

Charles R. Dubuc, Jr.
Western Resource Advocates
150 South 600 East, Suite 2AB
Salt Lake City, UT 84102
801-487-9911
Attorney for Western Resource Advocates

Steven S. Michel
Western Resource Advocates
409 E. Palace Ave. #2
Santa Fe NM 87501
505-820-1590
Attorney for Western Resource Advocates

**BEFORE THE PUBLIC SERVICE
COMMISSION OF UTAH**

In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations

Docket No. 10-035-124

PREFILED SURREBUTTAL TESTIMONY OF NANCY L. KELLY

ON BEHALF OF

WESTERN RESOURCE ADVOCATES

July 19, 2011

1 **I. INTRODUCTION**

2 **Q: Please state your name, employer, position and business address.**

3 A: My name is Nancy L. Kelly. I am employed by Western Resource Advocates (WRA) in
4 its Energy Program as a Senior Policy Advisor. My business address is 9463 N. Swallow
5 Rd., Pocatello, ID 83201.

6 **Q: Have you provided testimony previously in this docket?**

7 A: Yes. I filed direct testimony on May 26, 2011.

8 **Q: What is the purpose of your current testimony?**

9 A: The purpose of my testimony is to respond to the rebuttal testimony of PacifiCorp
10 witnesses, Mr. Chad A. Teply and Ms. Cathy S. Woollums, Esq. submitted on June 30,
11 2011. First, I will respond to the characterization of the positions of the parties by Mr.
12 Teply and Ms. Woollums that I believe to be inaccurate. In addition, I will demonstrate
13 that information provided by PacifiCorp witnesses in rebuttal testimony, and by Ms.
14 Woollums in her June 15, 2011 testimony to the United States Senate Committee on
15 Environment and Public Works are actually consistent with the key points I made in
16 direct testimony and reinforce my position that PacifiCorp should affirmatively
17 demonstrate the prudence of all future investments in its coal fleet through
18 comprehensive analysis before being granted cost recovery. I will further demonstrate
19 that rebuttal witness Woollums' recent Senate testimony undercuts rebuttal witness
20 Teply's claim that coal-fired generation is "least-cost."

21 **Q: Which witnesses responded to your direct testimony?**

22 A: For PacifiCorp, Mr. Teply and Ms. Woollums both state their testimony is in response to
23 mine among others, although Ms. Woollums never addresses my testimony specifically.
24 Mr. Teply directly addresses two specific points of my testimony and confirms my
25 discussion of the coal retirement studies that were undertaken as part of the 2011 IRP. In
26 her rebuttal testimony, Ms. Woollums describes how PacifiCorp participates in the
27 development of environmental regulations at the state and federal level, evaluates the
28 impacts and risks to the Company stemming from these initiatives, and incorporates this
29 information into its business planning.

30 **Q: Please provide a summary of the key points, conclusion and recommendation from**
31 **your direct testimony.**

32 A: The key points, conclusion, and primary recommendation from my direct testimony are
33 summarized as follows:

- 34 • The pollution control costs included in this general rate case are substantial,
35 exceeding \$800 million, and the additional capital investments expected between
36 2012 and 2023 to meet current environmental regulations are even larger with annual
37 operating and maintenance expense reaching \$360 million by 2023.
- 38 • Further substantial investments that have not yet been quantified by PacifiCorp will
39 be required to address pending and proposed environmental regulations.
- 40 • Coal as a fuel source is becoming increasingly expensive.
- 41 • Given the many cost pressures on coal-fired generation, continued coal-fired
42 generation may not be “low cost.” Therefore, comprehensive analysis of the

43 economic viability of ongoing investment in PacifiCorp's coal fleet versus other
44 alternative courses of action is necessary.

45 • While PacifiCorp's integrated resource planning process would be the appropriate
46 venue for evaluating ongoing investment in PacifiCorp's coal fleet versus other
47 options, the 2011 IRP demonstrates that the IRP cannot be relied upon to provide the
48 type of comprehensive analysis that is needed by the Commission to determine
49 prudence of future pollution control retrofit investments.

