
BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Voluntary
Request of Rocky Mountain Power
for Approval of Resource Decision
and Request for Accounting Order

Docket 14-035-147

**Direct Testimony of
Jeremy I. Fisher, PhD
On Behalf of
Sierra Club**

REDACTED

March 17, 2015

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1 **1. INTRODUCTION AND PURPOSE OF TESTIMONY**

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

3 My name is Jeremy Fisher. I am a Principal Associate with Synapse Energy
4 Economics, Inc. (“Synapse”), which is located at 485 Massachusetts Avenue,
5 Suite 2, in Cambridge, Massachusetts.

6 **Q Please describe Synapse Energy Economics.**

7 Synapse Energy Economics is a research and consulting firm specializing in
8 energy and environmental issues, including electric generation, transmission and
9 distribution system reliability, ratemaking and rate design, electric industry
10 restructuring and market power, electricity market prices, stranded costs,
11 efficiency, renewable energy, environmental quality, and nuclear power.

12 **Q Please summarize your work experience and educational background.**

13 **A** I have ten years of applied experience as a geological scientist, and six years of
14 working within the energy planning sector, including work on integrated resource
15 plans, long-term planning for utilities, states, and municipalities, electrical system
16 dispatch, emissions modeling, the economics of regulatory compliance, and
17 evaluating social and environmental externalities.

18 I have provided consulting services for various clients, including the U.S.
19 Environmental Protection Agency (“EPA”), the National Association of
20 Regulatory Utility Commissioners (“NARUC”), the California Energy

21 Commission (“CEC”), the California Division of Ratepayer Advocates
22 (“CADRA”), the National Association of State Utility Consumer Advocates
23 (“NASUCA”), National Rural Electric Cooperative Association (“NRECA”), the
24 State of Utah Energy Office, the state of Alaska, the state of Arkansas, the
25 Regulatory Assistance Project (“RAP”), the Western Grid Group, the Union of
26 Concerned Scientists (“UCS”), Sierra Club, Earthjustice, Natural Resources
27 Defense Council (“NRDC”), Environmental Defense Fund (“EDF”), Stockholm
28 Environment Institute (“SEI”), Civil Society Institute, New Energy Economy, and
29 Clean Wisconsin. I developed a regulatory tool for EPA and state air quality
30 agencies, released by EPA in 2014 as the Avoided Emissions and Generation
31 Tool (“AVERT”), and continue to provide technical support to EPA regarding
32 electric utility planning practices.

33 I have provided testimony in electricity planning and general rate case dockets in
34 Indiana, Louisiana, Kansas, Kentucky, Oklahoma, Oregon, Nevada, New Mexico,
35 Utah, Wisconsin, and Wyoming. I have reviewed and evaluated the energy
36 planning practice of utilities in dockets involving integrated resource plans
37 (“IRP”) and certificates of public convenience and necessity (“CPCN”).

38 I hold a B.S. in Geology and a B.S. in Geography from the University of
39 Maryland, and a Sc.M. and Ph.D. in Geological Sciences from Brown University.

40 My full curriculum vitae is attached as Exhibit SC__JIF-1.

41 **Q On whose behalf are you testifying in this case?**

42 **A** I am testifying on behalf of Sierra Club.

43 **Q Have you testified in front of the Utah Public Service Commission**
44 **previously?**

45 **A** Yes. Most recently, I provided direct and surrebuttal testimony in response to
46 Rocky Mountain Power's voluntary request for approval for the selective catalytic
47 reduction (SCR) controls at Jim Bridger Units 3 and 4 (Docket 12-035-92), and in
48 PacifiCorp's 2011 general rate case (Docket 10-035-124). I also submitted direct
49 written testimony in PacifiCorp's recent 2014 general rate case (Docket 13-035-
50 184). I have also provided testimony on PacifiCorp planning issues before the
51 Wyoming and Oregon Commissions.

52 **Q What is the purpose of your testimony?**

53 **A** My testimony reviews the analyses conducted by PacifiCorp (d.b.a. Pacific Power
54 in Oregon, or the "Company") to determine if the closure of Deer Creek mine,
55 sale of related assets, and acquisition of a long-term coal supply agreement
56 ("CSA") for coal at Huntington Power Station ("Huntington") is in the best
57 interest of the Company's customers. First, I assess if the Company has
58 appropriately characterized and captured the risk that Huntington may require
59 additional environmental controls within the timeframe of the CSA that would,
60 but for the CSA, require Huntington to be closed. Second, I review three elements

61 of the Company's economic assessment and determine if the Company has
62 appropriately characterized the benefits of the CSA, even without the assumption
63 of early closure at Huntington.

64 **Q Please describe your understanding of the Company's request in this docket.**

65 **A** The Company is requesting Commission approval of various components of a
66 plan to close the Deer Creek mine, which supplies most of the fuel used at the
67 Huntington coal plant in Utah, and to approve a series of agreements with Bowie
68 Resource Partners, LLC ("Bowie"), which are bundled by the Company into a
69 single transaction (the "Transaction"). Based on the degradation of the fuel supply
70 at Deer Creek mine, and rapidly escalating employee pension obligations for mine
71 workers at Deer Creek, the Company decided to close the Deer Creek mine in
72 December 2014. The Company also executed a new coal supply agreement
73 ("CSA") for Huntington, which is conditioned on PacifiCorp obtaining all
74 necessary regulatory approvals, including approval from the Commission. In
75 addition to seeking approval of the mine closure and the new Huntington CSA,
76 the Company requested that the Commission allow specific regulatory treatment
77 of the costs associated with the plan. The Company also requested a pre-approval
78 determination from the Commission that the entire Transaction, including the
79 replacement Huntington CSA, is prudent.

