

Stephen F. Mecham (4089)  
CALLISTER NEBEKER & McCULLOUGH  
Gateway Tower East Suite 900  
10 E. South Temple  
Salt Lake City, Utah 84133  
Telephone: (801) 530-7300  
Facsimile: (801) 364-9127

-BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH-

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In the Matter of the Application of  
PacifiCorp for a Certificate of Convenience  
and Necessity Authorizing Construction of  
the Currant Creek Power Project

Docket No. 03-035-29

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**PRE-FILED DIRECT TESTIMONY OF THEODORE T.  
BANASIEWICZ FOR SPRING CANYON ENERGY LLC**

February 4, 2004

**Spring Canyon Exhibit 2**

1 **Q. Please state your name and business address.**

2 **A.** My name is Theodore T. Banasiewicz and my business address is 31585 Runaway Place,  
3 Steamboat Springs, Colorado 80477.

4 **Q. By whom are you employed and for whom are you appearing in this proceeding?**

5 **A.** I am a Principal of USA Power, LLC and I am appearing for Spring Canyon Energy,  
6 LLC (Spring Canyon). Spring Canyon is wholly owned by USA Power Partners, LLC  
7 and was formed to construct a 525 MW Combined Cycle power plant close to Mona,  
8 Utah. USA Power, LLC is one of the participants in the Spring Canyon project. Spring  
9 Canyon responded to PacifiCorp's Request for Proposals (RFP) issued June 6, 2003.

10 **Q. What is your experience and educational background?**

11 **A.** I hold a Chemical Engineering degree from Clarkson University and a Master of  
12 Business Administration from Rensselaer Polytechnic Institute. I have been involved in  
13 the power industry my entire career. My career began with power plant startup and  
14 testing experience. I moved into the area of management consulting in the utility practice  
15 of Price Waterhouse. I have worked in the power plant development business since 1989  
16 having worked for the affiliates of two public utilities.

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

18 **A.** I describe several problems associated with PacifiCorp's Request For Proposals ("RFP")  
19 process and I describe several flaws in PacifiCorp's evaluation of the proposals, which  
20 when corrected change the results of the evaluation. I show that Spring Canyon's bids  
21 provide better economics than PacifiCorp's Next Best Alternative ("NBA" or "Currant  
22 Creek") proving that PacifiCorp did not select the least cost alternative.

23

24 In brief, the flaws in PacifiCorp’s evaluation of Spring Canyon in comparison to the  
25 NBA follow below:

- 26 1. The NBA achieves an inappropriate PVRR value from higher escalation rates used  
27 during the last 18 years of its 38-year term versus the lower escalation rates used  
28 during the 20-year Spring Canyon evaluation;
- 29 2. The NBA achieves an inappropriate PVRR value from utilizing a dispatch  
30 methodology that is very different than the dispatch methodology used to evaluate  
31 Spring Canyon;
- 32 3. The evaluation process does not include the value associated with the transfer of the  
33 facility at the end of the term of the power contact to PacifiCorp at a value that could  
34 have been as low as \$1.00;
- 35 4. In evaluating the Spring Canyon Bid No. 135, PacifiCorp uses the wrong values for  
36 the output, availability, heat rate and capacity charge and other aspects of Spring  
37 Canyon and when the correct values are used there is a significant improvement in  
38 the PVRR of Spring Canyon;
- 39 5. PacifiCorp uses an enormous amount of duct-firing<sup>1</sup> in the NBA model; far in excess  
40 of the limits described in the Navigant Consulting reports and PacifiCorp’s Integrated  
41 Resource Plan (“IRP”), far in excess PacifiCorp’s air permit application, and far in  
42 excess of industry standards, and when this excess is removed, there is a large  
43 deduction in the PVRR of the NBA; and
- 44 6. PacifiCorp has used values in the NBA model for operation and maintenance (O&M)  
45 that are too low according to General Electric (manufacturer of the NBA proposed

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<sup>1</sup> Duct firing is supplemental firing of the gas turbine exhaust by adding more natural gas to the exhaust. This creates additional steam which further drives the steam turbines and produces additional electricity. Duct firing components are relatively inexpensive compared to other forms of generating electricity but it is much less efficient.

46 equipment) and when the appropriate values are included, the PVRR is significantly  
47 reduced.

48 As a result, the PVRR of the NBA is overstated and should have been reported as  
49 -\$205.7 million on a 38-year basis (rather than -\$46.2 million as PacifiCorp reported) and  
50 -\$146.5 million on a 20-year basis (rather than -\$33.1 million as PacifiCorp reported).  
51 The PVRR of Spring Canyon's Bid No. 135 should have been reported as -\$72.7 million  
52 (rather than -\$195.9 million as PacifiCorp reported) to the PSC.

53 In other words, Spring Canyon's Bid No. 135 has a better PVRR than the NBA and if  
54 PacifiCorp had properly evaluated Bid No. 653, it would have discovered as we have,  
55 that Bid No. 653 has an even better PVRR than our Bid No. 135.

56  
57 When you stop and think about it, my adjusted valuations make sense if you remove the  
58 over-complicated analysis of the two very different models and think about the  
59 fundamentals. As Mr. Graeber's testimony shows, Spring Canyon's Bid No. 135 has a  
60 lower overall capital cost and a financing structure, which when combined requires the  
61 equivalent of a 7.07% rate of return versus the 7.50% required by PacifiCorp's financing  
62 structure. Spring Canyon is also more efficient which means it uses less fuel to produce  
63 the same amount of electricity and Spring Canyon has a lower variable operation and  
64 maintenance ("O&M") cost (i.e. \$3.29/Mwh for the NBA and \$3.21/Mwh for Spring  
65 Canyon Bid No. 653). Combining a higher efficiency with a lower variable cost yields a  
66 lower marginal cost for Spring Canyon. Therefore, Spring Canyon should dispatch more  
67 often and run longer than the NBA. Spring Canyon has a higher availability that is  
68 guaranteed. Fixed O&M which is comprised largely of salaries, property tax and

69 administrative costs should be nearly the same for Spring Canyon and the NBA; after all  
70 they are both located in Juab County immediately adjacent to Mona substation and utilize  
71 the same technical configuration. These fundamentals suggest that Spring Canyon is a  
72 cheaper source of reliable electricity than the NBA and should have a better PVR.

73

74 I will summarize the issues regarding the process below:

75 1. If the power contract were awarded according to the RFP timeline, Spring Canyon  
76 had the ability to achieve commercial operation by June 2005, (422 Mw with Bid No.  
77 135 and 527 Mw with Bid No. 653) and the process did not place a value on Spring  
78 Canyon's ability to do so;

79 2. When it became apparent that the delay in PacifiCorp's process would cause a delay  
80 in completion, Spring Canyon developed the ability to provide replacement power  
81 beginning in June 2005 for the period of delay caused by PacifiCorp and PacifiCorp  
82 did not include this ability in the evaluation of Spring Canyon;

83 3. The process eliminated Spring Canyon's most economical bid even though it was a  
84 near duplicate of the NBA in terms of design and dispatchability;

85 4. The process is being disregarded as PacifiCorp goes outside the RFP in an attempt to  
86 secure long-term generation resources while ignoring the most attractive results of  
87 the RFP (they say that the RFP allows them to do this, but why go to the cost, effort  
88 and timing constraints of the RFP if they do not have to respect the bids received  
89 under the RFP? If it is true that they can go outside the RFP, the RFP process is a  
90 sham and exists just to justify the NBA to the Commissioners);

- 91 5. The process ignores the value associated with a completely developed project such as  
92 Spring Canyon (that has the ability to complete construction in a timely manner since  
93 all principal construction permits have been issued) allowing virtual projects such as  
94 the NBA to be viewed with the same level of risk and credibility;
- 95 6. The process ignores the value of several aspects of Spring Canyon's bids including  
96 the value associated with guaranteed plant performance; and
- 97 7. The process allows the use of a model which: a) predicts NBA dispatch levels that  
98 are inconsistent with their own IRP, b) selects a resource that is inconsistent with the  
99 planned resource needs, and c) which provides far less dispatch for Spring Canyon  
100 even though Spring Canyon is more efficient and has lower marginal cost than the  
101 NBA.

102 **Q. Do you believe that the model(s) that PacifiCorp used to compare the economics of**  
103 **the NBA against Spring Canyon were appropriate?**

104 **A.** No. PacifiCorp recently completed an Integrated Resource Plan (IRP) and more recently  
105 issued a revised IRP. The revised IRP, on Page 14, reports that the 2005 resource  
106 deficiency is well over 1,000 Mw. Yet the model used to evaluate the NBA shows that  
107 the NBA provides only 251 MW for only four months (June, July, August and  
108 September) of calendar 2005 and for only 8 hours each day. In this model, the NBA  
109 does not operate again until April 2006. For the process to maintain credibility, the  
110 model which evaluates the NBA should predict the same level of dispatch as was  
111 predicted by the system-wide models used in the IRP process, which determined the  
112 generation resource needs.

113

114 Furthermore, the resources selected (i.e. Currant Creek) do not match the resource needs.  
115 The RFP requested 425 Mw of “peaking power” resources. This was divided into 200  
116 Mw of peaker (defined as “*a resource that can be dispatched at least daily*”) and 225  
117 Mw of super peak (defined as “*a resource that can deliver during predefined hours*”).  
118 During the RFP process, PacifiCorp sent an e-mail to all of the prospective bidders  
119 stating that they would entertain offers for commitments well in excess of this amount on  
120 account of its revised load forecast for Utah, which suggested an additional need for  
121 peaking resources beyond that which had been identified in the original IRP. This is  
122 confirmed on Page 21 of the Navigant Consulting report dated November 7, 2003. The  
123 revision to the IRP increased the estimated generation need yet again. With testimony by  
124 PacifiCorp that the 2005 generation resource deficiency is over 1,000 Mw and with  
125 further testimony by PacifiCorp that black/brown outs will be likely if Currant Creek  
126 does not begin construction in January 2004, it is difficult to understand how the  
127 selection of Currant Creek facility and its 251 Mw will keep the lights on in Utah. The  
128 process lacks credibility when only 25% of the needed resources are selected and that  
129 selection is the maximum that can be provided by PacifiCorp in that timeframe. If we  
130 assume that the latest IRP is valid, then PacifiCorp must select additional resources,  
131 otherwise the RFP process cannot be considered to be valid.

132

133 While it is disconcerting that the model which PacifiCorp uses to evaluate the NBA has  
134 selected resources that do not match the need, it is also disturbing that the model  
135 dispatches the NBA in a very different way than the model used to evaluate Spring  
136 Canyon. While Mr. Olive of Quixx Corporation will explain the ramifications of this in

137 his testimony, an example here is appropriate. After the first few years, the NBA is  
138 dispatched, including duct-firing, almost 24 hours per day, 7 days a week. At the same  
139 time Spring Canyon's Bid No. 135 is dispatched only 16 hours per day, 7 days a week.  
140 The incremental power generated by the NBA duct burners operate at an approximate  
141 heat rate of 9,400 Btu/kwh whereas Spring Canyon Bid No. 135 has a more efficient heat  
142 rate of approximately 7,000 Btu/kwh. The NBA model loses credibility when it  
143 dispatches the significantly more inefficient NBA duct burner while at the same time  
144 does not dispatch a significantly more efficient Spring Canyon. Furthermore, in its  
145 evaluation of Bid No. 653, PacifiCorp limits duct firing to 1,500 hours per year whereas  
146 it allows the NBA duct burners to fire an average of more than 7,000 hours per year after  
147 2009. Any model that predicts duct firing at the level and duration of the NBA is  
148 seriously flawed. Competitive market forces would provide additional combined cycle  
149 generation resources and would eliminate any possibility that inefficient duct burners  
150 would fire that often. We contacted the EPA to confirm this and discovered that the  
151 typical duct burner in the United States operates less than 15% of the time or less than  
152 1,300 hours per year. We believe that the estimate of 1,500 hours in the Spring Canyon  
153 Bid No. 653 model is a good approximation of market needs; however, the assumption in  
154 the NBA model grossly over-estimates the PVRR of the NBA. We are astonished that  
155 Navigant Consulting did not discover this inequity during their audit especially since the  
156 PacifiCorp IRP in Chapter 5, Page 74, states "It is expected that environmental  
157 constraints may limit the capacity factor of installed duct-firing to an equivalent of 15%  
158 capacity factor."