50 • I concluded that comprehensive analysis that evaluated the cost and risk of ongoing
51 environmental retrofits and coal-fired generation operating costs against the cost and
52 risk of alternative courses of action was essential to the determination of the prudence
53 of any future requests to recover the costs of both planned, expected, and possible
54 environmental retrofits.

55 • I recommended that the Commission make clear in its rate case order that the
56 Company must affirmatively demonstrate the prudence of any future investments in
57 its coal fleet through comprehensive analysis in order to receive cost recovery in any
58 future rate proceeding.

59 **Q: Has anything you have reviewed subsequent to filing your direct testimony changed**
60 **your position, conclusion, or primary recommendation?**

61 A: No. My key points, conclusion, and primary recommendation remain unaltered.

62

63 **II. CHARACTERIZATION OF PARTIES' POSITIONS**

64 **Q: In your introduction you stated that you would respond to the characterization of**
65 **the parties' positions by Mr. Teply and Ms. Woollums that you believe to be**
66 **inaccurate. Please provide those characterizations.**

67 A: The testimony of both Mr. Teply and Ms. Woollums respond to a similarly worded
68 question. In Mr. Teply's testimony the question is worded as follows: "Do the issues
69 raised ... exemplify *the complexity in balancing stakeholder interests that the Company*
70 *faces in making prudent pollution control project capital investment decisions?*"¹ In Ms.
71 Woollums' testimony the question is phrased as follows: "Does your testimony discuss
72 *the complexity in balancing stakeholder interests that the Company faces in making*
73 *prudent pollution control capital investment decisions?*"²

74 **Q: Would you like to comment on the question posed by both witnesses?**

75 A: Yes. I find the question curious. It seems to imply that prudence is a matter of balancing
76 stakeholder interests. While balancing interests is an important role for the Commission,
77 I am unaware of balancing stakeholder interests as being required to demonstrate
78 prudence.

79 **Q: How did Mr. Teply answer the question?**

80 A: Mr. Teply replied as follows:

¹ Rebuttal Testimony of Chad A. Teply, Environmental Controls Investments, Docket No. 10-035-124, June 20, 2011, lines 153-155. (Emphasis added)

² Rebuttal Testimony of Cathy S. Woollums, Environmental Controls Investments, Docket No. 10-035-124, June 20, 2011, lines 66-68. (Emphasis added)

81 The perspectives presented in the testimony...include: (1) ardent environmental
82 opposition to continued investment in coal fueled generation in the face of ever
83 evolving environmental regulations, (2) recommendations for deferred decision-
84 making while awaiting regulatory certainty and final EPA actions, and (3) support of
85 the Company's pollution control investments, based on regulations of its obligation to
86 reliably and cost-effectively serve its customers, while balancing compliance with
87 current and anticipated likely environmental requirements and regulations.

88 **Q: How did Ms. Woollums answer the question?**

89 A: Ms. Woollums replied as follows:

90 Some stakeholders take the position that it is imprudent to make environmental
91 investments prior to the time they are absolutely required and some believe that
92 environmental regulations are too uncertain to make such investments at all. In
93 contrast others believe no controls should be installed because the units should be
94 shut down due to environmental concerns. Therefore, opinion varies from demanding
95 that no environmental controls are worth investing in at one end of the spectrum to
96 demands that the Company re-invent its entire fleet due to environmental concerns at
97 the other end of the spectrum.

98 **Q: Would you like to comment on the responses?**

99 A: Yes. While different in the particulars of the content, both responses communicate a
100 common message that the Company faces an impossible task in pleasing stakeholder
101 groups with diametrically opposed interests. Also implicit in the Company response is
102 the notion that some of the stakeholder groups, particularly the environmental groups, are
103 unreasonable and emotion driven rather than fact based. This is communicated through
104 the use of such words as "ardent" and "demanding." The implied message is to disregard
105 the testimony of unreasonable and emotionally-driven groups.