80 **Q How has the Company supported its application?**

81 **A** In her testimony, Ms. Cindy Crane presented an economic analysis of three cases
82 prepared by the Company: (1) closure of the Deer Creek mine in 2015 and
83 replacement with a 15-year fuel supply agreement with Bowie (“Transaction
84 Case”), (2) maintaining the Deer Creek mine through 2019 and proceeding with
85 market purchases thereafter (“Keep Case”), and (3) closure of the Deer Creek
86 mine and replacement of the Huntington fuel supply primarily through spot
87 market purchases (“Market Case”). In each case, the Company assumed that
88 Huntington would continue operations through 2036 at identical levels of
89 generation and availability. Ms. Crane’s analysis suggests that, through the
90 Transaction, customers would see a benefit of \$ [REDACTED] (to 2036)¹ above
91 having retained Deer Creek through 2019, and a benefit of \$ [REDACTED] above
92 obtaining coal from the Utah spot market.²

93 **Q Do you support the Company’s request?**

94 **A** No. I have three primary concerns with the Company’s application. First, I think
95 that there is a high risk that the terms in the Huntington CSA could commit
96 customers to maintaining Huntington through the end of the CSA in 2029, even if
97 continued operation of the plant would otherwise not be in the best interests of
98 ratepayers. Second, the Company’s economic justification of the Transaction
99 Case compared to the Market Case contains several errors because it assigns costs

¹ All net present value calculations in this testimony are to 2036.

² Exhibit RMP__(CAC-7).

100 to the Market Case that will not occur. Third, the Company's analysis makes
101 assumptions about carbon price forecasts and operations at the Hunter Power
102 Plant that are internally inconsistent.

103 **Q Please summarize your conclusion.**

104 **A** Overall, the Company failed to demonstrate that a long-term coal supply
105 agreement with Bowie is a better choice for ratepayers compared to acquiring coal
106 from the market. I do not object to the Company's conclusion that closure of the
107 Deer Creek mine is in the best interests of customers. However, the risks to
108 ratepayers from the Company's plan to enter into a 15-year take-or-pay coal
109 contract for Huntington far exceed the relatively small price benefits compared to
110 acquiring coal on the market.

111 **Q How did you arrive at this conclusion?**

112 **A** I based my conclusion on several findings. First and foremost, the Company
113 neglected to test whether maintaining Huntington power station through 2029 is
114 in the best interests of customers. Although the Company asserts that an
115 "environmental-out" provision would allow some flexibility to avoid take-or-pay
116 liabilities in the CSA,³ the Company has not definitively shown that the
117 Huntington CSA would protect customers if the plant becomes non-economic
118 before the close of the contract.

³ Direct Testimony of Cindy Crane, page 14.

119 Second, the Company's characterization of the Retiree Medical Obligation is
120 inconsistent with its analysis. The benefits achieved by the Company's
121 renegotiation of its union contract is based on the assumption that the Deer Creek
122 mine closes, and therefore it should apply to both the Transaction Case and the
123 Market Case. After this adjustment, the benefit of the transaction is reduced by
124 \$ [REDACTED], to \$ [REDACTED].

125 Third, the coal spot market price used by the Company in the Market Case
126 assessment assumes no carbon dioxide (CO₂) regulations, even though Company
127 witness Mr. Seth Schwartz provided coal prices in the presence of CO₂
128 regulations and the Company's reference position in the current Integrated
129 Resource Plan (IRP) process is that CO₂ regulations will be enacted. Adjusting to
130 use the correct market coal prices further reduces the benefit of the Transaction
131 over the Market Case by \$ [REDACTED], to \$ [REDACTED].

132 Finally, the Company has assumed that, in the Market Case, achieving the correct
133 quality specifications will require blending activities at Hunter that were
134 previously performed at the Coal Preparation Plant, a separate facility owned by
135 PacifiCorp. The Company adds a blending cost to Hunter in the Market Case, but
136 not in the Transaction Case, effectively assuming that such services will be
137 provided for free [REDACTED], even though Hunter has no contractual
138 obligation [REDACTED] after this date. Correcting the assumption that blending
139 services would be provided free of charge further reduces the benefit of the

140 transaction over the market case by \$ [REDACTED], to just \$ [REDACTED] (to 2036).

141 Table 1, below, summarizes each of these adjustments.

142 **Table 1. Present Value of Revenue Requirements difference (“PVRR(d)”) between**
143 **Transaction and Market cases, 2015-2036 (millions 2015\$). Sums may not add due**
144 **to rounding.**

Adjustment	Change in PVRR(d)	Benefit of Transaction (PVRR(d))
Company Case		
Retiree Med. Obligation	[REDACTED]	[REDACTED]
CO ₂ Effect on Coal Price	[REDACTED]	[REDACTED]
Blending Costs at Hunter	[REDACTED]	[REDACTED]
Total	[REDACTED]	[REDACTED]

145

146 Overall, I find that the Company has overstated the value of the transaction
147 compared to the market case by \$ [REDACTED], or 68%. These adjustments leave an
148 estimated benefit to customers of only \$ [REDACTED] in exchange for committing
149 customers to 15-years of burning coal at Huntington. Even in the absence of my
150 concern that the long-term contract reduces the Company’s optionality and binds
151 the operations of Huntington, it is not clear that the Transaction would
152 substantially outperform the Market. This contract is one of the largest single
153 investments of the Company in the last decade, worth at least \$ [REDACTED].⁴ The
154 relatively small benefit realized from the Transaction (less than 9% of the value of
155 the CSA) is strongly outweighed by the risk of take-or-pay penalties if the
156 Company closes Huntington prior to the end of the CSA term.⁵ For example, if

⁴ Net present value of CSA at [REDACTED] prices with [REDACTED] from 2016-2029, 2015\$.

⁵ Assumes Huntington is closed in 2021, and CSA penalties are realized from 2022-2029, 2015\$.