159 **Q. In his testimony, Mr. Graeber explained that the comparison between Currant**  
160 **Creek and Spring Canyon was unfair because Currant Creek has been**  
161 **inappropriately analyzed over 38 years while Spring Canyon has been limited by**  
162 **a 20-year analysis. Can you expand on Mr. Graeber's Testimony with regard**  
163 **to issues associated with comparability?**

164 **A.** Yes. The evaluation process used by PacifiCorp inappropriately favors the NBA facility  
165 by utilizing a forward price curve for estimating future electricity prices which makes the  
166 assumption that prices remain relatively flat for the first 20 years, then escalates rapidly  
167 for the next 18 years. By evaluating Currant Creek over 38 years, PacifiCorp captures  
168 the very high assumed values for electricity in the remaining 18 years to improve the  
169 PVRR value of the NBA. PacifiCorp uses one methodology to forecast future electricity  
170 values through 2020, which results in an average yearly price escalation of 1.9%. For  
171 years beyond 2020, PacifiCorp switches to a different methodology, which uses a 3%  
172 yearly price escalator. Mr. Olive will explain this concept in his testimony utilizing  
173 several graphs he has prepared drawing information from PacifiCorp's forward price  
174 curve used in the NBA model.

175 **Q. Are there other reasons that it is inappropriate for PacifiCorp to analyze Currant**  
176 **Creek over 38 years while the Spring Canyon evaluation is limited to a 20-year**  
177 **analysis?**

178  
179 **A.** Yes, PacifiCorp has very clearly stated in the materials from their June 20, 2003 Pre-bid  
180 Conference, Page 15 and in the RFP Page 9, Table II that the commodity being sought  
181 was a 20-year product, not a 38-year product. This is further confirmed in the Navigant

182 Consulting report titled “Review and Audit of PacifiCorp’s Screening Review Process  
183 for RFP 2003-A” dated November 7, 2003, Page 21. PacifiCorp has obtained a distinct  
184 advantage by attempting to limit all bidders in these RFP publications, including Spring  
185 Canyon to a 20-year product. The operative wording of the RFP states: “*Peaker Term*  
186 *from~April 2005 (but not later than June 1, 2005) through up to 20 years.*” Readers and  
187 bidders would interpret those statements as meaning that a limited term of only 20 years  
188 was available. Furthermore, Spring Canyon requested a power contract with a term  
189 longer than 20 years during in the first discussion with PacifiCorp subsequent to being  
190 short-listed. Spring Canyon was informed that 20 years was the maximum that  
191 PacifiCorp was willing to consider. The July 22, 2003 Navigant Consulting Inc. report  
192 titled “Review and Audit of PacifiCorp’s Next Best Alternative,” states on Page 7 that  
193 one of Navigant Consulting’s roles was to “*validate that the NBA model components*  
194 *were consistent with what was being requested of bidders.*” Yet Table C of the report,  
195 which lists all of the categories Navigant Consulting Inc. used to “*validate the*  
196 *consistency of the NBA and the RFP,*” does not include any mention of the term of the  
197 resource! PacifiCorp did not allow Spring Canyon to bid a product longer than twenty  
198 years which limits the PVRR of Spring Canyon, yet they include the additional value  
199 associated with the extra 18 years in the NBA model. Again, it is astonishing that  
200 Navigant Consulting remains silent with regard to this incredibly important evaluation  
201 issue.

202 **Q. Under what circumstances would it be appropriate for the NBA to be evaluated**  
203 **over 38 years?**

204 A. Given that Spring Canyon was desirous of bidding a term longer than 20 years; the only  
205 justification for a 38-year analysis of the NBA would be for PacifiCorp to have included  
206 the value associated with transferring ownership of Spring Canyon to PacifiCorp at any  
207 point up to the end of the tolling agreement. In the pre-bid conferences, PacifiCorp  
208 stated that it would “*find value*” in a bid that provided PacifiCorp with the option to  
209 purchase the bidder’s facility. While the RFP requested a specific price, it also stated  
210 that “*price and non-price issues*” would be negotiated subsequent to being short listed.  
211 Also, during the Pre-Bid Conference held in Portland on June 20, 2003, PacifiCorp, in its  
212 presentation lead by Mark Tallman, identified several transaction structures (slides 15,  
213 16, 17) including “*PPA, tolling lease, turn-key sale, equity participation, etc.*” that  
214 would be negotiated. Following the parameters of the RFP, Spring Canyon did not, in its  
215 response, state a specific price because the value of the facility changes over time.  
216 However, Spring Canyon did state on Page 7 of Section 1 of the bid response a  
217 willingness to, in good faith, negotiate the sale of the facility to PacifiCorp at any time.  
218 During several discussions with PacifiCorp, Spring Canyon restated its willingness to  
219 sell the facility to PacifiCorp; however, PacifiCorp was unwilling to engage in this  
220 negotiation. With a firm and undeniable understanding of Spring Canyon’s willingness  
221 to transfer the facility, PacifiCorp should have included the value that such a transfer  
222 would provide to the rate payer and, without doing so, the PVRR of Currant Creek is  
223 inappropriately enhanced while that of Spring Canyon is inappropriately degraded.  
224 Without including the transfer of Spring Canyon in the PVRR analysis, it is  
225 inappropriate for the process to allow Currant Creek to benefit from the 38-year analysis  
226 while Spring Canyon is limited to a 20-year analysis.

227 **Q. Since you and the other owners of Spring Canyon were willing to sell the Spring**  
228 **Canyon project to PacifiCorp, what would have been the appropriate transfer value**  
229 **that PacifiCorp should have used to estimate the value to ratepayers?**

230 **A.** \$1.00. As Mr. Graeber testified, PacifiCorp did not negotiate in good faith. Had  
231 PacifiCorp conducted good faith negotiations as they stated in their RFP, they would  
232 have discovered that the owners of Spring Canyon were willing and are still willing to  
233 transfer the Spring Canyon facility to PacifiCorp at the end of the 20-year tolling  
234 agreement for a total purchase price of \$1.00. PacifiCorp should re-calculate the PVRR  
235 of Spring Canyon with this assumption and allow everyone to understand how much  
236 PacifiCorp was willing to “leave on the table” in order to inappropriately enhance the  
237 PVRR of the NBA. While Spring Canyon is willing to essentially give the facility to  
238 PacifiCorp after twenty years, it is important to understand that Spring Canyon was  
239 willing to negotiate the sale of the facility at anytime.

240  
241 In addition to being a comparability issue, the fact that PacifiCorp did not negotiate in  
242 good faith is also a process issue. The RFP stated that PacifiCorp intended to negotiate  
243 price and non-price issues with bidders subsequent to being short-listed. Believing that  
244 PacifiCorp would negotiate in good faith, Spring Canyon continued to anticipate further  
245 discussions right up until the announcement that Currant Creek had won. In the  
246 Navigant Consulting report dated November 7, 2003, Page 25 states “*Once PacifiCorp*  
247 *began bi-lateral negotiations with those short-listed parties, the evaluation models were*  
248 *updated to incorporate adjustments and clarifications bidders had the opportunity to*  
249 *make to their offers.*” This gives some indication of the lack of negotiations. They were

250 limited to PacifiCorp asking “*is this your best offer?*” The process was ineffective in that  
251 there was no motivation for PacifiCorp to negotiate since by doing so, it would reduce  
252 the likelihood of their Currant Creek project winning the bid. When Spring Canyon re-  
253 stated its desire to negotiate to transfer the facility, the response was “*duly noted,*” which  
254 was promptly ignored by PacifiCorp. An effective and appropriate process would have  
255 included the responsibility and the motivation to negotiate in good faith.

256 **Q. Doesn’t the use of the Real Levelized Revenue Requirement methodology correct**  
257 **for the problems associated with the whole concept of 38 years versus 20 year?**

258 **A.** No, but before I get to the reason, I submit that it is inappropriate to use the Real  
259 Levelized Revenue Requirement methodology to compare Currant Creek with Spring  
260 Canyon. Referring to Appendix J of the PacifiCorp Integrated Resource Plan, the use of  
261 the Real Levelized Revenue Requirement methodology is a legitimate method to analyze  
262 different types of resource assets with different design lives (i.e. pulverized coal with a  
263 design life of 40 years versus a combustion turbine which has a design life of 25 years).  
264 However, Appendix J leads us to conclude that similar type assets with similar design  
265 lives that go into service at a similar time should not be compared utilizing the Real  
266 Levelized Revenue Requirement methodology.

267  
268 To this end, Appendix J, Page 352 includes a section titled “Nominal Revenue  
269 Requirements Inadequate for Comparison.” The first paragraph of this section states that  
270 “*Nominal capital revenue requirement is limited in its ability to adequately compare one*  
271 *type of resource asset against another.*” In other words, the real levelized method must  
272 be used when the assets being compared are not the same type. The paragraph goes on to

273 say that *“This is particularly true when the resources being compared have lives of*  
274 *different lengths, or if the resources are placed in service in different years.”* This seems  
275 to confirm that Currant Creek and Spring Canyon should be compared using Nominal  
276 Revenue Requirements since they are both gas-fired combustion turbine combined cycle  
277 facilities and both go into service at the same time. An argument could be made for  
278 using the Real Levelized method since PacifiCorp views Spring Canyon as a 20-year  
279 product and Currant Creek as a 38-year product, except that Appendix J declares that the  
280 design life of combustion turbines is 25 years rather than the 38 years that PacifiCorp has  
281 used in the NBA model. As mentioned earlier, Spring Canyon had requested a contract  
282 term longer than 20 years and was denied. According to PacifiCorp’s IRP, the Currant  
283 Creek evaluation should be limited to 25 years (the design life of combustion turbines).  
284 Additionally, the Spring Canyon evaluation should be expanded to 25 years and as a  
285 result, the Nominal Revenue Requirements method should be used to evaluate both  
286 Currant Creek and the Spring Canyon bids.

287  
288 However, if the Real Levelized Revenue Requirement methodology is used, the results  
289 are only as good as the assumptions that are used. The Real Levelized Revenue  
290 Requirement methodology does not correct for the inappropriate assumptions that Mr.  
291 Olive has described. These include the higher escalation rates for electricity prices after  
292 the Spring Canyon 20-year term has expired and the use of different dispatch and pricing  
293 methods. Also the maintenance assumptions that PacifiCorp has used in the NBA model  
294 are not valid for a 38-year period. If enough maintenance is performed, then a  
295 combustion turbine will operate for 38 years; however, PacifiCorp does not allocate

296 enough money to properly maintain the turbines for 38 years. These inappropriate  
297 assumptions result in higher than appropriate nominal values and these values carry over  
298 to the Real Levelized values. It is easily verified that replacing the high escalation rates  
299 in the last 18 years of the NBA evaluation with the same escalation factors from the first  
300 20 years will reduce the PVRR of the NBA.