106 **Q: Do you recognize the position you took in direct testimony in either of the above**
107 **responses?**

108 A: Not explicitly. Presumably WRA is one of the interests: (1) expressing “ardent
109 environmental opposition to continued investment in coal fueled generation in the face of
110 ever evolving environmental regulations” in the case of Mr. Teply’s testimony and (2)
111 believing “no controls should be installed because the units should be shut down due to
112 environmental concerns” or demanding “that the Company re-invent its entire fleet due to
113 environmental concerns” in the case of Ms. Woollums’ testimony.

114 **Q: Do these characterizations reflect the testimony you submitted in this case?**

115 A: No. My testimony quite clearly addressed the need for comprehensive analysis to
116 affirmatively demonstrate the prudence in future proceedings of any further investments
117 in coal-fired generation. While I provided evidence demonstrating that at least some
118 coal-fired generation may become uneconomic in the future in support of my
119 recommendation that analysis be required for future rate recovery, I have not
120 predetermined the outcome of the studies I recommend.

121 **Q: Are you familiar with the testimony in this case related to the recovery of the costs**
122 **of pollution control retrofits?**

123 A: Yes. I have reviewed the direct and rebuttal testimony of all witnesses in this case who
124 address this issue. The Division of Public Utilities (DPU), the Office of Consumer
125 Services (OCS), the Utah Association of Energy Users (UAE), WRA, and the Sierra Club
126 all provided witnesses to address the cost recovery treatment of pollution control retrofits.

127 **Q: In contrast to the Company's characterization, please provide your own general**
128 **characterization of the parties' positions in this case.**

129 A: I understand that the spectrum of positions varies from full allowance to partial
130 disallowance to full disallowance of the costs of the pollution controls the Company
131 seeks to recover.³ However, I also find a common theme. Of the five intervenors
132 involved in this issue, three of the five, OCS, WRA, and the Sierra Club have explicitly
133 identified the need for comprehensive analysis that includes the costs of complying not
134 only with the Regional Haze Rule, but also with the proposed, expected and pending
135 environmental regulations, and UAE filed a petition with the Commission seeking an
136 order to compel the Company to provide the information it sought. Presumably the DPU,
137 too, sought better analysis since it hired an outside expert to help it evaluate the request
138 for recovery. Therefore common to all positions is the desire for evidence and analysis to
139 demonstrate the prudence of the coal-plant investments.

140 **III. PACIFICORP SHOULD AFFIRMATIVELY DEMONSTRATE THE PRUDENCE**
141 **OF ALL FUTURE INVESTMENTS IN ITS COAL FLEET THROUGH**
142 **COMPREHENSIVE ANALYSIS BEFORE BEING GRANTED FUTURE COST**
143 **RECOVERY**

144 **Q: How does this section respond to the rebuttal testimony of PacifiCorp's rebuttal**
145 **witnesses?**

³ WRA took no position regarding the allowance or disallowance of particular costs in this case in direct testimony. We became involved in the case primarily because we are dissatisfied with the conduct of the IRP to generate the type of information that the Commission needs to determine the prudence of planned and expected environmental retrofits in the future.

146 A: The rebuttal testimony of Company witnesses is quite broad. While Mr. Teply and Ms.
147 Woollums both state that their rebuttal testimony responds to my direct testimony as well
148 as to the direct testimony of other witnesses, the direct linkage is not always apparent.
149 This section uses information provided by PacifiCorp's rebuttal witnesses to demonstrate
150 that PacifiCorp's rebuttal testimony bolsters the position I took in direct testimony.