157 the unit were closed for economic reasons in 2021, PacifiCorp could incur \$ [REDACTED]
158 [REDACTED] in penalties.

159 **Q What is your recommendation to the Commission in this matter?**

160 **A** The Commission may approve the request to close the Deer Creek mine. The
161 Commission should conditionally reject the Company's request to approve the
162 Huntington CSA because the contract and take-or-pay obligations substantially
163 reduce the options for the Company to exit Huntington should the plant become
164 non-economic on a forward-looking basis, and the CSA provides relatively little
165 benefit to ratepayers.

166 The conditions under which this CSA could be acceptable are:

- 167 1. The Company commits to review the forward-looking economics of
168 Huntington as if the CSA could be exited at their discretion (i.e. model
169 Bowie coal provided to Huntington as fully avoidable and variable);
- 170 2. The Company commits to hold ratepayers harmless for any and all coal
171 liquidated damages and/or take-or-pay penalties resulting from an early
172 exit from the CSA if a forward-looking assessment of Huntington shows
173 that either one or both of the units at the plant are non-economic;
- 174 3. The Company commits to modeling the operations of Huntington with a
175 variable cost of fuel for the Huntington CSA;

176 4. The Company commits to assess the forward-looking economics of the
177 Huntington units, separately, for any capital costs expected to be incurred
178 at the units in excess of \$25 million, when such requirements are known.

179 With these commitments, ratepayers are reasonably protected from the reduction
180 in optionality imposed by the Huntington CSA.

181 **2. THE COMPANY FAILED TO ASSESS POTENTIAL CLOSURE OF HUNTINGTON**
182 **PRIOR TO COAL CONTRACT'S END DATE**

183 **Q Did the Company assess the benefit of maintaining Huntington through the**
184 **length of the CSA?**

185 **A** No. The analyses conducted by Ms. Crane review the costs of obtaining coal
186 under different circumstances, but the Company did not evaluate the probability,
187 or even remote possibility, that Huntington may not remain economic through
188 2029.

189 The Commission should require PacifiCorp to analyze large, long-term coal
190 contracts for existing units with the same level of scrutiny applied to large capital
191 investments. In order to demonstrate that a long-term fuel contract is prudent, the
192 utility must consider whether potential future investments and/or long-term
193 contract liabilities could be avoided through a timely retirement and replacement
194 of the existing unit at issue. Prior to 2012, PacifiCorp did not typically examine
195 whether retiring an existing unit to meet environmental compliance obligations
196 could be a benefit to ratepayers. In 2012, the Oregon Public Utility Commission

197 in Oregon Docket UE-246 found that such an analysis formed a critical basis of
198 making forward looking decisions in the face of large commitments.⁶ Since that
199 time, this Commission reviewed a request for voluntary approval of a resource
200 decision for Bridger 3 & 4, and in approving the resource decision held that the
201 Company “must [implement it resource decision] in a manner that preserves its
202 flexibility to respond appropriately to final EPA action that is outside the bounds
203 of the assumptions on which its Application rests.”⁷ . Consideration of a long-
204 term coal supply agreement is fundamentally the same: to the extent that the coal
205 contract binds PacifiCorp to a minimum annual cost for a specified period of time,
206 it represents a ratepayer commitment commensurate with that of a capital
207 investment.

208 **Q Under what circumstances might Huntington cease to be economic prior to**
209 **the end of the CSA?**

210 **A** Like other coal units in both PacifiCorp’s fleet, and throughout the United States,
211 Huntington will likely face future environmental obligations that will require
212 capital retrofits or increased operating costs. Coal plants may also just cease to be

⁶ Order 12-493 (December 20, 2012) in Oregon PUC Docket UE 246. C.3.d. “We expect a utility to fully evaluate all major investments that have implications for the utility’s resource mix-including those where the investment will extend the useful life of an asset and where a plant shutdown is an option-in its IRP. Although the IRP process is not a legal prerequisite for a utility to seek recovery of investments in rates, we have repeatedly stated that the IRP process serves as a complement to the rate-making process and reduces the uncertainty of recovery. We give considerable weight to actions that are consistent with an acknowledged IRP, and consistency with the plan is evidence to support favorable rate-making treatment of the action. If a utility seeks rate recovery of a significant investment that has not been included in an IRP, we will hold the utility to the same level of rigorous review required by the IRP to demonstrate the prudence of the project.”

⁷ Order (May 10, 2013) in Docket 12-035-92, at page 29.

213 a least cost source of energy for PacifiCorp customers if gas prices remain low
214 and renewable energy continues to decline in cost.

215 The Huntington plant in particular could face additional costs to comply with the
216 Regional Haze Rule. Utah submitted a proposed best available retrofit technology
217 (“BART”) determination for the Huntington plant in 2011, which was rejected by
218 EPA in 2012.⁸ Utah is in the process of revising its BART determination for
219 Huntington.⁹ Although Utah has thus far not proposed additional NO_x controls at
220 Huntington, that determination, if finalized by Utah, will be subject to review by
221 EPA. When a Huntington BART determination is finalized, any necessary
222 pollution control measures will likely be required within five years. Assuming the
223 BART determination is finalized this year, compliance could be realized as early
224 as 2020.

225 In the current stakeholder materials for the impending 2015 Integrated Resource
226 Plan (IRP), PacifiCorp’s reference case assumes that Huntington 1 & 2 will both
227 require the addition of selective catalytic reduction (SCR) by December 2022,
228 respectively,¹⁰ presumably for compliance with expected regional haze
229 determination from EPA. The Company’s 2014 Strategic Asset Plan (SAP) for
230 Huntington [REDACTED]

⁸ 77 FedReg 74355

Utah DEQ Memorandum to Air Quality Board, February 19, 2015.

http://www.deq.utah.gov/boards/airquality/docs/03Mar/ITEM_6_SIP_XX.D.6_IX.H.21-22.pdf Attached as Exhibit SC__JIF-2.