301 **Q. Are there other ways that you believe that the Spring Canyon evaluation was**  
302 **inappropriate?**

303 **A.** Yes, PacifiCorp has made several very significant errors in the calculation of the Spring  
304 Canyon PVRR. The errors affect each of the six components of the Spring Canyon  
305 PVRR. In order to remind everyone of the results, I have included Table 1, PVRR  
306 Comparison of Spring Canyon and Currant Creek. This table includes the six  
307 components of the Spring Canyon Bid No. 135 PVRR and the eight components of the  
308 NBA PVRR, for both the 38-year and 20-year PVRR as PacifiCorp has reported them.  
309 As PacifiCorp has calculated the PVRR, Spring Canyon loses by a lot; -\$195.9 million  
310 for Spring Canyon and -\$33.1 million, (-\$46.2 million for the 38-year PVRR) for the  
311 NBA. But this changes dramatically as I make corrections to several errors.

312  
313 First in its evaluation of Spring Canyon's Bid No. 135, PacifiCorp has used inappropriate  
314 values for output and availability. In its bid response, Spring Canyon provided the  
315 facility output corrected to various temperatures ranging from -10°F to 105°F. As I will  
316 discuss later, one of several reasons that Spring Canyon had selected Utility Engineering  
317 to construct the facility was that it had recently completed the construction of a nearly  
318 duplicate facility in terms of design and this facility is located at nearly the identical

319 elevation as Spring Canyon. As a result, Spring Canyon is certain of the accuracy of the  
320 values in Table 1 of Section 2 of its bid response. Those without this important  
321 experience will be relying on engineering models which are not as reliable as actual  
322 experience.

323  
324 In order to run a monthly model as PacifiCorp does, values for average monthly facility  
325 output are required since gas turbines produce different outputs at different temperatures.  
326 PacifiCorp explained during discovery meetings that the values from Table 1 of our bid  
327 response were adjusted by interpolation for the monthly temperatures; however, upon  
328 further evaluation, it was discovered that PacifiCorp had “short-changed” Spring Canyon  
329 in the process. The attached Table 2, Corrected Spring Canyon Facility Output, shows  
330 the output that PacifiCorp has used for each month of the first year in their evaluation of  
331 Spring Canyon’s Bid No 135. The next column shows the average monthly temperature  
332 that PacifiCorp used in the Carrant Creek evaluation, which is duplicated from the  
333 “Carrant Creek Data” section of the NBA model. The third column is the output that  
334 PacifiCorp should have used for Spring Canyon’s output and has been developed by  
335 precise interpolation of Table 1 from Section 2 of the bid response. The first year of  
336 operation is used in the table because it is easy to view the effect of the PacifiCorp error  
337 since subsequent years would also require an adjustment for degradation. As can be seen  
338 from Table 2, PacifiCorp has short changed Spring Canyon in every month by no less  
339 than 14.2 Mw. While PacifiCorp does apply a degradation factor to the first year, much  
340 of this difference is not the result of degradation. It could be argued that some



341 degradation may be experienced by the end of the first year, however, that would only  
342 justify 3 of these 14 Mw and certainly not in the first months of the year.

343  
344 Table 3, The Effect of Corrected Output on Value Received by PacifiCorp, shows the  
345 value of the electricity received by PacifiCorp that should have been used in the first year  
346 of operation. The table utilizes the exact hours of dispatch and the exact price that  
347 PacifiCorp uses in the Spring Canyon Bid No. 135 evaluation; only the facility output  
348 has been corrected. Column 1 is the PacifiCorp calculation of value received whereas  
349 Column 6 is the value received based on corrected facility output. As can be seen from  
350 the table, the value of the electricity received by PacifiCorp increases from \$104 million  
351 to \$108 million just in the first year alone.

352  
353 With regard to availability, in its analysis of Spring Canyon's Bid No. 135, PacifiCorp  
354 has used an inappropriate availability factor. PacifiCorp has used a flat 95% availability  
355 in each month for the 20-year term. Notes taken by PacifiCorp and Navigant Consulting  
356 during short-list discussions confirm that Spring Canyon had proposed an average yearly  
357 availability of 96%. Further discussions were held regarding Spring Canyon's ability to  
358 provide 100% availability in the summer months and 97% during other months plus a  
359 maintenance outage. Using a flat number is an over simplification of the Spring Canyon  
360 proposal. The accurate availability should be 100% for June, July, August and  
361 September, 97% for all other months except April when 71% should be used. This  
362 equates to an annual availability of 96%. The April availability is calculated by  
363 combining a 3% forced outage rate with a 7 to 8 day maintenance outage. Table 4, The

364 Effect of Corrected Output and Corrected Availability on Value Received, shows the  
365 effect of correcting both the output and the availability factor on the first year of Spring  
366 Canyon's operation. Table 4 utilizes the corrected output from Table 3 and makes an  
367 adjustment for the hours of dispatch to convert from 95% availability to the correct  
368 values. (i.e. for June, Table 3 showed 456 hours of dispatch. This is derived by  
369 PacifiCorp taking the 30 days of the month multiplying by 16 hours per day and  
370 multiplying by 95%; if availability of 100% is used, the value increases to 480 hours). As  
371 can be seen, correcting the availability factor and the facility output increases the value  
372 of electricity produced by the Spring Canyon project from \$104 million which was used  
373 by PacifiCorp in the Spring Canyon evaluation to \$110 million which should have been  
374 used.

375  
376 In its NBA model, PacifiCorp also uses inappropriate assumptions for availability of its  
377 Currant Creek facility. In the NBA model, PacifiCorp takes actual availability values  
378 from its Hermiston facility; however, only four years of data (1997- 2000) are used.  
379 Since major overhauls are not performed in a four-year timeframe, it is unlikely that the  
380 Hermiston values over four years are representative of that which Currant Creek would  
381 experience over 38 years. It is my view, that using a flat number such as 95% is  
382 inappropriate and that using the Hermiston values are inappropriate; however, it is most  
383 inappropriate to utilize different methodologies in evaluating Spring Canyon and Currant  
384 Creek. The two facilities propose identical technologies and it is reasonable to assume  
385 that both facilities will be operated by qualified professionals and similar availabilities  
386 will be achieved. Even though the annual average is 92.2%, it is particularly offensive

387 that PacifiCorp has used 100% availability (or nearly 100%) for Currant Creek in the  
388 summer months when power prices are the highest while Spring Canyon is hindered by a  
389 flat 95% availability.

390  
391 As can be seen by the Tables 2, 3, and 4, PacifiCorp has used a value of \$104 million for  
392 the Energy Value received from Spring Canyon when \$110 million should have been  
393 used or approximately 5.5% more in the first year and every year thereafter. This results  
394 in a 5.5% increase in the present value of the Energy Value received by PacifiCorp. As  
395 seen in Table 1, PacifiCorp reported the Energy Value to be \$1,085.5 million. The value  
396 should have been \$1,145.2 million or approximately \$60 million more. Let me be clear  
397 that this does not by itself mean that the PVRR of Spring Canyon should be better by \$60  
398 million. Higher output means that in addition to producing more electricity, more fuel  
399 must be consumed.

400 **Q. Does that mean the fuel component must be corrected?**

401 **A.** Yes, but in addition to needing to be corrected for the additional output, it is also wrong  
402 because in its evaluation of Spring Canyon's Bid No. 135, PacifiCorp has used  
403 inappropriate values for the heat rate efficiency of the facility.

404  
405 In the same way that the output of the Spring Canyon facility was to be adjusted for  
406 temperature, the heat rate efficiency should be adjusted. Table 5, Corrected Spring  
407 Canyon Heat Rates, shows the monthly heat rates that PacifiCorp used for the first year  
408 of Spring Canyon's operation. Again the first year is chosen for ease of comparison  
409 since the first year does not involve degradation complications and while some of this

410 difference could be attributed to degradation, much of the difference can not. Also  
411 shown are the heat rates that PacifiCorp should have used based on a precise  
412 interpolation of Table 1 of Section 2 of the Spring Canyon bid response. The impact of  
413 PacifiCorp utilizing a higher than appropriate heat rate in the Spring Canyon evaluation  
414 is that the projected cost of fuel consumed is higher since it requires more fuel to produce  
415 the same amount of electricity.

416  
417 Table 6, Effect of Using Correct Spring Canyon Heat Rates, shows the impact on fuel  
418 cost during the first year of operation if the corrected heat rates had been used. For  
419 purposes of comparison, Table 6 uses the exact dispatched hours, output and fuel price  
420 from PacifiCorp's Spring Canyon model, with only heat rate being corrected.

421  
422 The inaccurate PacifiCorp estimates of heat rate results in \$1.75 million (or 2.5%) per  
423 year more fuel cost than that which should have been included in the Spring Canyon cost.  
424 In order to calculate the accurate impact on the Spring Canyon Bid No. 135 PVRP, in  
425 addition to lowering the cost because PacifiCorp has used the wrong value for heat rate,  
426 we must also increase the total fuel cost since more fuel is used as a result of using the  
427 correct values for facility output and availability. The net impact of using the correct  
428 output, availability and heat rate on fuel cost is a 2.3% increase in each year and  
429 therefore a 2.3% increase in the present value. PacifiCorp reports a Fuel cost of \$623.5  
430 million and the correct cost is \$14.4 million more or \$637.8 million. Now we can see  
431 impact of the corrections for heat rate efficiency, output and availability on the Spring

432 Canyon Bid No. 135 PVRR. The Energy Value increases by \$59.7 million while the  
433 Fuel cost increases by \$14.3 million for a net PVRR improvement of over \$45 million.

434 **Q. Are there other significant mistakes in the Spring Canyon evaluation?**

435 **A.** Yes. Another particularly disturbing mistake is that in its evaluation of Spring Canyon's  
436 Bid No. 135, PacifiCorp has used an inappropriately high capacity charge.

437  
438 The original Spring Canyon Bid Nos. 135 and 653 included a capacity charge of  
439 \$7.70/kw•m and \$6.90/kw•m respectively. These capacity charges were based on a very  
440 conservative financing scenario because, without knowing the details of the ultimate  
441 tolling agreement, it would be impossible to know the exact interest rate that lenders  
442 would charge. If the contract included favorable financing terms, the interest rate would  
443 be less than if the tolling agreement included less favorable terms. The bids were based  
444 on a bond financing at a very conservative rate of 8.25%. Bid No. 135 (the more  
445 expensive bid) was short-listed whereas Bid No. 653 (the most economical bid) was not.  
446 During the initial discussions subsequent to the short-list, PacifiCorp insisted that the  
447 cost of the gas pipeline be included in the capacity charge. This caused the capacity  
448 charge for Bid No. 135 to increase from \$7.70/kw•m to \$7.95/kw•m. During those  
449 discussions, PacifiCorp was asked to disclose the details of the tolling agreement so that  
450 Spring Canyon could more accurately estimate the interest rate and therefore the capacity  
451 charge. PacifiCorp was unable to do so and instead, requested the mechanism by which  
452 the capacity charge would be reduced if interest rates were lower than that upon which  
453 the original bid was based. Spring Canyon informed PacifiCorp of its discussions with  
454 various lenders and based on those discussions, it was very likely that, providing the

455 terms of the tolling agreement were appropriate, the term interest rate would be 7.25%,  
456 not 8.25% and that the construction interest rate would be 5.5%, not 8.25%. PacifiCorp  
457 was informed that all of the benefit of the lower interest rates would be passed on in the  
458 form of a lower capacity payment. Using the mechanism that was provided to  
459 PacifiCorp, (i.e. \$0.13-\$0.15/kw•m per 25 basis change in interest rates) the capacity  
460 charge that should have been used to evaluate Spring Canyon's Bid No. 135 would be  
461 between \$0.52 and \$0.60/kw•m less than the \$7.95/kw•m that PacifiCorp did use. When  
462 the construction interest savings is included, the reduction shifts to the high end of the  
463 range, which is approximately an 8% reduction in the capacity charge. PacifiCorp's Jim  
464 Schroeder acknowledges this in his notes to the meeting held in Portland on October 16,  
465 2003 when he writes "8% better #." Mr. Schroeder's notes were obtained from  
466 PacifiCorp's response to Data Request 2.7. In the template used during that discussion,  
467 PacifiCorp states in Box #31 regarding the \$7.95/kw•m capacity charge, that they  
468 understand that the "*current financing will lower this valuation.*" The template with Mr.  
469 Schroeder's notes is attached as Exhibit G. Mr. Schroeder's notes acknowledge the 8%  
470 reduction; yet, the Spring Canyon evaluation does not. Had PacifiCorp used the  
471 appropriate capacity charge in the Spring Canyon Bid No. 135 evaluation, the present  
472 value of the capacity charge would have been 8% less than the 373.9 million PacifiCorp  
473 reports or \$344.0 million. This is a \$30 million improvement in the Spring Canyon Bid  
474 No. 135 PVRR in addition to the \$45 million improvement that I have already discussed.