151 **Q: Please define what you intend the phrase "comprehensive analysis" to convey.**

152 A: Comprehensive analysis evaluates the costs and risks of additional and ongoing
153 investment and continued operation of all 19 of PacifiCorp's coal generation units against
154 the costs and risks of alternative courses of action. Coal fleet costs would include the
155 range of costs and risks associated with capital additions and the associated annual O&M,
156 including costs to comply with current, pending and potential environmental regulations;
157 escalating fuel costs; and regulation of carbon dioxide. Alternative courses of action
158 could include natural gas retrofit and/or earlier retirement and replacement with other
159 cleaner resources. Because the economic and political landscape is continually in flux,
160 comprehensive analysis is an ongoing and continuous process. As this landscape
161 changes, assumptions must be updated and planning decisions reevaluated in light of
162 those changes.

163 **Q: Why do you believe it is so important that proper and comprehensive analysis be**
164 **undertaken prior to further coal plant investment?**

165 A: Because the financial impacts of these decisions are so significant. The costs to comply
166 just with the Regional Haze Rule as identified in "PacifiCorp's Emissions Reduction

167 Plan” included with Mr. Teply’s direct testimony should trigger the question of whether
168 continued investment in an aging coal fleet is reasonable.⁴

169 **Q: How many units did PacifiCorp’s Emissions Reduction Plan indicate would require**
170 **Selective Catalytic Reduction (SCR) in order to comply with the Regional Haze**
171 **Rule?**

172 A: Five. The document indicates SCR is planned for the four Jim Bridger units and
173 Naughton 3.

174 **Q: Are there other indicators of the significant costs that may be required to comply**
175 **with current environmental regulations?**

176 A: Yes. Ms. Woollums provided testimony to the United States Senate Committee on
177 Environment and Public Works on June 15, 2011 that places in perspective, underscores,
178 and updates, the substantial costs that are yet to be spent to comply with current
179 regulations. I have attached her testimony as WRA Exhibit (NLK-SR1).

180 **Q: What financial information does her testimony provide?**

181 A: The financial information she provides to the Senate Committee is identical to the
182 financial information identified in “PacifiCorp’s Emissions Reduction Plan.” Ms.
183 Woollums indicates that PacifiCorp spent more than \$1.2 billion in capital dollars
184 between 2005 and 2010. The document states that the “total costs for all projects that
185 have been committed to will exceed \$2.7 billion by the end of 2022.” Total costs, which

⁴ Direct Testimony of Mr. Chad A. Teply, Docket No. 10-035-124, January 2011, Exhibit RMP_(CAT-1), page 1.

186 include capital, O&M, and other costs during the period 2005 through 2023 are expected
187 to exceed \$4.2 billion and by 2023 annual O&M costs will have reached \$360 million.⁵

188 **Q: How does her testimony place the substantial costs in perspective?**

189 A: To place the financial information identified above into perspective, Ms. Woollums
190 states: “PacifiCorp’s fossil steam generation units currently have a cumulative net value
191 (after depreciation) of approximately \$3.38 billion. Just compare that current value --
192 \$3.38 billion – to the estimated \$1.3 billion in additional environmental control project
193 capital costs PacifiCorp will spend between now and 2022, and that gives you a relative
194 sense of the cost of these emission controls to our customers.”⁶

195 **Q: What other information does she provide regarding the significance of potential**
196 **future regulations?**

197 A: She testifies that “recent discussions with the Utah and Wyoming Departments of
198 Environmental Quality suggest that EPA Region 8 believes it may be necessary, for
199 purposes of Regional Haze BART requirements, to install another five SCR in Wyoming
200 and four SCR in Utah, combined with the five planned installations, within a five-year
201 time period—potentially requiring 14 SCR by 2017 and an additional \$1.7 billion to \$2
202 billion in costs.”⁷ Ms. Woollums filed her rebuttal testimony in this docket on June 30,
203 2011, fifteen days after she submitted her testimony to the Senate Committee, but she did
204 not discuss this significant development.

⁵ Testimony of Cathy S. Woollums, Senior Vice President and Chief Environmental Counsel, MidAmerican Energy Holdings Company, to the Committee on Environment and Public Works, United States Senate, June 15, 2011, page 2.

⁶Ibid., page 3.

