₂ taxes per ton and variable future natural gas
224 prices. Table I in Exhibit RMP____(DTG 6) summarizes the total Energy Gateway
225 variable power production cost savings and the Mona-to-Oquirrh Project’s
226 savings contribution to that total for each of the four scenarios. These results show
227 that there is a range of expected variable production cost savings benefits from
228 \$331 million dollars to \$549 million dollars for the Mona-to-Oquirrh Project.

229 **Q. Was the lowest cost alternative selected and constructed to meet the Mona-**
230 **to-Oquirrh Project requirements and to the benefit of customers?**

231 A. Yes. All of our customers benefited from the project alternative that was selected
232 and then ultimately constructed by the Company. This alternative selection
233 resulted in an overall reduced capital investment amounting to an estimated \$181
234 million savings over the next best alternative project alternative. This resulted in a
235 lower overall revenue requirement for the Project which is included in this
236 proceeding. See Table II and Table III in Exhibit RMP___(DTG-6).

237 **Q. Are there other benefits to customers associated with the completion of the**
238 **Mona-to-Oquirrh Project?**

239 A. Yes. Not only does the project provide new transmission capacity necessary to
240 serve our customers, but it also provides significant system and operational
241 reliability benefits to the existing system that mitigate the risk of customer
242 outages and load curtailments. The Mona-to-Oquirrh Project provides
243 transmission reliability improvements to the existing system between the Mona
244 and Camp Williams substations and between Camp Williams and the Oquirrh
245 substation. The Mona-to-Oquirrh Project provides a parallel and alternative
246 transmission path providing backup capability to the existing system in the event
247 of an system outage. See Exhibit RMP___(DTG 3).

248 Specifically the project provides new transmission capacity between Camp
249 Williams and Oquirrh and eliminates the need for capital expenditures estimated
250 at \$70 million for construction of a new 345 kV transmission line and corridor
251 between the Camp Williams and Oquirrh substations that would otherwise be

252 needed for reliability in the area.

253 In addition, the Mona-to-Oquirrh Project provides customers with
254 reliability risk reduction benefits on the existing system between Mona and Camp
255 Williams because it reduces the exposure to customer load loss and associated
256 energy curtailments during transmission system outages, both planned and
257 unplanned. Table IV in Exhibit RMP___(DTG-6) quantifies the cost of
258 replacement energy due to the inability of Company generation resources to serve
259 load due to a transmission line outage between the Mona and Camp Williams
260 substations. The customer load at risk reduction due to the addition of the Mona-
261 to-Oquirrh Project has benefits valued over a range of potential energy
262 replacement costs. Two scenarios were analyzed starting in 2013 where the
263 benefits range from \$29 million to \$210 million and the risk reduction benefits
264 continue to grow in 2020 to a range of \$214 million to \$1,765 million. The Mona-
265 to-Oquirrh Project, by its selection and design, provides the above-stated
266 operational reliability benefits and reduces risk for our customers. These system
267 reliability benefits are not captured in Company net power cost or IRP modeling
268 activities.

269 **Q. Will the Mona-to-Oquirrh Project provide other benefits to the Company's**
270 **transmission system?**

271 A. Yes. The transmission grid can be affected in its entirety by what happens on an
272 individual transmission line. For example, the transmission path between southern
273 and northern Utah is comprised of several individual transmission lines or line
274 segments. A single outage on any of the individual lines due to storm, fire, or

275 external human interference can and does cause significant reductions in
276 transmission capacity and can negatively affect our ability to serve customers.
277 The Mona-to-Oquirrh Project will allow the Company to continue to meet native
278 load service obligations in all of its states and continue to meet contractual
279 obligations to third parties under its federal Open Access Transmission Tariff.
280 The project connects to other existing and future segments of Energy Gateway
281 that interconnect the Company's western and eastern control areas, increasing the
282 ability to transport low-cost energy to the benefit of all of our customers. The
283 Mona-to-Oquirrh Project will improve the Company's access to existing energy
284 markets in the northwest, desert southwest, and Four Corners areas for the
285 purpose of purchasing energy or selling any energy surplus when it is beneficial
286 to do so for our customers. This access allows the Company to maintain a low-
287 cost and reliable energy supply to the benefit of all our customers.