475 **Q. What is your next issue which requires a correction?**

476 **A.** Both Variable O&M and Fixed O&M need to be corrected. The correction is related so I  
477 have to discuss them together. The original Spring Canyon Bid No. 135 provided a

478 variable O&M charge (“VOMC”) of \$3.44/Mwh. As stated in our bid response variable  
479 O&M is intended to pay for variable operation and maintenance expenses including fuel  
480 used during startups, lube oils, filters, water treatment chemicals, other consumable items  
481 and a reasonable reserve for the expected cost of gas turbine and steam turbine overhauls  
482 and for replacement of SCR catalyst. Our charge of \$3.44/Mwh is based on the  
483 scheduled maintenance required when a facility is operated on a 5 x 16 basis (i.e. five  
484 starts per week, 16 hours per day) which is 260 starts per year and 4160 hours per year.  
485 The same assumption was used to develop the VOMC for our Bid No. 653 which  
486 included duct-firing capability and that VOMC was \$3.21/Mwh. This compares to the  
487 VOMC of the NBA of \$3.29/Mwh (which is the sum of \$3.19/Mwh for the combined  
488 cycle capacity plus \$0.10/Mwh for the duct burner capacity). It is not surprising that  
489 these numbers are so close because as our basis for the original VOMC was 260 starts  
490 and 4,680 hours, the VOMC of the peaking NBA is based on 300 starts and 5,518 hours  
491 per year.

492  
493 During the first discussion with PacifiCorp subsequent to Bid No. 135 being short-listed,  
494 which included Rand Thurgood and Ian Andrews of PacifiCorp’s generation group, it  
495 was explained to Spring Canyon by Mr. Andrews that one start per day may not offer  
496 enough flexibility and that “intra-day” starting flexibility may be necessary. As a result,  
497 Spring Canyon revised its bid to include a pricing structure that provided the flexibility  
498 of unlimited starts. In its revision to Bid No. 135, Spring Canyon lowered its VOMC  
499 from \$3.44/Mwh to \$2.58/Mwh and included a startup charge of \$8,700 per turbine  
500 including fuel. We also included the concept of a \$10,000 bonus depending on whether

501 the start was achieved on time. Another way to describe this concept would be an  
502 \$18,700 start charge with a \$10,000 penalty. This bonus/penalty concept has been used  
503 by the utility and independent power industry to provide motivation for the facility  
504 owner/operator to have the plant running when the utility desires. During discussions  
505 with PacifiCorp regarding this concept, we explained that this was a starting point for our  
506 negotiations since any bonus/penalty should be related to the timeframe of the start up  
507 period (i.e. the longer the time to accomplish the start, the lower the bonus). We pointed  
508 out that the concept could be dropped if it was not of value to PacifiCorp. If the concept  
509 was dropped, the startup charge would be \$8,700 per start per turbine including fuel.  
510 Further discussion did not occur and PacifiCorp has included the full cost into the Spring  
511 Canyon evaluation without discussing the timeframe in which they would require the  
512 start to be accomplished. Without that discussion, the appropriate startup charge that  
513 should have been used is \$8,700 per start per turbine including fuel.

514  
515 When PacifiCorp asked for unlimited flexibility, we had to assume a maximum number  
516 of starts which we chose to be 520 because we could not imagine market conditions  
517 which dictate a dispatch scenario of more than 520 starts per year. We also had to  
518 assume the other end of the operating spectrum as being possible. PacifiCorp could  
519 operate the facility as a baseload facility which meant it might start once and operate all  
520 year. As a result, a combination of a VOMC equal to that of our baseload Bid No. 620  
521 which was \$2.58 plus a start charge seemed reasonable since the lowered VOMC would  
522 cover our maintenance cost if there was a low number of starts. Using GE  
523 Documentation, we determined that if PacifiCorp started the facility 520 times per year,



524 we would need \$8,754 per start (both turbines) to perform the required maintenance in  
525 addition to the \$2.58/Mwh VOMC. We then added the fuel required to the start the  
526 turbines using \$5.50 per MMBtu as the assumed fuel cost and 750 MMBtu for each  
527 turbine for each start which yields \$8,250 for fuel for each start (both turbines) for a total  
528 of \$17,004 or \$8,502 per turbine. Since, to our knowledge, no one is operating GE 7FA  
529 turbines to this level, we used engineering judgment to increase this number to \$8,700  
530 per turbine including starting fuel. If the facility is started 520 times per year, it will cost  
531 approximately \$3.5 million more to maintain the turbines each year then if the turbines  
532 were started 260 times.

533  
534 In its evaluation of Spring Canyon's Bid No. 135, PacifiCorp has used this more  
535 expensive operation scenario even though the original Spring Canyon Bid No. 135 gave  
536 PacifiCorp all the flexibility that they have modeled into the NBA. Since PacifiCorp did  
537 not need the additional flexibility, they should have modeled the pricing scenario in the  
538 original bid response

539  
540 In the Spring Canyon Bid No. 135 model, PacifiCorp lowers the VOMC from  
541 \$3.44/Mwh to \$2.58/Mwh and includes \$18,700 per start into the fixed operation and  
542 maintenance cost. Even though PacifiCorp should not have used this, if they do use it, it  
543 should be used correctly. The revised bid was \$8,700 per turbine per start including fuel.  
544 In the model, PacifiCorp has used \$18,700 per start not including fuel. Table 7, Effect of  
545 Corrected Spring Canyon Variable O&M Rates, shows the effect of using the correct  
546 VOMC on the first year of Spring Canyon's operation. Using the correct value increases

547 the Variable O&M cost from \$5,962,822 to \$8,343,654 an increase of 39.9%. While the  
548 correct values increase our Variable O&M cost, they also reduce our Fixed O&M cost.  
549 Table 8, Effect of Correct Spring Canyon Fixed O&M Rate, shows the effect of using the  
550 correct FOMC in the first year of Spring Canyon's operation. Using the correct value  
551 decreases the Fixed O&M cost from \$13,342,235 to \$6,813,864, a reduction of 48.9%.  
552 As a result of using the correct values, the net present value of the Variable O&M  
553 component shifts from \$67.5 million to \$94.4 million while the net present value of the  
554 Fixed O&M component shifts from \$153.0 million 78.2 million. The net impact on the  
555 Spring Canyon Bid No. 135 PVRR is a beneficial \$47.9 million.

556 **Q. The only component of Spring Canyon's PVRR that you haven't corrected is**  
557 **Carbon Tax. Do you want to correct this?**

558 **A.** Yes, but the impact is very small and not really worth the amount of discussion required.  
559 The carbon tax is a fictitious tax anyway.

560 **Q. So what are your conclusions regarding the Spring Canyon Bid No. 135 PVRR?**

561 **A.** I have summarized the results of my analysis in Table 9, Adjusted Spring Canyon  
562 PVRR. The table shows the adjustments to each component and the new total  
563 PVRR. PacifiCorp reported the Spring Canyon Bid No. 135 PVRR to be -\$195.9 million  
564 and our analysis shows that it should be -\$72.7 million.

565 **Q. What is your next issue regarding the way Spring Canyon was evaluated and the**  
566 **way the NBA was evaluated?**

567

568 **A.** I have pointed out several significant corrections which significantly affect the outcome  
569 of the Spring Canyon Bid No. 135 evaluation. While there are several corrections that

570 should be made to the NBA model, I would like to point out two that significantly affect  
571 the outcome.

572

573 First, the NBA model operates the duct burners almost continuously after the first few  
574 years. In every year after 2009, the Currant Creek duct burners are operated more than  
575 an average of 7,000 hours per year. Attached, as Exhibit E, is a chart which shows the  
576 hours of duct-firing each year. In 2015 they are operated more than 7,800 hours per year.

577 The Navigant Consulting report titled Review and Audit of PacifiCorp's Screening  
578 Review Process for RFP 2003-A, dated November 7, 2003, states on Page 26 that with  
579 regard to changes to the evaluation model methodologies between the first and second

580 stages, one of those changes was *"added limitations as to the number of duct-fired*  
581 *operating hours. This change pertains only to peaking build proposals and the peaking*  
582 *NBA. Since the annual number of duct-fired hours is expected to have some limitations,*

583 *a cap of 3,500 hours per year was added to the NBA models."* It is also appropriate to  
584 note that PacifiCorp, in its original air permit application and in its subsequent  
585 modification to the air permit application, requested no more than 3,500 hours per year of

586 duct-firing. Despite the statement in the Navigant Report and the limit in the air permit  
587 application, the NBA model contains a level of duct-firing that far exceeds the 3,500 per  
588 year limitation even though as I discussed earlier, the national average according to the

589 EPA is less than 1,300 hours as PacifiCorp recognizes in its IRP, Page 74. The PVRR of  
590 the NBA enjoys enormous benefit as a result of this violation. If we limit duct-firing to  
591 3,500 hours, the nominal market value of the electricity produced in 2015 would

592 decrease by \$22.2 million or 13%. This effect is approximately the same in each year

593 after 2010. The impact on the present value of the Energy produced by the NBA would  
594 also be approximately 13% less. The stated present value is \$1,538.2 million and 13% of  
595 that is \$200 million. The adjusted Energy Value would be \$1,338.2 million.  
596 Correspondingly, we must reduce the Fuel cost by the amount that the duct burners  
597 would have used had they been able to operate all those hours. For every \$1.00 that the  
598 Energy Value goes down because less electricity was produced, fuel cost goes down by  
599 \$0.63 since less fuel is burned. The stated value of Fuel cost of \$958.7 million would  
600 decrease to \$832.7 million. By limiting the duct-firing capability of the NBA to 3,500  
601 hours per year, the net impact on the PVRR of the NBA is -\$74 million.

602  
603 While 3,500 hours per year may ultimately be permissible under the Currant Creek air  
604 permit when it is issued, it is still an unreasonably high market assumption and limiting  
605 the duct-firing assumption to 1,500 hours, as PacifiCorp has done in the Spring Canyon  
606 Bid No. 653 model, would be a better approximation of the market and consistent with  
607 the IRP. If we do this, the net impact on the present value of the Energy received is  
608 reduced by 17% (not 13%) and the present value of the Energy is \$1,276.7 million. The  
609 Fuel cost would further decrease to a present value of \$793.9 million. The impact on the  
610 PVRR of the NBA is -\$97 million (not -\$74 million).