¹⁰ 2015 Integrated Resource Plan, Public Input Meeting 6. January 29-30, 2015 (Excerpt), at 53. Attached as Exhibit SC__JIF-3.

231

[REDACTED]

232

[REDACTED]¹¹ Two of the Company's alternate regional haze compliance scenarios in the IRP assume the retirement of one or both of the units in the early 2020s.

233

234 **Q**

Did the Company consider the possibility that Huntington might retire in the early 2020's when it analyzed the Deer Creek Transaction?

235

236 **A**

No. In response to Sierra Club data request 1.27, the Company stated that in each of the three cases is analyzed, it assumed Huntington would operate through its depreciable life in 2036¹². This assumption is inconsistent with several scenarios considered in the IRP. It also ignores the very real possibility, if not probability, that a requirement to install SCR at Huntington could make the plant non-economic. In fact, the 2014 Huntington SAP indicates [REDACTED]

241

242

[REDACTED]

243

[REDACTED]

244

[REDACTED]

245

[REDACTED]¹³.

246

Even without an SCR requirement, extended low gas prices could keep

247

Huntington out of the money and render it a poor option for ratepayers. Indeed,

248

the cost of energy from coal at Huntington in 2014 was approximately at parity

¹¹ Huntington 2014 Strategic Asset Plan, provided in Oregon Docket UM 1712, Attach Sierra Club 2.7 2nd Supp CONF. Attached as CONFIDENTIAL Exhibit SC___JIF-4. This document is provided in this docket with the Company's approval.

¹² Attached as Exhibit SC___JIF-5.

¹³ It is not clear why PacifiCorp assumes an option to retire in 2029 if pollution controls are required in 2022. A delay in the compliance obligation would be subject to regulatory review.

249 with the cost of energy from a new combined cycle gas unit (in \$/MWh, without
250 O&M costs).¹⁴ It would not be out of the question to imagine that Huntington
251 could become non-economic in the next fourteen years.

252 **Q What type of penalties or damages would the Company face if it retired**
253 **Huntington before the end of the CSA term?**

254 **A** The CSA [REDACTED]
255 [REDACTED]
256 [REDACTED]
257 [REDACTED] However, there is a substantial risk
258 that an early closure of Huntington, in 2022 for example, could result in up to
259 \$ [REDACTED] (2015\$, net present value) of contract liabilities under the CSA.¹⁵

260 **Q Is the Company protected should environmental obligations render**
261 **Huntington non-economic?**

262 **A** In some circumstances, yes. There is an “environmental out” provision in the
263 Huntington CSA.¹⁶ Overall, this provision is a step in the right direction because
264 it does allow the Company to avoid long-term contract penalties in certain
265 circumstances. However, the provision does not go far enough to protect

¹⁴ Huntington 2014 fuel cost: \$1.81/MMBtu average fuel cost at Huntington in 2014 (from EIA Form 923) and 10.1 heat rate MMBtu/MWh (from EIA Form 923) = **\$18.3/MWh**. Gas 2015 fuel cost: \$2.82/MMBtu (from December 2014 Official Forward Price Curve, Response to SC DR 2.13) and 6.667 heat rate (from Gas CCCT Dry “G/H” 2x1 in 2015 IRP Public Input Meeting #3, slide 15) = **\$18.8/MWh**

¹⁵ 2015 net present value of [REDACTED] CSA coal costs from 2022 through 2029, inclusive, with [REDACTED]

266 ratepayers from the risk that the Huntington plant may become non-economic
267 within the term of the CSA.

268 The Company asserts that customers would be protected because the CSA
269 includes a “broad termination right in favor of the Company in the event existing
270 or new environmental obligations adversely affect the Company’s ability to burn
271 coal as the Huntington power plant.”¹⁷ It is not clear, however, that the language
272 “affect the Company’s ability to burn coal” would cover scenarios where
273 environmental regulations or law simply made burning coal more expensive, but
274 did not create an outright prohibition or restriction on burning coal. Sierra Club
275 attempted several times to confirm with the Company whether this provision
276 would extend to the scenario discussed above where an SCR is required, which is
277 consistent with the scenarios identified in the Company’s IRP. The Company
278 refused to answer and simply stated that “the contract speaks for itself.”¹⁸

279 **Q Did you review the “environmental out” clause in the Huntington CSA?**

280 **A** Yes. The Company included the Huntington CSA as Exhibit RMP__(CAC-5).

281 Starting on page 20, the Huntington CSA with Bowie¹⁹ [REDACTED]

282 [REDACTED] I am not an attorney, and therefore I would

283 recommend that the Commission rely on legal briefing or its own counsel’s

284 analysis of this provision. Nevertheless, absent a clear indication from the

¹⁷ Direct Testimony of Cindy Crane, page 14.

¹⁸ Response to SC DR 1.25 and 2.1.

¹⁹ See Exhibit RMP__(CAC-5).

285 Company on the record that ratepayers would not be on the hook for any long-
286 term contract costs if Huntington closes early, I had no choice but to rely on the
287 contract language itself to determine the risk to ratepayers. [REDACTED]

288 [REDACTED]
289 [REDACTED]
290 [REDACTED]
291 [REDACTED]
292 [REDACTED]
293 [REDACTED]
294 [REDACTED]
295 [REDACTED]
296 [REDACTED]
297 [REDACTED]
298 [REDACTED]
299 [REDACTED]

300 **Q Do environmental regulations or laws typically compel a utility to cease**
301 **burning coal at an existing unit?**

302 **A** Generally not. Most environmental laws and regulations impacting coal plants in
303 the west require the plant to meet specific pollution limits, which typically
304 requires the installation of a specific pollution control technology. These

²⁰ Exhibit RMP ___ (CAC-5), page 20.