⁷ Ibid., page 10.

205 **Q: Does she mention recent discussions with the Utah and Wyoming departments of**
206 **Environmental Quality and EPA Region 8 in her rebuttal testimony?**

207 A: Yes. She does. In the context of rebutting Mr. Gebhart's testimony she states "in recent
208 discussion with EPA Region 8 and the Utah and Wyoming Departments of
209 Environmental Quality, EPA Region 8 has indicated its "rule of thumb" on cost
210 effectiveness of controls is \$5,000 per ton despite the guidance provided in 40 CFR Part
211 51, Appendix Y."⁸ It seems that Region 8's higher "rule of thumb" may be related to its
212 assessment that compliance with the Regional Haze Rule may require PacifiCorp to
213 install SCR on 9 additional units. In other words, it appears that Ms. Woollums rebuttal
214 testimony, filed 15 days after her Senate testimony, identifies the higher cost
215 effectiveness measure, but does not identify the possibility that EPA may require an
216 additional nine units to be retrofitted with SCR to meet the Regional Haze Rule.

217 **Q: Are there other factors that support the significance of the potential coal-plant**
218 **investments that may be required and that warrant the specific Commission**
219 **guidance you recommend?**

220 A: Yes. Ms. Woollums' testimony to the Senate Committee on Environment and Public
221 Works provides information on the impacts to PacifiCorp from the proposed Utility
222 Hazardous Air Pollutants (HAPS) Maximum Achievable Control Technology (MACT)
223 rule; Cooling Water Intake Structure Rule; Steam Electric Effluent Guidelines; and Coal
224 Combustion Residuals (CCR or Ash). The Cooling Water Intake Structure Rule would

⁸ Rebuttal Testimony of Cathy S. Woollums, Docket No. 10-035-124, June 30, 2011, lines 176-179.

225 most likely affect only Dave Johnston. However, the other rulemakings could have more
226 sweeping impacts.

227 With regards to the HAPS MACT, Ms Woollums states:

228 [I]n order to meet the emission reductions anticipated by the new
229 regulations, PacifiCorp must complete scrubber, baghouse, and mercury
230 emissions controls projects no later than fall of 2014 in order to comply
231 with the anticipated January 1, 2015 implementation date at a cost of
232 approximately \$1.26 billion (PacifiCorp's share). This capital cost
233 includes installation of mercury control at all PacifiCorp units, including
234 Carbon Unit 1 and 2 and Dave Johnston Unit 1 and Unit 2 at an estimated
235 \$12 million (PacifiCorp's share).

236 The units most at risk from the new HAPS MACT regulation are
237 unscrubbed units that do not have baghouses. These units (Carbon Units 1
238 and 2 and Dave Johnston Units 1 and 2) may need to be idled or converted
239 to natural gas (assuming it is available onsite) if the non-mercury metallic
240 HAPS and acid gas HAPS limits cannot be met through dry sorbent
241 injection, or other emergent low-cost technology solutions.⁹

242 With regards to Steam Electric Effluent Guidelines, Ms. Woollums states:

243 PacifiCorp has a number of wet scrubbers in its coal-fueled fleet which
244 produce waste water steams...as the effluent discharge requirements
245 become more and more stringent, the facilities which have discharges to
246 waterways will likely be required to either add wastewater treatment
247 facilities or redesign their process if possible to be a zero discharge
248 facility. The costs to comply with such a rule are expected to be high.
249 Wastewater treatment systems generally range from tens of millions of

⁹ Ibid., page 12.