288 **Q. Are there other benefits you see from this Mona-to-Oquirrh Project?**

289 A. Yes. The Mona-to-Oquirrh Project is necessary to maintain the Company's
290 compliance with mandatory standards, both national and regional, while
291 providing the next necessary increment of transmission capacity for our
292 customers. It also supports and can be reliably integrated with other future
293 planned transmission investments that are currently proposed by the Company
294 and other utilities in the WECC region. This project positions the Company to be
295 more strongly interconnected to other regional projects currently being planned
296 and provides options for access to additional future energy resources.

297 **Q. Would the Company have constructed the Mona-to-Oquirrh Project even if**
298 **other segments of Energy Gateway were not constructed?**

299 A. Yes. The existing system north of Mona is fully subscribed and the Mona-to-
300 Oquirrh Project provides the additional transmission capacity and reliability
301 necessary to continue transport of existing and future planned generation
302 resources located in central and southern Utah to growing customer load centers
303 in the states served by the Company. The Company's 2011 IRP shows future
304 planned additions of nearly 1,700 MW of new generation in the central and
305 southern part of the state of Utah (refer to Exhibit RMP____(DTG-7). The Mona-
306 to-Oquirrh Project is necessary to fully utilize the company's existing and future
307 planned generation resources to serve customers.

308 **Q. When placed in service will the Mona-to-Oquirrh Project be used and**
309 **useful?**

310 A. Yes. When a transmission project or generation plant is energized and placed into
311 service, all elements of the project are part of the interconnected system as a
312 whole. These elements are fully used and useful in providing transmission or
313 generation service on the system. Transmission and generation infrastructure
314 additions inherently have some ability to provide future capacity after being
315 placed in service. This results from using industry standard voltages and design
316 criteria, and reliability requirements necessary for system operation and
317 maintenance.

318 **Q. You indicate that when a new transmission line is added, it becomes a part of**
319 **the integrated system as a whole. Please explain.**

320 A. Electrical transmission systems are made up of numerous electrical elements,
321 including lines, substations, generation plants, and control systems that operate as
322 a fully integrated network. All elements of the network are electrically dependent
323 upon each other for the purpose of producing and transmitting energy
324 instantaneously to customers on demand. New transmission capacity, when added
325 to an existing system, is installed in increments based on standard system
326 voltages, line conductors, equipment, and apparatus that are available in the utility
327 industry. Electrical power flows across the entire system, and on any individual
328 line or station, are a function of the physics of the entire interconnected network
329 and the level of generation and load present at any given instant in time. As a
330 result, when a new line or substation is added, it immediately carries its full share
331 of the total energy being transmitted by the system. Whenever a new line or
332 substation is added to the transmission system, electrical capacity on the network
333 is increased. The incremental capacity increase added to the network is based on
334 both the new facility's capacity and its electrical interaction with all other
335 facilities to which it is interconnected. While the Project provides benefits to the
336 local areas wherein it is constructed, it also provides benefits to the wider
337 interconnected transmission system.

338 **Project Need and Justification**

339 **Q. Was the Mona-to-Oquirrh Project included in the Company's most recent**
340 **IRP?**

341 A. Yes. The Company's 2011 IRP includes the Mona-to-Oquirrh Project as part of
342 the modeled transmission topology for the purpose of selecting the Company's
343 preferred portfolio of future supply-side and demand-side resources. The 2011
344 IRP Action Plan, Chapter 9, consists of a number of actions needed to deliver the
345 plan, one of which is to "Permit and construct a 500 kV line between Mona and
346 Oquirrh." In Chapter 10, Transmission System Action Plan, the Company
347 provides detailed information for the Mona-to-Oquirrh Project. The project is
348 necessary to integrate new network generation resources identified in the IRP into
349 the Company's extensive transmission system in order to meet the Company's
350 customers' current and future energy demands.

351 **Q. Has the Mona-to-Oquirrh Project been included in previous IRPs?**

352 A. Yes. The Mona-to-Oquirrh Project was evaluated for cost-effectiveness from an
353 integrated system benefits perspective as part of the 2007 IRP filed with the
354 Commission in May 2007. This analysis helped support the decision to include
355 the Mona-to-Oquirrh Project as part of the Company's preferred resource
356 portfolio. The project has been included as a key element in previous IRPs and
357 was acknowledged by the Commission previously.

358 **Q. Were alternatives to the Mona-to-Oquirrh Project considered?**

359 A. Yes. Long-term alternatives to constructing a new transmission line are limited;
360 however, alternatives have been assessed by the Company during the IRP process.