305 requirements can be very costly, and in many instances lead to the conclusion that
306 it would be more economical to shutter the plant than incur the required costs to
307 install pollution controls. While numerous utilities have claimed that
308 environmental regulations render their coal operations non-viable, the choice to
309 continue operations or cease burning coal is generally an economic decision. This
310 means that multiple factors, including gas and power prices, demand forecasts,
311 CO₂ cost estimates and other risk calculations, all play a part in deciding whether
312 or not to continue to operate a plant. While a specific regulation may be the straw
313 that breaks the camel's back, it is often hard to say that an environmental
314 regulation by itself "adversely affects the Company's ability to burn coal."²¹
315 The Company's choice, for example, to convert Naughton 3 to a natural gas
316 burning steam unit is based on PacifiCorp's economic modeling, which indicated
317 that ratepayers would see a benefit if the Company did not retrofit the coal unit.²²
318 PacifiCorp then applied to Wyoming Department of Environmental Quality (WY
319 DEQ) to alter their permit conditions,²³ but even in EPA's final rule for

²¹ See Direct Testimony of Cindy Crane, page 14.

²² Wyoming Docket 20000-400-EA-11. See specifically Company's Motion to Withdraw (May 11, 2012). Paragraph 1. "The Company's rebuttal testimony and updated data, based on the analysis undertaken in response to testimony filed by intervenors, showed that the planned environmental upgrades to the Naughton Unit 3 generating facility are no longer cost-effective, and that the interests of the Company and its ratepayers would best be served by converting the Naughton Unit 3 generating facility to a natural gas peaking facility." Attached as Exhibit SC___JIF-6.

²³ Explained by PacifiCorp Vice President of Resource Development and Construction, Mr. Chad Teply in Utah Docket 13-035-184. Exhibit RMP___(CAT-9). Attached as Exhibit SC___JIF-7.

320 Wyoming, the agency indicated that, while the conversion was supported, the
321 agency could not require PacifiCorp to convert the unit to natural gas.²⁴

322 Similarly, the proposed 111(d) rule for carbon dioxide mitigation from existing
323 sources, currently called the Clean Power Plan, does not require the cessation of
324 coal burning operations. This proposed rule provides options to allow the
325 continued use of high emissions resources if those resources are balanced with
326 clean energy options; states (and presumably utilities) are provided flexibility to
327 determine how to change operations to meet rate-based limits.

328 Similarly, I know of no settlement yet entered into by PacifiCorp to cease burning
329 coal at any unit in response to an environmental law or regulation. At Naughton,
330 PacifiCorp found to its own satisfaction that the unit was more economic
331 converted than retrofit. Similarly, the Company's decision to retire Carbon was
332 unilateral, and the impending decision to convert Cholla 4 to natural gas in 2025
333 is also based on a Company proposition,²⁵ rather than a settlement.

²⁴ See 79 FedReg 5032. Page 5045: "EPA supports PacifiCorp's conversion of Naughton Unit 3 to natural gas. However, we have the authority and obligation to take action on the SIP as submitted by the State, and there is no basis to disapprove the SIP. Since we are approving the SIP, we do not have authority to impose FIP limits even if independently requested by a source. Therefore, we cannot use the FIP to relieve Naughton Unit 3 of the obligation to achieve the 0.07 lb/MMBtu NOX emission limit in the SIP nor to impose emission limits for SO2 and PM that reflect the planned conversion to natural gas."

²⁵ Oregon Docket LC 57. PacifiCorp's Confidential Cholla 4 Special IRP Update. September 29, 2014. Redacted Version, page 4. "PacifiCorp will pursue a compliance strategy that avoids installation of SCR with a firm commitment to cease operating Cholla Unit 4 as a coal-fired unit in early 2025."

334 **Q** Could the Company trigger the “environmental-out” if it determined that
335 installing a pollution control on Huntington was non-economic?

336 **A** [REDACTED]
337 [REDACTED]
338 [REDACTED]
339 [REDACTED]
340 [REDACTED]
341 [REDACTED]
342 [REDACTED]
343 [REDACTED]
344 [REDACTED]
345 [REDACTED]
346 [REDACTED]

347 **Q** Are there other reasons why PacifiCorp might otherwise elect to cease or
348 reduce burning coal at Huntington prior to the end of the CSA in the absence
349 of a specific environmental rule or regulation?

350 **A** Yes. Simply stated, coal operations at Huntington could become non-economic
351 based on low gas or market prices, reduced demand, expanded renewable energy,
352 increased demand for more flexible resources, or reduced coal quality supplied by
353 the Bowie CSA. [REDACTED]

354 [REDACTED]²⁶ If there came a time that the
355 continued operation of Huntington became non-economic, or even if Huntington
356 dispatch falls below about [REDACTED] with economic dispatch,²⁷ [REDACTED]
357 [REDACTED]
358 [REDACTED]

359 **Q Are there steps the Commission could take to protect ratepayers from the**
360 **risk of long-term coal contract liabilities in this case?**

361 **A** Yes. The Commission could condition approval of the Transaction on a finding
362 that if PacifiCorp reduces or ceases coal operation at the Huntington coal plant
363 prior to the expiration of the Huntington CSA in 2029, due directly or indirectly
364 to any requirement related to any existing or future environmental rules or
365 regulations, then PacifiCorp would not be permitted to recover from ratepayers
366 any long-term coal contract liabilities related to the Huntington CSA. The
367 Commission should also make clear that all of the Company's planning
368 assumptions in its decision making related to environmental retrofits at
369 Huntington should assume that the coal contract liabilities are avoidable.