611  
612 Second, the NBA model uses an inappropriately low value for variable O&M. The  
613 operational assumptions for the NBA are that it will start 300 times each year and operate  
614 an average of 84% or 7,367 hours per year. The first difficulty I have is that the Spring  
615 Canyon bids included the cost of startup fuel in the variable operation and maintenance

616 charge (VOMC) and the NBA does not. When we revised our bid to provide unlimited  
617 starting flexibility (within manufacturer guidelines) we combined the concept of a  
618 VOMC with a startup charge, all as I discussed earlier. The point I am making here is  
619 that even our revised bid included the fuel used to start the gas turbines. We are unable  
620 to find the cost associated with startup fuel anywhere in the NBA model. The  
621 manufacturer recommends an estimate of 750 MMBtu per turbine per warm start. The  
622 NBA is assumed to start 300 times per year. With an estimate of \$5.50/MMBtu for fuel,  
623 this would be \$1,856,000 per year (300 starts x 2 turbines x 750 MMBtu x \$5.50). This  
624 cost is included in the PVRR of Spring Canyon's Bid No. 135, yet it is not included in  
625 the PVRR of the NBA.

626  
627 In addition to the startup fuel inaccuracy, the PacifiCorp estimates for variable operation  
628 and maintenance are understated. According to GE published documentation, which is  
629 attached as Exhibit F, the schedule and cost associated with gas turbine and steam turbine  
630 inspections and overhauls will require a total of \$70.1 million over a nine year period if  
631 the NBA is operated with 300 starts and 7,367 hours per year. In addition, \$167.00 per  
632 fired hour must be accrued for SCR replacement. This is an additional \$1.23 million per  
633 year (\$167/hr x 7,367 hrs) or an additional \$11.0 million over a nine year period for a  
634 total outage allotment of \$81.1 million. In order to have this amount available,  
635 PacifiCorp must accrue just over \$9 million each year; however, the NBA model  
636 assumes that only \$7 million is accrued each year, an understatement of \$2.0 million per  
637 year. For example, in Fiscal 2007, the NBA accrues \$6.882 million. An additional  
638 problem with PacifiCorp's estimate of variable operation and maintenance cost is the

639 estimated incremental cost associated with duct-firing. The NBA model assumes that a  
640 VOMC of \$3.19/Mwh when the facility is operating in combine cycle and an additional  
641 \$0.10/Mwh when the duct burners are fired. The additional \$0.10/Mwh will not even  
642 cover the additional cost of ammonia used by the SCR let alone additional maintenance  
643 on plant components especially the SCR. As a result, the NBA model underestimates the  
644 present value of the Currant Creek Variable O&M cost in several ways. The present  
645 value of the Variable O&M cost in the NBA model is \$112 million, but should be  
646 increased to \$144 million.

647  
648 Table 10, Adjusted Currant Creek PVRR shows how the total PVRR for the NBA is  
649 adjusted for both the 38-year PVRR and the 20-year PVRR. On either basis (38 or 20  
650 years) the adjusted PVRR of Spring Canyon's Bid No. 135 is better than that of the  
651 NBA. This is seen by comparing Table 9 with Table 10.

652 **Q. You have discussed two errors in the NBA model that alter the results dramatically.**  
653 **Are there other areas that should be address?**

654 **A.** Yes, several but some do not have significant impacts on the result. Those I mention,  
655 more to point out the inconsistencies in evaluation rather than the overall impact on the  
656 results. First, the NBA model uses a mega-watt output that is not achievable with the  
657 Currant Creek plant configuration.

658 PacifiCorp has stated that the configuration of the Currant Creek facility will employ the  
659 use of evaporative cooling versus the Spring Canyon configuration, which employs inlet  
660 chillers. This is one of the very few differences between Currant Creek and Spring  
661 Canyon. Spring Canyon has asked engineers at Utility Engineering to review the output

662 that PacifiCorp has used in the calculation of the Currant Creek PVRR. A higher than  
663 expected output results in an inappropriately high amount of generation and therefore an  
664 inappropriately high PVRR. PacifiCorp uses an output of 420 Mw at 60°F; when 417  
665 Mw should have been used.

666  
667 Second, PacifiCorp does not consider Carbon Tax in a consistent manner when  
668 evaluating Spring Canyon and the NBA. In the Spring Canyon model, PacifiCorp  
669 calculates Carbon Tax based on a charge of \$0.47/MMBtu, whereas in the NBA model  
670 Carbon Tax is calculated based on a charge of \$3.56/Mwh. In the Spring Canyon model,  
671 July 2008 is the first month that Carbon Tax is imposed and the calculation is simply  
672 \$0.47/MMBtu X 1,361,755 MMBtu, which equal \$640,025. For the same month, the  
673 NBA model uses \$3.56/Mwh X 239,042Mwh to yield a Carbon Tax of \$850,662.  
674 However, had PacifiCorp calculated Carbon Tax in the NBA model in the same way as it  
675 did in the Spring Canyon model; the Carbon Tax would be higher. In July 2008, the  
676 NBA used 1,382,769 MMBtu for the gas turbines and 470,460 MMBtu for the duct  
677 burners. Summing these two values and multiplying by \$0.47/Mwh yields a Carbon Tax  
678 of \$871,017 not \$850,662. As a result, the Carbon Tax in the NBA model is understated  
679 by approximately 2.4%. Had PacifiCorp used the same method that they used to evaluate  
680 Spring Canyon, the Currant Creek PVRR would be \$3 million less. Since, in our  
681 evaluation of the NBA we have limited duct-firing to 1,500 hours per year, this will  
682 reduce the Carbon Tax associated with the NBA by approximately 14% for a net impact  
683 of 11.6% less. As a result the Carbon Tax of the NBA should have been reported as  
684 \$110.2 million rather than \$127.8 million.

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Third, PacifiCorp calculates Fixed O&M and property tax in the NBA model in an inappropriate manner and in a manner inconsistent with that of the Spring Canyon model. Fixed O&M is called “Fixed” because it is a cost that is independent from the amount of Mwh produced from generation. It includes such costs as salaries of personnel, whom are paid even if the plant is not dispatched or generating power. However, in the NBA model, PacifiCorp treats Fixed O&M as though it were a variable cost. In the first year of operation (fiscal year 2006), Currant Creek is dispatched for five months (June, July, August and September of 2005 and March of 2006). The NBA model shows a fixed cost charge in each of the five months but shows no charge in the other months when the facility is not operating. The Spring Canyon model correctly charges the Fixed O&M amount each month; thus the NBA maybe understating Fixed O&M. PacifiCorp used the same inappropriate logic for its calculation of property tax. The NBA model only charged a property tax in the months when the facility is generating electricity. The error is compounded because the property tax is dependent on the amount of power generated. The Spring Canyon model appears to correctly account for property tax since it is included in the Fixed O&M calculation. While the impact of these mistakes does not appear to be great, these inconsistencies in the model formulation structure cannot be ignored and must be corrected for the comparability evaluation to have integrity.

Fourth, the NBA model uses an inappropriately low estimate of the cost to interconnect the Currant Creek project to the transmission network. During its review of the NBA



708 viability, Navigant Consulting discovered that PacifiCorp Transmission (the division of  
709 PacifiCorp which determines the cost to interconnect facilities with the transmission  
710 network) was busy with other interconnection requests and was unable to provide system  
711 impact and interconnection study results to the PacifiCorp Resource Development. This  
712 is because PacifiCorp Transmission must perform interconnect studies and facilities  
713 work on a first come, first serve basis. As a result, PacifiCorp Resource Development  
714 utilized an old, inaccurate estimate, which was completed for Panda Energy in 2001  
715 before PacifiCorp purchased Panda's worksite. The old estimate is no longer considered  
716 valid by PacifiCorp Transmission because Panda did not complete the interconnection  
717 process and as a result other projects, namely Spring Canyon, have completed current  
718 studies and have a higher interconnection priority than Currant Creek. The Currant  
719 Creek interconnection cost must include the assumption that the higher priority projects  
720 (first in the queue) are completed which means the estimated cost to interconnect Currant  
721 Creek will be higher. Without a completed study from PacifiCorp Transmission, there is  
722 no way to know how much higher except that it will be higher than PacifiCorp has  
723 estimated. This will have a significantly higher impact on the overall facility cost. Since  
724 Spring Canyon has completed its studies, the cost to interconnect is known with a high  
725 degree of certainty.

726

727 Fifth, the NBA includes an inappropriate low cost of equipment. Stone and Webster  
728 provided an estimate of equipment cost to PacifiCorp is its June 9, 2003 report titled  
729 "Cost Estimate for Currant Creek Power Project, Volume 1." The Navigant Consulting  
730 Report dated July 22, 2003 titled "Review and Audit of PacifiCorp's Next Best

731 Alternative” states on Page 14 that “*the prices quoted in the Stone and Webster report*  
732 *were based on original equipment manufacturers (OEM) prices for new equipment. For*  
733 *the NBA, PacifiCorp adjusted CT (combustion turbine) costs to reflect prices in the*  
734 *secondary market.”* This reduction is included in the NBA model yet PacifiCorp has not  
735 purchased CT(s) from the secondary market but has contracted with the OEM. While we  
736 have requested information from PacifiCorp to confirm the exact amount of this error,  
737 PacifiCorp has not yet provided the requested information.

738 **Q. Mr. Graeber testified that the PacifiCorp RFP was unfair with regard to both**  
739 **process and comparability. Can you tell us more about the problems associated**  
740 **with the process?**

741 **A.** Yes. First the RFP process did not effectively evaluate Spring Canyon’s ability to  
742 successfully complete the proposed project.

743  
744 USA Power LLC, the majority beneficiary and managing partner of Spring Canyon had  
745 been developing the Spring Canyon project for over two years prior to PacifiCorp  
746 concluding that they needed to issue the RFP. As a result, PacifiCorp could therefore no  
747 longer conduct direct negotiations regarding the purchase of electricity from the Spring  
748 Canyon project or the purchase of the project itself. During the timeframe that the RFP  
749 was being prepared, Spring Canyon was totally convinced that its proposal would present  
750 the least risk from a construction perspective since so much development work had been  
751 completed (i.e. rezoning, air permit, water permits, electrical interconnect, etc.). With  
752 the development of the project nearing completion, Spring Canyon assembled a very  
753 strong team that would make obvious to PacifiCorp that not only did Spring Canyon

754 have the best and most economical project but also had the best construction, operating  
755 and financial team to get it done on time and within budget. The team had to include the  
756 following:

- 757 • Creditworthy sources of equity,
- 758 • Excellent facility operator,
- 759 • Experienced and creditworthy facility constructor, and
- 760 • Creditworthy sources of debt.

761 With regard to equity, Spring Canyon entered into agreements with two entities; the EIF  
762 Group (Energy Investors Funds), which since its inception in 1987 has invested over \$1  
763 billion of equity into energy projects, and the Quixx Corporation (Quixx) which also  
764 invests equity into energy projects. In addition, Quixx provides contract operation and  
765 maintenance services (O&M) to energy projects and has an excellent reputation in the  
766 industry doing so. While the equity participation agreements were the result of direct  
767 negotiations based on time tested relationships between Spring Canyon, EIF and Quixx,  
768 the agreement awarding operation and maintenance services to Quixx was the result of a  
769 competitive bid process.