250 dollars for a small facility, to a hundred million or more for a large
251 facility.¹⁰

252 With respect to CCR, Ms. Woollums tells the Senate Committee:

253 Under the two primary options under consideration by EPA, CCR disposal
254 practices will be impacted significantly and result in significant
255 compliance costs, may lead to the closure of existing disposal facilities,
256 and may threaten continued CCR beneficial use....the regulation of CCR
257 under either of the EPA's primary options would have a significant impact
258 on the methods that PacifiCorp typically employs to manage its ash.
259 Currently, Carbon, Hunter, and Huntington do not have any wet surface
260 impoundments at the facilities. The remaining coal-fueled units, however,
261 sluice ash and scrubber waste to on-site surface impoundments. In
262 addition, if CCR is ultimately designated as a hazardous waste, the
263 beneficial use market could evaporate and eliminate the over \$3.5 million
264 PacifiCorp receives each year on average from this commodity. The loss
265 of the beneficial use market would also increase disposal costs and
266 dramatically increase the rate at which monofills are filled.¹¹

267 **Q: What does Ms. Woollums' testimony to the Senate Committee on Environment and**
268 **Public Works indicate to you?**

269 A: The environmental retrofits required to bring PacifiCorp's coal fleet into compliance with
270 existing, proposed and pending regulations required under the Clean Air Act, Clean
271 Water Act and Resource Conservation and Recovery Act will be substantial.
272 PacifiCorp's request for the recovery of retrofit costs included in this case is but the tip of
273 the iceberg.

¹⁰ Ibid., page 13-14.

¹¹ Ibid., page 14.

274 **Q: Please provide a brief review of your direct testimony related to escalating coal**
275 **prices.**

276 A: I commented that coal costs are on the rise and likely to continue to escalate as long-term
277 contracts expire and coal producers are unwilling to enter new contracts with the length
278 and favorable terms that coal customers once enjoyed. I noted that the industry already
279 experienced this phenomenon in the natural gas markets roughly a decade ago and
280 commented that since the long-term contracts expired, natural gas prices have been
281 significantly higher and more volatile than they had previously.

282 **Q: Did anyone rebut your testimony?**

283 A: No. They did not.

284 **Q: What did you conclude regarding the long-run economic viability of coal-fired**
285 **generation?**

286 A: I observed that coal-fired generation may not be a “low-cost” resource and certain units
287 may become uneconomic to operate. I concluded that for at least some units, early
288 retirement and replacement with cleaner resources may be a better option than ongoing
289 investment.

290 **Q: Which PacifiCorp witness directly responds to your observation?**

291 A: Mr. Teply claims that coal-fired generation is “least-cost.” He provides four limited
292 studies to demonstrate this claim.

293 **Q: What does PacifiCorp rebuttal witness Woollums say in that regard?**

294 A: Ms. Woollums' testimony to the Senate Committee on Environment and Public Works
295 recognizes the potential that coal-fired generation may become uneconomic in the future.
296 For example, Ms. Woollums states: "The Department of Energy estimates that between
297 35-70 gigawatts will shut down nationwide as a result of EPA's new rules. Similarly, a
298 recent study by National Economic Research Associates ("NERA") estimates that 47.8
299 gigawatts of coal-fueled electricity capacity will likely be uneconomic and retire by
300 2015."¹² And, as I quoted above, Ms. Woollums testified that Carbon Units 1 and 2 and
301 Dave Johnston Units 1 and 2 "may need to be idled."¹³

302 **Q: Does Ms. Woollums address any concern regarding the effect of evolving regulations**
303 **in her testimony before the Senate Committee on Environment and Public Works?**

304 A: Yes. In the context of discussing the National Ambient Air Quality Standards she
305 comments that EPA's intention to allow the Rule for SO₂ and NO_x to evolve could result
306 in "significant stranded investments."¹⁴

307 PacifiCorp has not provided any analysis in this case of the potential for stranded
308 investments. However, in response to WRA Data Request 5, PacifiCorp provided a log
309 of documents that it considered subject to attorney client privilege. The data request and
310 confidential privilege log are attached as WRA Confidential Exhibit (NLK-SR2).

311 **Q: Has PacifiCorp provided analysis in any other forum you are familiar with**
312 **supporting the possibility that investments may become stranded or units idled?**

¹² Ibid., page 3.

¹³ Ibid., page 12.

¹⁴ Ibid., page 9.