²⁶ Exhibit RMP (CAC-5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

370 **3. RETIREE MEDICAL OBLIGATION IS SETTLED AND A SUNK COST**

371 **Q Please explain the benefit to customers derived from the transfer of the**
372 **Company's Retiree Medical Obligation from Energy West to the United**
373 **Mine Workers of America.**

374 **A** As described in Ms. Crane's direct testimony, the Company recently settled a
375 protracted labor dispute with the UMWA.²⁸ As part of this settlement, the
376 Company negotiated the transfer of its Retiree Medical Obligation (RMO) to the
377 Union in exchange for a one-time lump-sum payment of \$150 million.²⁹ [REDACTED]

378 [REDACTED]

379 [REDACTED]

380 [REDACTED] Because the transfer reduces future expenses that would have been
381 incurred by the Company and passed on to customers, it is treated as a benefit to
382 customers. A Memorandum of Understanding memorializing this settlement was
383 signed by the Company and UMWA on December 8, 2014.³¹

²⁸ Direct Testimony of Cindy Crane, page 16 at 342-344.
²⁹ Oregon Docket UM 1712, Response to ICNU Data Request 1.16, Attachment ICNU 1.16, Exhibit B, Memorandum of Understanding Related to Provisions of Medical and Pharmaceutical Benefits to Eligible Retirees, December 8, 2014 (Excerpt), at ¶ 4. Attached as Exhibit SC___JIF-8.
³⁰ Company Workpapers, Response to SC 1.1, EW Fin Model 12-15-14, EW FRF Pro Forma Closure Sale.xlsx, tab PRW Settlement, cell B5.
³¹ See response to OCS Data request 2.17. See also Exhibit SC___JIF-8.

384 **Q Is the benefit from the transfer of the Retiree Medical Obligation reflected in**
385 **the Company’s analysis of its Keep, Market, and Transaction Cases?**

386 **A** No. The benefit from the transfer is reflected only in the Company’s preferred
387 Transaction Case. In the (now irrelevant) Keep Case, the Company assumes the
388 Deer Creek Mine remains open and the Company retains all of its UMWA
389 liabilities, including the full book value of the RMO. In the Market Case,
390 however, the mine is assumed to close at the beginning of 2015 and the Company
391 terminates its relationship with UMWA—just as in the Transaction Case. Yet in
392 the Market Case, the Company still includes the full book value of the RMO as a
393 liability in the analysis.

394 **Q Is the MOU with UMWA conditional on the approval of the CSA with**
395 **Bowie?**

396 **A** No. There is no condition in the MOU that the Retiree Medical Obligation will
397 only be transferred upon Commission approval of the Transaction Case.

398 **Q What is the Company’s explanation for why the RMO is inconsistent**
399 **between the Transaction and Market cases?**

400 **A** In response to discovery, the Company confirmed that the agreement with the
401 United Mine Workers of America (UMWA) to settle the RMO is binding, and the
402 transfer of funds to UMWA is scheduled to occur on June 1, 2015.³² The
403 Company explained that should the Company fail to “close or sell the Deer Creek

³² Company response to Sierra Club DR 2.6. Attached as Exhibit SC___JIF-9.

404 Mine, it fully expects the UMWA to file a grievance or lawsuit against the
405 Company since it was relying on the Company's intent to sell to close the mine in
406 reaching the settlement agreement." In addition, "as a result, the RMO settlement
407 is truly a benefit to customers resulting from its proposed early closure of the
408 Deer Creek mine and the Company's present value revenue requirements
409 modeling is appropriate."³³

410 **Q Has the Deer Creek mine already been closed?**

411 Yes. Deer Creek mine was closed in December of 2014. The closure date is past
412 and according to PacifiCorp, it has ceased operations at the Deer Creek facility.
413 While this would appear to make the "Keep" case inconsistent with the current
414 state of reality, it is consistent with both the Transaction and the Market cases.
415 According to the Company's explanation, UMWA would have no basis for a
416 grievance or lawsuit in the Market case.

417 **Q Do you agree that the present value of revenue requirements (PVRR)**
418 **modeling was appropriately conducted with regards to the RMO?**

419 **A** No. Even assuming that the Company is correct that it was only able to resolve
420 the RMO liability question because the UMWA relied on representations by the
421 Company that it intended to sell or close the mine, the effect of settling the
422 obligation is identical in both the Transaction and Market Cases.³⁴ In the Market

³³ See Exhibit SC___JIF-9.

³⁴ Sierra Club does not dispute the Company's exclusion of the Retiree Medical Obligation benefit from the Keep Case.

423 Case, the Company still assumes that the mine closes in 2014; therefore, there is
424 no additional leverage that would have been created to settle the RMO between
425 the Market Case and the Transaction Case. Therefore, the Market case should
426 have included the full benefit of the RMO settlement with UMWA. Correcting for
427 this error reduces the relative value of the Bowie Transaction by \$ [REDACTED], to
428 \$ [REDACTED].