770

771 Having secured its sources of equity and its operator, Spring Canyon then turned its  
772 attention to securing an engineering, procurement and construction (EPC) contractor  
773 possessing sufficient experience and the financial capability to guarantee facility  
774 completion by a specific date. Utility Engineering (UE), a subsidiary of Xcel Energy,  
775 and Siemens Westinghouse Power Corporation (Siemens) were the finalists in Spring  
776 Canyon's selection process. UE was selected for several reasons. First, UE is the owner

777 of Quixx and through this affiliation, it would be a significant long-term equity investor  
778 in Spring Canyon with all the necessary incentives to perform in accordance with its  
779 construction obligations, much the same way that, for example, someone like Calpine  
780 would be motivated to ensure its construction division performed properly. Second, the  
781 quality of the UE balance sheet combined with that of its joint venture partner, TIC, gave  
782 Spring Canyon the comfort that the UE/TIC team was credit worthy and had passed the  
783 scrutiny of lender review.

784  
785 Third and most important, the UE/TIC team had recently completed the design,  
786 construction and performance testing of a facility in Colorado Springs, CO, the Front  
787 Range Energy Project, which has the same design configuration as that proposed by  
788 Spring Canyon. The Colorado Springs site is located at an elevation similar to that of  
789 Spring Canyon. As a result, UE/TIC had the most recent industry knowledge of  
790 construction cost, equipment and labor availability, construction schedule and  
791 performance parameters associated with the facility including output, efficiency and  
792 emissions. Because of its experience, UE/TIC was very confident of the plant  
793 performance parameters which allowed Spring Canyon to remove much of the  
794 uncertainty regarding output and heat-rate normally associated with engineering models.  
795 In addition, UE/TIC's construction schedule of 22 months was significant due to their  
796 ability to leverage their design experience from the Colorado Springs project thereby  
797 reducing the engineering timeframe. In order to meet the PacifiCorp timeframe of June  
798 2005, UE/TIC was willing to begin engineering work prior to October 1, 2003, which  
799 was the date, published in the RFP, that PacifiCorp would execute power contracts.

800 UE/TIC and Spring Canyon were willing to take the risk associated with up-front  
801 engineering but would not purchase equipment or begin major construction activities  
802 without the fully executed power agreement. By performing the up-front engineering  
803 work, the UE/TIC construction team could guarantee completion of the plant within  
804 20months from the execution of the tolling agreement. Twenty months from October 1,  
805 2003 is June 1, 2005. Had PacifiCorp not delayed the process and executed the tolling  
806 agreement on October 1, 2003, the Spring Canyon team was fully prepared to achieve  
807 commercial operation by June 1, 2005. This obligation would have been guaranteed with  
808 market based liquidated damages, including provisions for replacement power if the plant  
809 were not on line when the company desired it.

810  
811 In order to secure debt financing on a fast track basis, the Spring Canyon team had  
812 preliminary discussions with several lender groups. While several groups with solid  
813 power financing credentials indicated an intense desire to provide debt, none were  
814 willing to make a firm commitment until they had the opportunity to review the terms  
815 and conditions of the tolling agreement. Two banks did express serious intent to lead the  
816 debt syndication for the total debt requirement. At that time, the interest rate would be  
817 negotiated and fixed and the project would be fully funded.

818  
819 The Spring Canyon team is a very strong and financially viable team. It does not appear  
820 that PacifiCorp gave more than a cursory review of the team's qualifications. While  
821 detailed financial and experience qualifications were provided in the bid response,  
822 PacifiCorp, during shortlist discussions continued to ask questions such as "*who's*

823 *Quixx?*” and “*what are the legal names of your partners?*” To ensure that PacifiCorp  
824 had a thorough understanding of the team, representatives of each team member  
825 company attended a meeting with PacifiCorp in Portland, OR, on October 16, 2003.  
826 During this meeting, again, PacifiCorp asked only cursory questions of the team  
827 members. Not having conducted a thorough evaluation of the Spring Canyon team and  
828 its ability, it would be impossible for PacifiCorp to come to any reasoned conclusion  
829 regarding Spring Canyon’s ability to perform.

830  
831 By mid September 2003, it was apparent to Spring Canyon that PacifiCorp was not going  
832 to achieve the schedule that had been published in pre-bid conference materials and in  
833 the RFP. In telephone discussions with PacifiCorp, Spring Canyon identified that any  
834 delay in PacifiCorp’s schedule would cause a delay in Spring Canyon’s completion  
835 schedule. Spring Canyon discussed this concern with both Siemens and UE. Siemens  
836 submitted a revised proposal guaranteeing commercial operation by August 2005; two  
837 months beyond PacifiCorp’s desired start date. UE continued to support a commercial  
838 operation date of twenty months from the execution of the power contract. This was  
839 discussed during the meeting in Portland on October 16, 2003. PacifiCorp’s Jim  
840 Schroeder identified this as a significant issue for PacifiCorp and further informed Spring  
841 Canyon that PacifiCorp would not be able to execute a tolling agreement until January  
842 2004. During the week following this meeting, Spring Canyon conducted an evaluation  
843 of the power markets to determine if there were viable methods of bridging the period  
844 between June 2005 and the date that Spring Canyon would be able to deliver based on  
845 the new schedule of executing the power contract in January 2004. We concluded that

846 there were viable methods and on October 28, 2003, I informed Jim Schroeder that  
847 Spring Canyon wanted to schedule a meeting to present these ideas to PacifiCorp. Jim  
848 told me to call him on October 29<sup>th</sup> to schedule the meeting. I left messages on October  
849 29<sup>th</sup> and on October 30<sup>th</sup>. Jim Schroeder did not return my calls. On the October 31<sup>st</sup>, I  
850 talked to Howard Friedman of Navigant Consulting regarding the meeting. He informed  
851 me that he was unaware of any such meeting or Spring Canyon's desire to discuss  
852 replacement power issues. That was on a Friday, and on the following Monday, Jim  
853 Schroeder and Stacy Kusters called to inform us that Spring Canyon had been deemed to  
854 be uneconomical.

855

856 The conclusion to this evaluation and my testimony is as follows. Spring Canyon could  
857 have been operational by June 1, 2005, had PacifiCorp not delayed the process.  
858 Furthermore, Spring Canyon could have bridged the gap caused by the delay. PacifiCorp  
859 is now asking serious due diligence questions regarding Spring Canyon's abilities to  
860 build Bid No. 135 during this discovery process; however, they should have asked these  
861 questions during the short list evaluation process. For some reason, these items are  
862 important now but they were not important during the short list evaluation process.

863

864 Four letters are attached to my testimony as Exhibits A, B, C and D, which support  
865 Spring Canyon Energy's capability to have contracted, financed and completed the  
866 construction of the facility by June 1, 2005. First is a letter from Dan Henke, Vice  
867 President of Utility Engineering. The second is from Sonja Sevcik, Vice President of  
868 Union Bank of California. The third is from Guy Piazza, Managing Director of CIT.

869 The fourth is from Jim Heller, Vice President of Siemens Westinghouse Power  
870 Corporation.

871 **Q. In Mr. Graeber’s Testimony, PacifiCorp’s RFP process did not evaluate Spring**  
872 **Canyon’s most economical bid. Is this correct?**

873 **A.** That’s correct. The process inappropriately eliminated Spring Canyon’s most economical  
874 bid, yet short-listed one of Spring Canyon’s higher priced bids.

875

876 Spring Canyon Energy submitted two bids in response to PacifiCorp’s peaking  
877 requirements; Bid No. 135 which was titled “400+ Mw Daily Dispatch Call Option” and  
878 Bid No. 653 titled “400 + Mw Daily Dispatch Call Option and 100+ Mw Peaking Call  
879 Option.” Bid No 135 (found in Section 5-B of the Spring Canyon RFP response) stated  
880 the “*configuration is designed to provide more than 400 Mw of Daily Dispatch Power at*  
881 *105°F with the operational flexibility of starting the facility once per day and operating*  
882 *any number of hours per day.*” The response went on to say “*PacifiCorp may have the*  
883 *option to dispatch the facility the day prior to delivery and adjust the resource output*  
884 *through out the delivery day and within the delivery hour.*” Bid No. 653 (found in  
885 Section 5-D of the Spring Canyon Energy RFP response) stated the “*configuration is*  
886 *designed to provide more than 400 Mw of Daily Dispatch Capacity at 105°F and more*  
887 *than 100 Mw of Peaking Capacity at 105°F. PacifiCorp may require the facility to start*  
888 *once per day and operate any number of hours it desires. PacifiCorp may have the*  
889 *option to dispatch the facility the day prior to delivery and adjust the resource output*  
890 *throughout the delivery day and within the delivery hour.*” Bid No. 135, which was  
891 priced at \$7.70/kw•m, was short-listed whereas Bid No. 653, priced at \$6.90/kw•m, was



892 not short-listed. Navigant Consulting stated in a discovery meeting that it did not  
893 consider Bid No 653 to be a peaker (even though the NBA is the same configuration as  
894 Bid No. 653) yet Bid No. 135 was considered to be a peaker. Howard Friedman of  
895 Navigant Consulting has pointed out that in Section 2 of the Spring Canyon RFP  
896 response, Spring Canyon states "*Bidder's offering includes a maximum of 260 individual*  
897 *combustion turbine starts per year*" and that this is the reason Bid No. 653 was  
898 eliminated. While 260 starts were used for purposes of determining Variable Operation  
899 and Maintenance costs, just as PacifiCorp used 300 starts to determine theirs, it was  
900 never intended to limit PacifiCorp's ability to operate the facility as evidenced by the  
901 above quoted statements from Sections 5-B and 5-D. Even if it was, Section 2 applies to  
902 both Bid Nos. 135 and 653 as the Spring Canyon RFP response clearly stated that "*all of*  
903 *the response sections remain the same for each bid with the exception of Section 5.*" It is  
904 inappropriate to ignore the detail provided in Section 5-D and eliminate Bid No. 653  
905 simply because one believes that a generic reference to a limit of 260 starts per year,  
906 disqualifies the bid as having been non-responsive to the RFP requirement for  
907 dispatchability. In fact PacifiCorp, in their June 20, 2003 Pre-Bid Conference  
908 presentation, Page 14, identified their list of acceptable products to include 5 x 16  
909 operations which equates to 260 starts per year. Also, I would like to reference Page 13  
910 of the RFP, Table 6, which indicates the Operational Non-Price Factor Weightings.  
911 Maximum points would be given for "*PacifiCorp having the option to dispatch the*  
912 *resource the day prior to delivery (i.e. day-ahead) and PacifiCorp having the option to*  
913 *adjust the resource output through out the delivery day and within the delivery hour.*"  
914 Both Bid Nos. 135 and 653 provide the exact level dispatch flexibility that PacifiCorp

915 was seeking, yet the most economical bid was eliminated as being non-responsive. It is  
916 obvious that the screening process was defective and that Bid No. 653 should have been  
917 properly evaluated against the NBA.