313 A: I have seen no actual analysis, qualitative or otherwise, to support these statements.
314 However, the 2008 IRP Update discusses this possibility with respect to greenhouse gas
315 legislation, so it would seem some analysis has been undertaken:

316 Relatively speaking, the potential requirements to reduce greenhouse gas
317 emissions could have a profound impact on PacifiCorp's generation fleet.
318 In the near term (e.g., through at least 2020), to reach emissions caps
319 proposed in the federal bills, PacifiCorp would need to consider
320 converting coal units to burn natural gas and retiring other coal units and
321 replacing them with lower carbon emitting resources and expanded DSM.
322 In the longer term, replacement of baseload fossil-fueled plants with non-
323 emitting baseload resources currently in development (e.g., carbon
324 sequestered thermal units, new generation nuclear units, and renewable
325 generation supplemented with batter storage) will be necessary to achieve
326 reductions targets such as those in the federal bills, assuming continuation
327 of the energy policy that requires that electric utilities provide service on
328 demand in the quantity demanded.¹⁵

329 **Q: But hasn't PacifiCorp taken steps to position itself to mitigate the potential for**
330 **"profound impacts on PacifiCorp's generation fleet"?**

331 A: No, in fact PacifiCorp has done the opposite, which exacerbates my concern. The
332 resource acquisition plan identified in the 2008 IRP Update increases the exposure to
333 these risks by eliminating and delaying the renewable resources that could best mitigate
334 the identified risk. As compared to the 2008 IRP, the Update eliminated 482 MW of
335 wind, 121 MW of Class 1 and 2 DSM, 46 MW of distributed standby generation, 43 MW
336 of CHP, and 35 MW of geothermal. The wind that remained in the plan is added late in

¹⁵ PacifiCorp 2008 Update, Integrated Resource Plan, March 31, 2010, page 21.

337 the planning period, providing a much smaller fuel cost risk mitigation.¹⁶ And as WRA
338 Exhibit (NLK-1) attached to my direct testimony indicates, the current 2011 IRP
339 produces a highly similar resource acquisition plan.

340 **Q: But isn't it possible that despite the potential for significant additional cost, coal-**
341 **fired power will be the most economic resource on PacifiCorp's system?**

342 **A:** It is possible, but unlikely. Coal-fired power is not now and never has been a "low-cost"
343 resource. For years, coal-fired generation has been considered "low-cost" simply
344 because the prices paid for the commodity have not internalized the detrimental affects to
345 human health, animal and plant life, land quality, air quality, water quality, scenic values,
346 etc. The current EPA rulemakings are intended to bring the utility sector into compliance
347 with the Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Acts
348 passed by Congress to protect health and quality of life. The EPA regulations
349 appropriately shift some of the cost burden from the broader population to those who
350 benefit directly from the power generated. By so doing, better price signals and
351 incentives result.

352 **Q: You earlier mentioned Ms. Woollums concern with evolving rulemaking and the**
353 **potential for stranded investment. Did any other PacifiCorp witness address the**
354 **effect of evolving regulations?**

¹⁶ Comments of Western Resource Advocates, In the Matter of the Acknowledgement of PacifiCorp's 2008 Integrated Resource Plan, Docket No. 09-2035-01, June 15, 2010, page 2.

355 A: Yes. Mr. Sprott states “having to upgrade or install additional equipment for future
356 requirements is exactly what I would expect.”¹⁷

357 **Q: What does the information from these PacifiCorp rebuttal witnesses indicate to**
358 **you?**

359 A: This testimony underscores my recommendation that PacifiCorp be required to
360 affirmatively demonstrate the prudence of all future investments in its coal fleet through
361 comprehensive analysis before being granted future cost recovery.

362 **Q: Which rebuttal witness addresses your critique of the coal-retirement study that**
363 **was produced as part of the 2011 IRP?**

364 A: Mr. Teply confirms my description of the study’s modeling, and, thereby, confirms my
365 statement that the study did not evaluate ongoing investment versus retirement, as his
366 direct testimony claimed was the appropriate role for IRP. He did not address the public
367 input process that I described as troubling.