429 **4. MARKET COAL COSTS INAPPROPRIATELY ASSUME NO CARBON REGULATION**
430 **OR LEGISLATION**

431 **Q What coal price forecasts were presented by the Company in this filing?**

432 **A** Company witness Seth Schwartz presents several forecasts of coal market prices
433 for coal types and regions developed by Energy Ventures Analysis (EVA). The
434 forecasts available for use in Ms. Crane’s workpapers are entitled “Oct 14 – WVA
435 Carbon” and “Oct 14 – EVA Carbon”. According to Witness Schwartz, the
436 Carbon forecast was intended to “model the impacts of the EPA’s proposed rules
437 on coal markets”—referring to the Clean Power Plan.³⁵

438 **Q How does Mr. Schwartz explain the impact of the Clean Power Plan on the**
439 **Utah coal price forecast?**

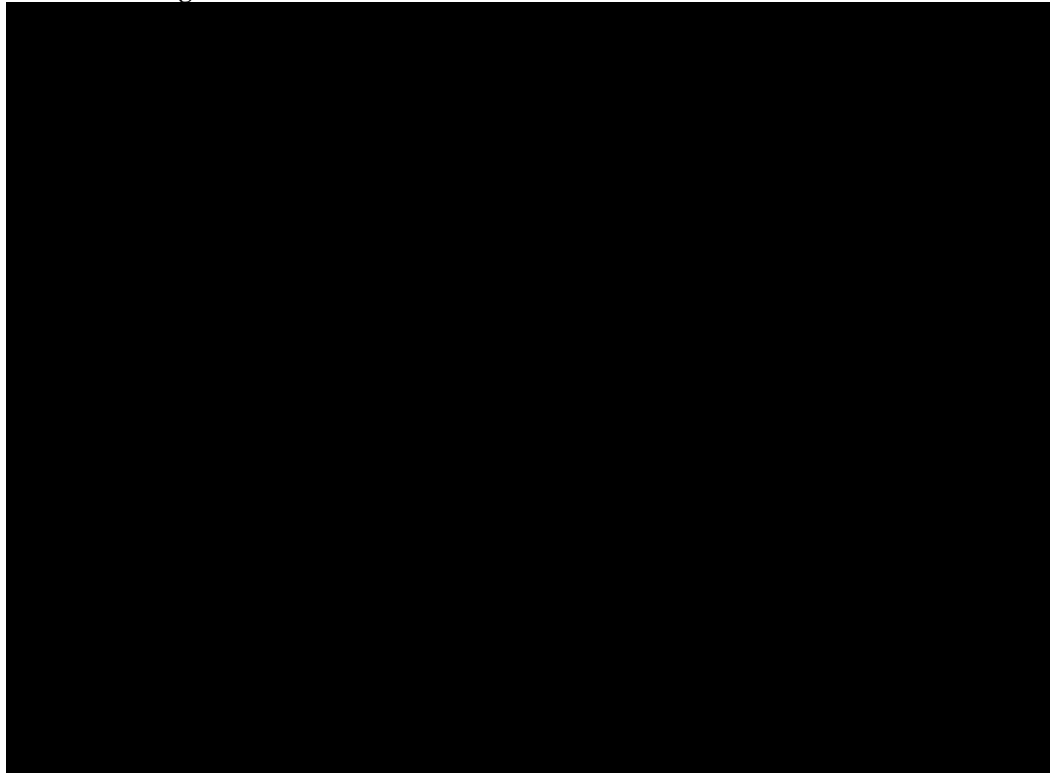
440 **A** Mr. Schwartz describes that “EVA projects that the principal impact [of the Clean
441 Power Plan] will be the acceleration of the projected retirement of the

³⁵ Direct Testimony of Seth Schwartz, page 25, lines 559-561.

442 Intermountain power plant from 2027 to 2020,” and that “EVA forecasts that this
443 would result in a lower market price for Utah coal during this time period, but that
444 the impacts will disappear by 2026.”³⁶

445 The market coal prices provided by EVA to PacifiCorp are shown in Confidential
446 Figure 1, below. The price of coal is approximately \$ [REDACTED] (2014\$) lower in the
447 carbon case from 2020 to 2025, inclusive.

448 **Confidential Figure 1. EVA Utah Market Coal Price Forecasts**³⁷



449

³⁶ Direct Testimony of Seth Schwartz, page 26, lines 566-569.

³⁷ Company Workpapers, Response to SC 1.1, EW Fin Model 12-15-14, Market Price Projections.xlsx

450 **Q Did the Company account for the impact of carbon regulation on coal prices**
451 **in estimating the benefits of the Transaction?**

452 **A** No. The Company estimated benefits of the Transaction using the “No Carbon”
453 forecast. Therefore, the value of the Transaction is based on the premise that there
454 is no carbon regulation.

455 **Q Is the use of the No Carbon price forecast consistent with the Company’s**
456 **resource planning?**

457 **A** No. The Company has explicitly assumed compliance with expected or
458 impending CO₂ regulations elsewhere in resource planning over the last several
459 years, and through the current Integrated Resource Plan (IRP). For example:

460 1. In 2011 the Wyoming Certificate for Public Convenience and Necessity
461 (CPCN) docket for the Naughton 3 SCR, the Company’s base case
462 assumed a “medium” carbon price, reflecting the potential for impending
463 carbon regulations.³⁸

464 2. In the Utah resource decision docket to construct SCR at Jim Bridger 3 &
465 4, the Company’s base case assumed a CO₂ price of \$16/ton in 2021,
466 escalating at 3% thereafter.³⁹

³⁸ Direct Testimony of Mr. Rick Link. Wyoming Docket 20000-400-EA-11, page 12, lines 10-12 “The base case represents the Company’s most current official forward price curve (“FPC”) and most current expectations for CO₂ price levels and timing.”

³⁹ Direct Testimony of Mr. Rick Link. Utah Docket 12-035-92, page 11, Table 1.

467 3. In the recent Special Update to the 2013 IRP with regards to Cholla Unit
468 4, the Company's March 2013 official forward price curve "included a
469 CO₂ price beginning 2022 at \$16/ton and escalating to over \$25/ton by
470 2032."⁴⁰

471 4. In the current draft 2015 IRP materials, the Company reviews 30 "core
472 cases" with various CO₂ regulatory assumptions. All but three (i.e. 90%)
473 include an explicit assumption that CO₂ emissions will be regulated after
474 2020.⁴¹

475 Based on these filings and the ongoing IRP process, I believe that the Company's
476 reference position is that CO₂ regulations will be enacted. In this filing, Witness
477 Schwartz does not explain why only the No Carbon forecast was used in
478 evaluating the benefits of the Transaction.