918 **Q. Do you believe that PacifiCorp is disregarding the RFP process by pursuing**  
919 **opportunities outside the RFP process?**

920 **A.** Yes, even though in the RFP, PacifiCorp reserved the right to essentially do anything it  
921 wanted in spite of the RFP stipulation from the Commission. During the PacifiCorp RFP  
922 process, bidders were told that their bids would not be considered if they were not  
923 submitted by July 22, 2003. However, PacifiCorp is giving consideration to three  
924 potential providers of long-term resources that did not participate in the RFP process, as  
925 stated in PacifiCorp's response to CCS Data Request 5.10. If PacifiCorp is allowed to  
926 flagrantly disregard the RFP process, it will discourage bidder participation in future  
927 RFPs. If PacifiCorp were genuinely interested in securing the most economical long-  
928 term resources, even if it meant disregarding its RFP process, it would re-open  
929 discussions with Spring Canyon (and others) and conduct the negotiations as had been  
930 stated in the RFP. With regard to Spring Canyon's Bid No. 653, even if PacifiCorp and  
931 Navigant Consulting were sincerely confused that Bid No. 653 was not a peaker and as a  
932 result did not give Bid No. 653 any consideration during the RFP process, PacifiCorp is  
933 now very much aware that Bid No. 653 is a peaker and that Spring Canyon is willing to  
934 negotiate a long-term tolling agreement, including transfer of the facility at anytime, as  
935 stated in Section 1 of our bid response. Having determined that it is willing to go outside  
936 the RFP process, PacifiCorp should be willing to re-open discussions with Spring

937 Canyon based on now understanding that Bid No. 653 is in fact a peaker with all the  
938 flexibility of the NBA.

939

940 Furthermore, two of the three opportunities being considered by PacifiCorp are located in  
941 the Nevada Power control area. These efforts will fail to produce the necessary  
942 resources. In its November 7, 2003 report titled Review and Audit of PacifiCorp's  
943 Screening Review Process for RFP 2003-A, Page 20, Navigant Consulting states that the  
944 *"most likely alternative was the construction of [Peaking] resources by the Company.*  
945 *This is because transmission limitations in and out of PacifiCorp's East system limits*  
946 *market purchases of power."* Navigant concludes that, because of transmission  
947 constraints, the construction of a facility is necessary in order to satisfy this type of long-  
948 term requirement. This is consistent with a study performed by Navigant Consulting on  
949 behalf of Spring Canyon. In its report titled "Market Assessment for USA Power's  
950 Spring Canyon Energy Project" dated June 2002, Navigant concludes the following with  
951 regard to Northern Nevada: *The Sierra Pacific market area is deficient with regard to*  
952 *in-area generation and is highly dependent on transmission imports to meet load*  
953 *requirements. The reliance on imports will continue for at least ten years. The*  
954 *interconnection with Utah is constrained. Sierra Pacific plans to build a 345 kV*  
955 *transmission line between its Falcon and Gonder substation and if built will increase the*  
956 *transfer capability between Utah and Nevada from 245 Mw to 400 Mw. However,*  
957 *according to PacifiCorp's OASIS, the current available transfer capability on this*  
958 *transmission line is zero. Regarding the Southern Nevada market area, Navigant*  
959 *Consulting concluded: that an interconnection with Nevada Power through Red Butte is*

960 sized for 300 Mw. However, PacifiCorp's OASIS shows the current available transfer  
961 capability to be only 5 Mw.

962

963 It seems highly appropriate for PacifiCorp to re-open its consideration of the Spring  
964 Canyon bids since as Navigant concludes resources must be built in Utah to solve the  
965 peaking resource needs and since Spring Canyon has received its air and water permits, it  
966 is the only resource that can supply power in an amount and in a timeframe consistent  
967 with the resource needs. This would also provide some credibility to the RFP process  
968 and give a reason for potential bidders to participate in future RFPs.

969 **Q. Did PacifiCorp evaluate the risk associated with obtaining permits in their**  
970 **evaluation?**

971 **A.** No. The evaluation process completely ignores the risk associated with obtaining  
972 permits. In a November 5, 2003 press release, PacifiCorp's CEO Judi Johansen stated  
973 that its Currant Creek project was selected because it was "*determined to have the best*  
974 *cost/risk balance.*" We have already shown that Currant Creek did not have the best  
975 economics and it does not present the lowest risk. Of the ten short-listed projects, five  
976 did not even have a site under control and nine did not have air or water permits. Spring  
977 Canyon was, and still is, the only short-listed bidder (including the NBA), which has  
978 fully issued air and water permits. The Navigant Consulting Inc.'s "Review and Audit of  
979 PacifiCorp's Next Best Alternative" dated July 22, 2003, stated on Page 9, with regard to  
980 the viability of the NBA that PacifiCorp "*still needs to obtain a number of permits,*  
981 *which does pose some additional risk.*" The Navigant report goes on to say that "*an*  
982 *important point to note related to this project's viability assessment is that [Navigant's]*

983 *focus was not on providing a third party engineering review*” but rather to ensure the  
984 NBA options “*appeared achievable.*” PacifiCorp is now realizing how risky and  
985 potentially unachievable it can be to obtain such permits. For instance, PacifiCorp  
986 recently was forced to reduce the size of its air permit application before the Utah DAQ  
987 from 1000 Mw to 500 Mw. Its water permit application has also come under sizable and  
988 fierce opposition as evidenced by the article in the Deseret News dated 12/30/2003 titled  
989 “Mona Power Plant Proposal Assailed.” The City of Mona, irrigation companies and  
990 other groups are objecting to PacifiCorp’s water application. Rand Thurgood, Managing  
991 Director of Resource Development for PacifiCorp, is quoted in the article as saying “We  
992 are willing to take the risk on this application simply because we have no other choice.  
993 We can’t meet the schedule otherwise.” One choice would have been for PacifiCorp to  
994 select the Spring Canyon facility (located only 0.75 miles from the site which PacifiCorp  
995 has selected), which has its fully issued water permits. Additionally, PacifiCorp’s  
996 revised air permit application is seeking the approval to emit almost 5 times the pollution  
997 that Spring Canyon is allowed in its permit (on a per MW basis). While PacifiCorp may  
998 ultimately be successful in obtaining such a permit, it is difficult to envision such a  
999 permit being issued without significant, well-organized opposition, which, at a minimum,  
1000 will delay the issuance of the permit beyond PacifiCorp’s projection. The RFP evaluation  
1001 process lacks credibility for having assigned no value to projects which have final  
1002 permits versus virtual projects such as the NBA, which could be delayed or cancelled for  
1003 any number of reasons.

1004

1005 **Q. Are there other aspects of the Spring Canyon bid that provide value to the**  
1006 **ratepayer that are not evaluated by the PacifiCorp RFP process?**

1007 **A.** Yes. The draft tolling agreement included in Section 9 of the Spring Canyon bid  
1008 response included the concept of a bonus and penalty if the facility availability was  
1009 above or below a specific negotiated level. During our discussions with PacifiCorp, the  
1010 specific availability factors were requested from Spring Canyon. During these  
1011 discussions, PacifiCorp's personnel insisted that summertime availability must be 100%.  
1012 Our final bid discussions were not concluded but did offer summertime availability of  
1013 100% and yearly availability of 96%. A bonus and penalty concept provided for the  
1014 capacity charge to be adjusted downward if Spring Canyon did not achieve the  
1015 guaranteed availability. The concept also provided for Spring Canyon to receive a bonus  
1016 if the availability was above the guaranteed levels, however, these values were never  
1017 discussed. The value of a guaranteed availability should have been included in the  
1018 evaluation process. PacifiCorp does not guarantee availability of its NBA and as such, if  
1019 PacifiCorp does not achieve the levels that Spring Canyon had guaranteed, the ratepayer  
1020 would pay that additional cost whereas Spring Canyon would pay that additional cost if it  
1021 does not achieve the guaranteed levels of availability. In other words, Spring Canyon has  
1022 to perform to very higher level of availability to obtain its full capacity charge; higher  
1023 levels than PacifiCorp has to achieve in order to make their full rate of return. Also, if  
1024 Spring Canyon was not required to provide such levels of availability, it would be willing  
1025 to lower its capacity charge commensurately. The process should have given credit for  
1026 the additional value which Spring Canyon provides which the NBA does not.

1027 **Q. Mr. Banasiewicz, how do you think the Public Service Commission should react**  
1028 **regarding PacifiCorp's errors with evaluating Spring Canyon?**

1029 **A.** First, I want the Commissioners to understand that my evaluation of the NBA and the  
1030 process is systematic, logical and accurate in its conclusions that Spring Canyon's Bid  
1031 No. 135 and Bid No. 653 beat the PVRR of the NBA. I have presented a detailed  
1032 analysis of Bid No. 135 compared to the NBA because Bid No. 135 is our higher price  
1033 bid and it wins against the economics of the NBA. Bid No. 653 also wins in a  
1034 comparison of the NBA. Based on my analysis, PacifiCorp's Currant Creek NBA is not  
1035 the least-cost alternative and, therefore, the Commission should not grant PacifiCorp a  
1036 certificate of public convenience and necessity. However if the Commissioners believe  
1037 PacifiCorp's revised IRP is well founded, then a resource deficit of over 1,000 Mw exists  
1038 in the summer of 2005 in Utah and new generation needs to be constructed to serve the  
1039 power demands. The Commissioners must act on that need and come to the conclusion  
1040 that both the NBA and Spring Canyon must be utilized to furnish that power since  
1041 neither facility can provide the required resources by itself. In spite of PacifiCorp's  
1042 flawed evaluation process, Spring Canyon really is the only facility among all the short-  
1043 listed bidders that provided certainty of delivery within the necessary timeframe. If the  
1044 Commission concludes that the IRP is not valid and that there are short-term solutions  
1045 which, avoid the blackouts that PacifiCorp has been alluding to its emergency  
1046 declarations, then the Commissioners should assemble a detailed, accurate and  
1047 independent review of all the bids that PacifiCorp received and compare them with the  
1048 NBA in a seamless transparent process designed by a truly independent auditor. The  
1049 results of the audit should speak for themselves and we would abide by that process.

1050 Q. Does this conclude your direct testimony?

1051 A. Yes.



**TABLE 1**

**PVRR COMPARISON OF SPRING CANYON AND CURRANT CREEK**

**(AS REPORTED BY PACIFICORP IN \$1,000)**

<b>Spring Canyon PVRR Bid No. 135</b>	<b>As Modeled By PacifiCorp</b>
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<b>Currant Creek PVRR</b>	<b>As Modeled By PacifiCorp 38-years</b>	<b>As Modeled By PacifiCorp 20-years</b>
---------------------------	--	--

Energy Value	\$ 1,085.5
Fuel	\$ (623.5)
Variable	\$ (67.5)
Operation & Maintenance	
Fixed	\$ (153.0)
Operation & Maintenance	
Carbon Tax	\$ (63.5)
Capital Charge	\$ (373.9)
PVRR	\$ (195.9)

Energy Value	\$ 2,136.4	\$ 1,538.3
Fuel	\$ (1,331.5)	\$ (958.7)
Variable	\$ (156.6)	\$ (112.7)
Operation & Maintenance		
Fixed	\$ (83.5)	\$ (60.1)
Operation & Maintenance		
Property Tax	\$ (45.1)	\$ (32.4)
Carbon Tax	\$ (173.3)	\$ (124.7)
Depreciation	\$ (110.7)	\$ (79.7)
Pre-Tax Return	\$ (281.9)	\$ (203.0)
PVRR	\$ (46.2)	\$ (33.0)

**TABLE 2**  
**CORRECTED FACILITY OUTPUT**  
**SPRING CANYON BID NO. 135**

	<b>Output that PacifiCorp</b>		<b>Output that PacifiCorp Should Have Utilized (Mw)</b>	
<b>Date</b>	<b>Used Mw</b>	<b>Temperature</b>	<b>Utilized (Mw)</b>	<b>Difference</b>
	<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>

Jun-05	404	66.7	419.6	-15.6
Jul-05	402	75.3	416.9	-14.9
Aug-05	402	73.6	417.5	-15.5
Sep-05	405	64.5	420.3	-15.3
Oct-05	411	52.6	425.3	-14.3
Nov-05	417	39.5	431.7	-14.7
Dec-05	422	30.3	437.1	-15.1
Jan-06	422	28.8	438.0	-16.0
Feb-06	420	33.3	435.3	-15.3
Mar-06	416	40.5	431.1	-15.1
Apr-06	413	48.6	427.2	-14.2
May-06	408	57.6	422.8	-14.8

