

**BEFORE THE  
PUBLIC UTILITY COMMISSION OF OREGON**

In the Matter of

PacifiCorp d/b/a Pacific Power

Application for Approval of Deer  
Creek Mine Transaction.

Docket UM-1712

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

**REDACTED**

**March 5, 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

1 Commission (“CEC”), the California Division of Ratepayer Advocates  
2 (“CADRA”), the National Association of State Utility Consumer Advocates  
3 (“NASUCA”), National Rural Electric Cooperative Association (“NRECA”), the  
4 State of Utah Energy Office, the state of Alaska, the state of Arkansas, the  
5 Regulatory Assistance Project (“RAP”), the Western Grid Group, the Union of  
6 Concerned Scientists (“UCS”), Sierra Club, Earthjustice, Natural Resources  
7 Defense Council (“NRDC”), Environmental Defense Fund (“EDF”), Stockholm  
8 Environment Institute (“SEI”), Civil Society Institute, New Energy Economy, and  
9 Clean Wisconsin. I developed a regulatory tool for EPA and state air quality  
10 agencies, released by EPA in 2014 as the Avoided Emissions and Generation  
11 Tool (“AVERT”), and continue to provide technical support to EPA regarding  
12 electric utility planning practices.

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

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

1 My full curriculum vitae is attached as Exhibit Sierra Club/101.

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

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

4 **Q Have you testified in front of the Public Utility Commission of Oregon**  
5 **previously?**

6 **A** Yes. I submitted testimony in PacifiCorp's 2012 general rate case ("GRC"),  
7 UE-246. I have also submitted comments in Oregon on behalf of Sierra Club in  
8 the 2011 and 2013 IRPs, and provided testimony in PacifiCorp rate cases and pre-  
9 approval dockets in Wyoming and Utah, including the 2010 GRCs (WY 20000-  
10 384-ER-10, UT 10-035-124), the 2012 CPCN for Selective Catalytic Reduction  
11 ("SCR") at Jim Bridger (WY 20000-418-EA-12, UT 12-035-92), and the 2013  
12 GRCs (WY 20000-446-ER-14, and UT 13-035-184).

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

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

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

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

5 **A** The Company is requesting Commission approval of various components of a  
6 plan to close the Deer Creek mine, which supplies most of the fuel used at the  
7 Huntington coal plant in Utah, and to approve a series of agreements with Bowie  
8 Resource Partners, LLC ("Bowie"), which are bundled by the Company into a  
9 single transaction (the "Transaction"). Based on the degradation of the fuel supply  
10 at Deer Creek mine, and rapidly escalating employee pension obligations for mine  
11 workers at Deer Creek, the Company decided to close the Deer Creek mine in  
12 December 2014. The Company also executed a new coal supply agreement  
13 ("CSA") for Huntington, which is conditioned on PacifiCorp obtaining all  
14 necessary regulatory approvals, including approval from the Commission. In  
15 addition to seeking approval of the mine closure and the new Huntington CSA,  
16 the Company requested that the Commission allow specific regulatory treatment  
17 of the costs associated with the plan, including transferring the remaining book  
18 value of Deer Creek into a regulatory asset and altering accounting for various  
19 liabilities resulting from the closure of Deer Creek.

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

21 **A** In her testimony, Ms. Cindy Crane presented an economic analysis of three cases  
22 prepared by the Company: (1) closure of the Deer Creek mine in 2015 and

1 replacement with a 15-year fuel supply agreement with with Bowie (“Transaction  
2 Case”), (2) maintaining the Deer Creek mine through 2019 and proceeding with  
3 market purchases thereafter (“Keep Case”), and (3) closure of the Deer Creek  
4 mine and replacement of the Huntington fuel supply primarily through spot  
5 market purchases (“Market Case”). In each case, the Company assumed that  
6 Huntington would continue operations through 2036 at identical levels of  
7 generation and availability. Ms. Crane’s analysis suggests that, through the  
8 Transaction, customers would see a benefit of \$ [REDACTED] above having retained  
9 Deer Creek through 2019, and a benefit of \$ [REDACTED] above obtaining coal  
10 from the Utah spot market.