361 Alternatives considered included: (1) electric load and demand-side management
362 and energy conservation as part of the Company's IRP; (2) the installation of new
363 generation facilities within the Salt Lake City area; (3) additional capacity to
364 existing transmission lines and alternative transmission technologies. As a result
365 of the resource portfolio modeling conducted for the 2011 IRP, the Company
366 concluded that none of these alternatives met the Company's needs and long-term
367 requirements, and additional transmission transfer capability in Utah presented the
368 lowest overall cost and was the best alternative to meet our customers' demand
369 for electricity.

370 **Q. Has the Mona-to-Oquirrh Project's purpose and need been established and**
371 **justified in Utah?**

372 A. Yes. The Mona-to-Oquirrh Project's purpose and need has been clearly
373 established and justified through previous regulatory proceedings conducted in
374 Utah. Detailed and credible evidence justifying the Mona-to-Oquirrh Project was
375 presented by the Company through its efforts to successfully obtain a Certificate
376 of Public Convenience and Necessity ("CPCN") and through the Company's
377 request for siting authority by the Utility Facility Review Board.

378 **Q. Did this Commission find that the Mona-to-Oquirrh Project was needed,**
379 **justified, and necessary in the interest of the public?**

380 A. Yes. The Commission granted a CPCN for the transmission line and related
381 facilities in its Report and Order issued June 16, 2010, in the CPCN Docket. The
382 Commission stated:

383 We find the Company has adequately demonstrated the need for
384 those elements of the Project it plans to construct by 2013. The

385 record is clear that without the resultant increased transmission
386 capacity, the Company will face an unacceptable risk of failure to
387 meet its load service obligations. Moreover, we recognize the need
388 for PacifiCorp to strengthen its transmission grid in order to
389 comply with important regional and nation reliability standards and
390 directives. The Project is a key component of this effort.

391 **Q. The Utility Facility Review Board was required to act on matters regarding**
392 **this Mona-to-Oquirrh Project in order for it to be sited and constructed. Did**
393 **the Board agree the Mona-to-Oquirrh Project was needed and was justified?**

394 A. Yes. The Board conducted hearings on the siting and route selection for a portion
395 of the project and through those proceedings determined that the Mona-to-Oquirrh
396 Project was needed and was justified. The Board issued an Order on June 21,
397 2010, in docket no. 10-035-39. In the Order Synopsis (page 1), the Board stated:

398 The Board, having reviewed the substantial, competent and
399 credible evidence before it, unanimously finds the Company's
400 proposed Transmission Project is needed to provide safe, reliable,
401 adequate and efficient service to its customers.

402 The Board made further findings on the Project's need and justification (page 29):

403 The evidence demonstrates the Transmission Project will play an
404 integral role in providing the new transmission capacity the
405 Company needs to provide safe, reliable, adequate and efficient
406 service.

407 **Q. Please describe the current transmission situation for bringing power into**
408 **the Wasatch Front and adjoining areas from the south and how the Mona-to-**
409 **Oquirrh Project fits into that situation.**

410 A. Please refer to Exhibit RMP____(DTG-3) for a map of transmission import lines
411 from the south of the critical load area. Currently, a majority of the electricity
412 serving the northern Utah area is generated at Company facilities in Carbon, Juab,
413 and Emery counties and is delivered on existing transmission lines that enter the

414 Wasatch Front and adjoining areas from the south. These southern Utah
415 generating facilities include the Carbon, Hunter, Huntington, and Carrant Creek
416 power plants. The Company's transmission system providing electrical service to
417 this area from southern Utah presently consists of two 345 kV lines from the
418 Huntington and Castle Dale (Emery substation) areas to the Spanish Fork and
419 Camp Williams substations, four 345 kV lines from the Mona area to the Camp
420 Williams substation, and two 138 kV lines from the Helper area (Carbon
421 substation) to the Spanish Fork substation. These transmission lines, along with
422 other interconnected lines, are also used to import power into Utah from Nevada,
423 the Four Corners region, and from other energy providers connected to the Mona
424 substation. It is necessary to move this energy north to growing load centers in the
425 Wasatch Front and surrounding areas. In addition, the Company's 2011 IRP
426 preferred portfolio includes nearly 1,700 MW of new combined cycle natural gas
427 generation resources located in central Utah. See Exhibit RMP____(DTG-7) (2011
428 IRP, Volume I, Figure 4.4, page 61).