**TABLE 3**  
**EFFECT OF CORRECTED OUTPUT ON VALUE RECEIVED**  
**SPRING CANYON BID NO. 135**

Date	Value Received As Calculated By PacifiCorp	Corrected MW Output	Dispatched Hours	Total Mwh	Effective Price (\$/Mwh)	Corrected Value Received
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Jun-05	\$ 9,271,244	419.6	456	191338	\$ 50.28	\$ 9,620,455
Jul-05	\$ 10,813,285	416.9	471	196360	\$ 57.07	\$ 11,206,259
Aug-05	\$ 11,883,285	417.5	471	196643	\$ 62.66	\$ 12,321,619
Sep-05	\$ 9,332,664	420.3	456	191657	\$ 50.51	\$ 9,680,585
Oct-05	\$ 8,043,537	425.3	472	200742	\$ 41.49	\$ 8,328,769
Nov-05	\$ 7,561,393	431.7	456	196855	\$ 39.81	\$ 7,836,806
Dec-05	\$ 8,434,821	437.1	471	205874	\$ 42.47	\$ 8,743,473
Jan-06	\$ 8,851,973	438	471	206298	\$ 44.48	\$ 9,176,135
Feb-06	\$ 7,565,210	435.3	426	185438	\$ 42.35	\$ 7,853,291
Mar-06	\$ 7,942,888	431.1	471	203048	\$ 40.51	\$ 8,225,479
Apr-06	\$ 7,188,547	427.2	455	194376	\$ 38.29	\$ 7,442,657
May-06	\$ 7,778,547	422.8	471	199139	\$ 40.42	\$ 8,049,190
Total	\$ 104,667,394					\$ 108,484,717

**TABLE 4**  
**EFFECT OF CORRECTED OUTPUT AND CORRECTED AVAILABILITY**  
**ON VALUE RECEIVED**  
**SPRING CANYON BID NO. 135**

<b>Date</b>	<b>Value Received As Calculated By PacifiCorp</b>	<b>Corrected MW Output</b>	<b>Corrected Dispatched Hours</b>	<b>Total Mwh</b>	<b>Effective Price (\$/Mwh)</b>	<b>Corrected Value Received</b>
	<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>	<b>Column 5</b>	<b>Column 6</b>
Jun-05	\$ 9,271,244	419.6	480	201408	\$ 50.28	\$ 10,126,794
Jul-05	\$ 10,813,285	416.9	495.8	206699	\$ 57.07	\$ 11,796,313
Aug-05	\$ 11,883,285	417.5	495.8	206997	\$ 62.66	\$ 12,970,401
Sep-05	\$ 9,332,664	420.3	480	201744	\$ 50.51	\$ 10,190,089
Oct-05	\$ 8,043,537	425.3	481.9	204952	\$ 41.49	\$ 8,503,461
Nov-05	\$ 7,561,393	431.7	465.6	201000	\$ 39.81	\$ 8,001,791
Dec-05	\$ 8,434,821	437.1	480.9	210201	\$ 42.47	\$ 8,927,253
Jan-06	\$ 8,851,973	438	480.9	210634	\$ 44.48	\$ 9,369,009
Feb-06	\$ 7,565,210	435.3	435	189356	\$ 42.35	\$ 8,019,205
Mar-06	\$ 7,942,888	431.1	480.9	207316	\$ 40.51	\$ 8,398,371
Apr-06	\$ 7,188,547	427.2	359.2	153450	\$ 38.29	\$ 5,875,610
May-06	\$ 7,778,547	422.8	480.9	203325	\$ 40.42	\$ 8,218,377
	\$ 104,667,394					\$ 110,396,675

**TABLE 5**  
**CORRECTED HEAT RATES**  
**SPRING CANYON BID NO. 135**

<b>Date</b>	<b>Heat Rate Used By PacifiCorp (Btu/kwh)</b>	<b>Corrected Heat Rates (Btu/kwh)</b>
	<b>Column 1</b>	<b>Column2</b>
Jun-05	7239	7050
Jul-05	7297	7095
Aug-05	7286	7086
Sep-05	7223	7038
Oct-05	7141	6994
Nov-05	7114	6960
Dec-05	7123	6970
Jan-06	7125	6971
Feb-06	7119	6956
Mar-06	7114	6960
Apr-06	7124	6983
May-06	7168	7008

**TABLE 6**  
**EFFECT OF USING CORRECT HEAT RATES**  
**SPRING CANYON BID NO. 135**

<b>Date</b>	<b>Fuel Cost As Calculated By PacifiCorp</b>	<b>Corrected Heat Rate (Btu/kwh)</b>	<b>Dispatched Hours</b>	<b>Output MW</b>	<b>Fuel Cost (Price/MMBtu)</b>	<b>Corrected Fuel Cost that PacifiCorp Should Have Utilized Column 6</b>
	<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>	<b>Column 5</b>	
Jun-05	\$ 5,378,200	7050	456	404	\$ 4.03	\$ 5,234,080
Jul-05	\$ 5,605,296	7095	471	402	\$ 4.05	\$ 5,440,695
Aug-05	\$ 5,601,680	7086	471	402	\$ 4.05	\$ 5,433,794
Sep-05	\$ 5,403,521	7038	456	405	\$ 4.05	\$ 5,264,100
Oct-05	\$ 5,681,511	6994	472	411	\$ 4.10	\$ 5,562,798
Nov-05	\$ 5,942,466	6960	456	417	\$ 4.39	\$ 5,809,980
Dec-05	\$ 6,490,993	6970	471	422	\$ 4.58	\$ 6,345,000
Jan-06	\$ 6,787,960	6971	471	422	\$ 4.78	\$ 6,623,024
Feb-06	\$ 6,056,155	6956	426	420	\$ 4.76	\$ 5,924,141
Mar-06	\$ 6,370,570	6960	471	416	\$ 4.56	\$ 6,218,538
Apr-06	\$ 5,567,936	6983	455	413	\$ 4.16	\$ 5,458,795
May-06	\$ 5,626,190	7008	471	408	\$ 4.07	\$ 5,481,123
	\$ 70,512,478					\$ 68,796,070

**TABLE 7**  
**EFFECT OF CORRECTED VARIABLE O&M RATE**  
**SPRING CANYON BID NO. 135**

Date	Variable O&M as Calculated By PacifiCorp	Corrected MW Output	Corrected Dispatched Hours	Corrected Variable O&M \$/Mhw	Corrected Value Received
	Column 1	Column2	Column 3	Column 4	Column 6
Jun-05	\$ 475,696	419.6	480	\$ 3.44	\$ 692,844
Jul-05	\$ 488,825	416.9	495.8	\$ 3.44	\$ 711,045
Aug-05	\$ 489,272	417.5	495.8	\$ 3.44	\$ 712,068
Sep-05	\$ 476,669	420.3	480	\$ 3.44	\$ 693,999
Oct-05	\$ 500,087	425.3	481.9	\$ 3.44	\$ 705,035
Nov-05	\$ 490,091	431.7	412.8	\$ 3.44	\$ 613,028
Dec-05	\$ 512,435	437.1	480.9	\$ 3.44	\$ 723,093
Jan-06	\$ 527,780	438	480.9	\$ 3.54	\$ 745,645
Feb-06	\$ 473,746	435.3	435	\$ 3.54	\$ 670,318
Mar-06	\$ 519,981	431.1	480.9	\$ 3.54	\$ 733,899
Apr-06	\$ 497,845	427.2	411.9	\$ 3.54	\$ 622,911
May-06	\$ 510,395	422.8	480.9	\$ 3.54	\$ 719,769
Totals	\$ 5,962,822				\$ 8,343,654

**TABLE 8****EFFECT OF CORRECTED FIXED O&M RATE****SPRING CANYON BID NO. 135**

<b>Date</b>	<b>Fixed O&amp;M as Calculated By PacifiCorp</b>	<b>Corrected Fixed O&amp;M Rate \$/kw•m</b>	<b>Facility Capacity (kw)</b>	<b>Corrected Value Received</b>
	<b>Column 1</b>	<b>Column2</b>	<b>Column 3</b>	<b>Column 6</b>
Jun-05	\$ 1,102,230	\$ 1.33	421,650	\$ 560,795
Jul-05	\$ 1,102,230	\$ 1.33	421,650	\$ 560,795
Aug-05	\$ 1,102,230	\$ 1.33	421,650	\$ 560,795
Sep-05	\$ 1,102,230	\$ 1.33	421,650	\$ 560,795
Oct-05	\$ 1,102,230	\$ 1.33	421,650	\$ 560,795
Nov-05	\$ 1,102,230	\$ 1.33	421,650	\$ 560,795
Dec-05	\$ 1,102,230	\$ 1.33	421,650	\$ 560,795
Jan-06	\$ 1,133,014	\$ 1.37	421,650	\$ 577,661
Feb-06	\$ 1,094,569	\$ 1.37	421,650	\$ 577,661
Mar-06	\$ 1,133,014	\$ 1.37	421,650	\$ 577,661
Apr-06	\$ 1,133,014	\$ 1.37	421,650	\$ 577,661
May-06	\$ 1,133,014	\$ 1.37	421,650	\$ 577,661
	\$ 13,342,235			\$ 6,813,864



**TABLE 9**  
**ADJUSTED PVRR**  
**SPRING CANYON BID NO. 135**

<b>Spring Canyon PVRR</b>	<b>As Modeled By PacifiCorp</b>	<b>Corrected</b>	<b>Percentage of Variance</b>
	<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>
Energy Value	\$ 1,085.5	\$ 1,145.2	5.5%
Fuel	\$ (623.5)	\$ (637.8)	2.3%
Variable			
Operation & Maintenance	\$ (67.5)	\$ (94.4)	33.3%
Fixed	\$ (153.0)	\$ (78.2)	-48.9%
Operation & Maintenance			
Carbon Tax	\$ (63.5)	\$ (63.5)	0.0%
Capital Charge	\$ (373.9)	\$ (344.0)	-8.0%
PVRR	\$ (195.9)	\$ (72.7)	

**TABLE 10****ADJUSTED CURRANT CREEK PVRR**

<b>Currant Creek PVRR</b>	<b>As Modeled by PacifiCorp 38-Years</b>	<b>Adjusted</b>	<b>Percentage of Variance</b>	<b>As Modeled By PacifiCorp 20-Years</b>	<b>Adjusted</b>	<b>Percentage of Variance</b>
	<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>	<b>Column 5</b>	<b>Column 6</b>
Energy Value	\$ 2,136.4	\$ 1,773.2	-17.0%	\$ 1,538.3	\$ 1,276.7	-17.0%
Fuel	\$ (1,331.5)	\$ (1,105.1)	-17.0%	\$ (958.7)	\$ (793.9)	-17.0%
Variable						
Operation & Maintenance	\$ (156.6)	\$ (199.4)	27.8%	\$ (112.7)	\$ (144.0)	27.8%
Fixed	\$ (83.5)	\$ (83.5)		\$ (60.1)	\$ (60.1)	
Operation & Maintenance						
Property Tax	\$ (45.1)	\$ (45.1)		\$ (32.4)	\$ (32.4)	
Carbon Tax	\$ (173.3)	\$ (153.3)	-11.6%	\$ (124.7)	\$ (110.2)	-11.6%
Depreciation	\$ (110.7)	\$ (110.7)		\$ (79.7)	\$ (79.7)	
Pre-Tax Return	\$ (281.9)	\$ (281.9)		\$ (203.0)	\$ (202.9)	
PVRR	\$ (46.2)	\$ (205.7)		\$ (33.0)	\$ (146.5)	