479 **Q How does the use of the No Carbon coal price forecast bias the estimate of**
480 **benefits from the Transaction?**

481 **A** The use of a No Carbon (i.e. higher) market price forecast biases the estimate of
482 benefits in favor of the Transaction by making the coal spot market appear less
483 favorable. Correcting for this error reduces the relative value of the Bowie
484 Transaction by \$ [REDACTED]. Combined with the correction for the RMO, the value

⁴⁰ Oregon Docket LC 57. September 29, 2014. Confidential Special 2013 IRP Update (redacted version) on Cholla Unit 4. Page 8.

⁴¹ 2015 IRP Stakeholder Materials. November 14, 2014. "Handout - Core Case Fact Sheets with Draft Results" See page 1, "DRAFT Case Fact Sheets – Overview"
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2015IRP/PacificCorp_2015IRP_DRAFTCoreCase_FactSheets_11-14-14.pdf

485 of the Transaction compared to the Market Case after this correction is only \$ [REDACTED]
486 [REDACTED] (to 2036).

487 **5. TRANSACTION CASE ASSUMES THAT MARKET COAL AT HUNTER IS BLENDED**
488 **FOR FREE**

489 **Q Does the Company currently blend coal burned at the Hunter plant?**

490 **A** Yes. The Company currently owns and operates the Coal Preparation Plant which
491 is used to blend coal burned at the Hunter plant.⁴² Under the Transaction case,
492 Hunter would obtain coal from Bowie under a revised CSA (“Hunter CSA”),
493 wherein Bowie would take responsibility for providing blended coal to Hunter
494 through the end of 2020.⁴³

495 In the Market case, the Company has currently assumed that they would [REDACTED]
496 [REDACTED]. The analysis of the Market case assumes that blending
497 responsibilities would be taken on at the Hunter facility, at a cost of \$ [REDACTED]
498 (2015\$) per year.

499 **Q If ownership of the Coal Preparation Plant were passed onto Bowie from the**
500 **Company, would there still be incremental costs to the Company for**
501 **blending coal in the future?**

502 **A** Yes, after the Hunter CSA lapses at the close of 2020, Hunter would start
503 acquiring market coal, according to the Company’s assumptions. However, the

⁴² Direct Testimony of Cindy Crane, page 7 lines 130-132.

⁴³ Direct Testimony of Cindy Crane, page 14 lines 294-298.

504 Company does not assume that Hunter would either incur blending costs on-site,
505 or have a higher cost of market coal due to the blending services offered by
506 Bowie at the Preparation Plant. Effectively, in the Transaction case, the Company
507 has assumed that they can obtain blending services for free from Bowie,
508 inconsistently with the Market case.

509 In the Transaction case, after the contract with Bowie ends, the cost of Hunter
510 coal would be subject to the coal spot market price plus an adder for incremental
511 blending costs. One way or another, the Company and its ratepayers will bear the
512 costs of blending coal used at Hunter.

513 Correcting for this error reduces the relative value of the Bowie Transaction by
514 \$ [REDACTED]. Combined with the correction for the RMO and using the correct cost
515 of coal with a carbon assumption, the value of the Transaction after this correction
516 is only \$ [REDACTED] compared to the Market Case, indicating an error of over \$ [REDACTED]
517 [REDACTED] and reduction of about 68% relative to the assumed benefit in this
518 application. Noting that a \$ [REDACTED] change in the expected market price of coal
519 over six years altered the benefit of the Transaction by over \$ [REDACTED], I
520 conclude that the remaining \$ [REDACTED] value in the CSA is tenuous, at best.

521 **6. CONCLUSIONS AND RECOMMENDATIONS**

522 **Q What do you conclude from your analysis?**

523 The Company's analysis severely overstated the value of the Transaction Case
524 compared to the Market Case. Although there remains some estimated value

525 between the Transaction Case and the Market Case, that relatively small value is
526 substantially outweighed by the risk associated with the 15-year take-or-pay
527 requirements in the Huntington CSA. This CSA will commit ratepayers to a \$ [REDACTED]
528 [REDACTED] investment (2015\$). The calculated \$ [REDACTED] benefit of the transaction
529 is tenuous, hinges on long-run estimates of market prices, and is a small fraction
530 of the overall cost of the investment.

531 I believe that the CSA may inadvertently commit PacifiCorp to operating
532 Huntington through 2029, even if a unit becomes non-economic prior to that time.
533 This contract appears to significantly reduce the Company's optionality, and puts
534 ratepayers at risk.

535 **Q What is your recommendation to the Commission in this matter?**

536 **A** The Commission may approve the request to close the Deer Creek mine. The
537 Commission should conditionally reject the Company's request to approve the
538 Huntington CSA.

539 The conditions under which this CSA could be acceptable are:

- 540 1. The Company commits to review the forward-looking economics of
541 Huntington as if the CSA could be exited at their discretion (i.e. model
542 Bowie coal provided to Huntington as fully avoidable and variable);
- 543 2. The Company commits to hold ratepayers harmless for any and all coal
544 liquidated damages and/or take-or-pay penalties resulting from an early

545 exit from the CSA if a forward-looking assessment of Huntington shows
546 that either one or both of the units at the plant are non-economic;

547 3. The Company commits to modeling the operations of Huntington with a
548 variable cost of fuel for the Huntington CSA;

549 4. The Company commits to assess the forward-looking economics of the
550 Huntington units, separately, for any capital costs expected to be incurred
551 at the units in excess of \$25 million, when such requirements are known.

552 With these commitments, ratepayers are reasonably protected from the reduction
553 in optionality imposed by the Huntington CSA.

554 **Q Does this conclude your testimony?**

555 **A** It does.