429 **Q. Has the slowdown in the economy affected the need for the Mona-to-Oquirrh**
430 **Project?**

431 A. No. The Mona-to-Oquirrh Project is still needed by summer 2013 as planned and
432 delivers benefits to all customers. The project is required to maintain compliance
433 with mandatory NERC and WECC standards established for the Bulk Electric
434 System. In addition our customer demand for energy is growing despite the
435 slowdown in the economy, especially in Utah. See Exhibit RMP____(DTG-4)

436 which shows the historical and future forecasted energy demand in the Wasatch
437 Front of Utah.

438 **Additional Investments**

439 **Q. What additional transmission capital investment costs are included in this**
440 **proceeding?**

441 A. The transmission capital investment costs in this proceeding include
442 approximately \$42 million for transformer and substation additions at the
443 Terminal substation and approximately \$19 million for the Lake Side II
444 generating plant interconnection.

445 **Q. Please describe the additional plant investments needed at the Terminal**
446 **substation.**

447 A. These plant investments consist of replacing two existing 345-138 kV
448 transformers and four 138 kV breakers at the Terminal substation. Specific details
449 of this project include the following replacements:

- 450 • Terminal transformer #9 (421 MVA) with a 700 MVA transformer;
- 451 • Terminal transformer #10 (448 MVA) with a 700 MVA transformer;
- 452 • Breaker L180 with a breaker with continuous rating of 3000A;
- 453 • Several overstressed 138 kV breakers CB101, CB115, and CB116;
- 454 • Substation Bus work and related apparatus control systems; and
- 455 • Transformer and apparatus foundations and footings for seismic reasons.

456 **Q. Please explain why these additional investments at the Terminal substation**
457 **are needed.**

458 A. Load studies performed on the existing transformer for summer peak loads from

459 2010 to 2013 resulted in overloading of either 345-138 kV transformers for single
460 element contingencies on the 138 kilovolt system. The Terminal substation is an
461 antiquated design dating back to the WWI timeframe when Grace Hydro
462 generation was tied into the substation to serve load along the Wasatch Front. The
463 current substation bus design is inadequate for the need capacity of the station,
464 will not accommodate the new 700 MVA transformers, and poses a risk to service
465 reliability. The project is necessary for the Company to maintain compliance with
466 NERC and WECC mandatory reliability standards, which dictate levels of
467 electrical system performance and reliability.

468 **Q. Please describe the additional plant investments for the Lake Side II**
469 **Interconnection.**

470 A. The interconnection of the Lake Side II generation facility into the existing
471 345 kV Camp Williams-Hunter/Emery transmission line will require the
472 construction of a new 345 kV point of interconnection substation. The point of
473 interconnection substation will be configured to accommodate a six breaker ring
474 bus layout with three breakers installed for this project. The substation will be
475 located adjacent to the existing Lake Side generating facility. Equipment
476 replacement, control modifications, and communications upgrades will also be
477 required at the Camp Williams, Emery, Sigurd, Dynamo, and Timp substations
478 and the Salt Lake and Portland control centers.

479 **Q. Please explain why these additional investments for the Lake Side II**
480 **Interconnection are necessary.**

481 A. PacifiCorp Energy (“Interconnection Customer”) has proposed interconnecting a

482 new generating facility, Lake Side II, to PacifiCorp's existing Camp Williams-
483 Hunter/Emery 345kV transmission line, which is adjacent to the existing Lake
484 Side generating facility. Under the Company's Open Access Transmission Tariff,
485 it must provide for transmission interconnection of designated network resources
486 to serve network loads. PacifiCorp Energy has made formal request for
487 interconnection of the facility. The facility is part of the Company's IRP and will
488 provide benefits to all of PacifiCorp's native load customers, including those in
489 Utah. The interconnection must be completed by May 1, 2013, to provide
490 electrical back feed approximately one year ahead of the generation plant in-
491 service date. The interconnection station must be engineered, designed, and
492 constructed to meet all applicable NERC and WECC mandatory reliability
493 standards.

494 **Conclusion and Recommendation**

495 **Q. What do you recommend?**

496 A. I recommend that the Commission find the company acted prudently in making
497 the necessary investments and plant additions I have discussed in this testimony
498 and that the Commission issues an order allowing full recovery of these costs
499 through customer rates.

500 Based the evidence that I have provided, I further recommend that the
501 Commission find the Company has prudently selected the lowest cost project
502 alternative and managed costs and delivery risks for the Mona-to-Oquirrh Project,
503 and that the Commission find the Project provides significant benefits to all of the
504 Company's customers, including those in Utah.

505 Q. Does this conclude your direct testimony?

506 A. Yes.