368 **Q: Which witness addresses your recommendation that the Commission open a**
369 **separate docket to oversee the development of a comprehensive analysis?**

370 A: Mr. Teply states that because environmental information will be updated with the
371 business planning cycle, and because the “Company’s intent is to continue to include and
372 refine its modeling and evaluation tools in this regard” a separate docket is not needed.

373 **Q: Do you believe a separate docket would be duplicative?**

¹⁷ Errata Rebuttal Testimony of Richard W. Sprott, Environmental Controls Investments, Docket No. 10-035-124, July 12, 2011, lines 760-761.

374 A: No. I believe it is necessary if the Commission is to have available to it the information it
375 needs to determine the prudence of future investments in the coal fleet. The
376 Commission's ability to thoroughly examine the many assumptions that drive results in
377 such studies is critical to a determination of prudence. This analysis, both quantitative
378 and qualitative, must be available and able to be filed with the Company's initial case
379 seeking cost recovery.

380 Ideally, this evaluation would be undertaken as part of the IRP where the assumptions
381 and modeling methods can be publicly vetted. Indeed, PacifiCorp's IRP capacity
382 expansion modeling tool, System Optimizer, has the capability to optimize generation
383 retirements as well as new resources.¹⁸ The IRP PAR model analyzes statistical risk, and
384 uncertainties can be described and analyzed using both models.¹⁹

385 However, as discussed in my direct testimony, experience with IRP, generally, and the
386 coal retirement scenarios that were conducted as part of the 2011 IRP, particularly,
387 demonstrate that the essential analysis is unlikely to be produced within the IRP forum.
388 Indeed, during the July 12, 2011 Modeling Tutorial that PacifiCorp conducted to fulfill a
389 Commission Order, Pete Warnken, Manager of Integrated Resource Planning, expressed
390 doubt that the IRP was the appropriate venue to examine resource retirement despite the
391 modeling capability of System Optimizer. He commented that generally the IRP is used
392 to determine new resource acquisition, not optimize retirement.

¹⁸ Information from July 12, 2011 IRP Model Tutorial.

¹⁹ Risk has a statistical distribution based on historical observation. Uncertainty breaks with the experience of the past.

393 For these reasons, I recommend that the Commission open an investigative docket to
394 develop, at a minimum, the types of questions that would be answered by a
395 comprehensive evaluation of the economic viability of the coal fleet given the risks and
396 uncertainties faced by the industry, a description of the results that would be sought, and
397 modeling approaches to achieve those results. After this body of information is
398 developed and provided to the Commission, the Commission could determine how next
399 to proceed. Options could include: (1) an order providing guidance to the Company
400 regarding the type of analysis that must be conducted and the information that must be
401 provided to receive recovery of costs related to new investment in its coal-fired units in
402 any future rate proceeding; (2) an order directing the Company and docket participants to
403 proceed with the study analysis within the docket; (3) an order directing Company to
404 undertake the analysis as part of the IRP process; (4) some combination of the above.

405 **III. CONCLUSION AND RECOMMENDATON**

406 **Q: Please summarize your conclusion and recommendation.**

407 A: Comprehensive analysis of the economic viability of each unit in the coal fleet is needed
408 to evaluate the prudence of any future investment in coal-fired generation.

409 My recommendation is twofold.

- 410 • I recommend the Commission make clear in this rate case order that failure to provide
411 continuing comprehensive analysis to support future requests for cost recovery of
412 pollution control investments will result in disallowance.

413 • Second, I recommend the Commission open an investigative docket to oversee the
414 development of a comprehensive evaluation of the economic viability of the coal fleet
415 and instruct the Company to include comprehensive analysis in its next IRP in order
416 to receive acknowledgement.

417 **Q: Does this conclude your testimony?**

418 A: Yes. It does.