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

12 **A** No. I have three primary concerns with the Company’s application. First, I think  
13 that there is a high risk that the terms in the Huntington CSA could commit  
14 customers to maintaining Huntington through 2029, even if continued operation  
15 of the plant would otherwise not be in the best interests of ratepayers. Second, the  
16 Company’s economic justification of the Transaction Case compared to the  
17 Market Case contains several errors because it assigns costs to the Market Case  
18 that will not occur. Third, the Company’s analysis makes assumptions about  
19 carbon price forecasts and operations at the Hunter Power Plant that are internally  
20 inconsistent.



1 **Q Please summarize your conclusion.**

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

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

10 **A** I based my conclusion on several findings. First and foremost, the Company  
11 neglected to test whether maintaining Huntington power station through 2029 is  
12 in the best interests of customers. Although the Company asserts that an  
13 "environmental-out" provision would allow some flexibility to avoid take-or-pay  
14 liabilities in the CSA,<sup>1</sup> the Company has not definitively shown that the  
15 Huntington CSA would protect customers if the plant becomes non-economic  
16 before the close of the contract.

17 Second, the Company's characterization of the Retiree Medical Obligation is  
18 inconsistent with its analysis. The benefits achieved by the Company's  
19 renegotiation of its union contract is based on the assumption that the Deer Creek  
20 mine closes, and therefore it should apply to both the Transaction Case and the

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<sup>1</sup> PAC/100, Crane/13.

1 Market Case. After this adjustment, the benefit of the transaction is reduced by  
2 \$ [REDACTED], to \$ [REDACTED].

3 Third, the coal spot market price used by the Company in the Market Case  
4 assessment assumes no carbon dioxide (CO<sub>2</sub>) regulations, even though Company  
5 witness Mr. Seth Schwartz provided coal prices in the presence of CO<sub>2</sub>  
6 regulations and the Company's reference position in the current Integrated  
7 Resource Plan (IRP) process is that CO<sub>2</sub> regulations will be enacted. Adjusting to  
8 use the correct market coal prices further reduces the benefit of the Transaction  
9 over the Market Case by \$ [REDACTED], to \$ [REDACTED].

10 Finally, the Company has assumed that, in the Market Case, achieving the correct  
11 quality specifications will require blending activities at Hunter that were  
12 previously performed at the Coal Preparation Plant, a separate facility owned by  
13 PacifiCorp. The Company adds a blending cost to Hunter in the Market Case, but  
14 not in the Transaction Case, effectively assuming that such services will be  
15 provided for free [REDACTED], even though Hunter has no contractual  
16 obligation [REDACTED] after this date. Correcting the assumption that blending  
17 services would be provided free of charge further reduces the benefit of the  
18 transaction over the market case by \$ [REDACTED], to just \$ [REDACTED]. Table 1,  
19 below, summarizes each of these adjustments.

1 **Table 1. Present Value of Revenue Requirements difference (“PVRR(d)”) between**  
 2 **Transaction and Market cases (millions 2015\$).**

<b>Adjustment</b>	<b>Change in PVRR(d)</b>	<b>Benefit of Transaction (PVRR(d))</b>
Company Case		
Retiree Med. Obligation	█	█
CO <sub>2</sub> Effect on Coal Price	█	█
Blending Costs at Hunter	█	█
<b>Total</b>	█	█

3

4 Overall, I find that the Company has overstated the value of the transaction  
 5 compared to the market case by \$ █, or 77%. These adjustments leave an  
 6 estimated benefit to customers of only \$ █ in exchange for committing  
 7 customers to 15-years of burning coal at Huntington. Even in the absence of my  
 8 concern that the long-term contract reduces the Company’s optionality and binds  
 9 the operations of Huntington, it is not clear that the Transaction would  
 10 substantially outperform the Market. This contract is one of the largest single  
 11 investments of the Company in the last decade, worth at least \$ █.<sup>2</sup> The  
 12 relatively small benefit realized from the Transaction (about 6% of the value of  
 13 the CSA) is strongly outweighed by the risk of take-or-pay penalties if the  
 14 Company closes Huntington prior to the end of the CSA term.<sup>3</sup> For example, if  
 15 the unit were closed for economic reasons in 2021, PacifiCorp could incur \$ █  
 16 █ in penalties.

<sup>2</sup> Net present value of CSA at █ prices with █ from 2016-2029, 2015\$.

<sup>3</sup> Assumes Huntington is closed in 2021, and CSA penalties are realized from 2022-2029, 2015\$.

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

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

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

- 9 1. The Company commits to review the forward-looking economics of  
10 Huntington as if the CSA could be exited at their discretion (i.e. model  
11 Bowie coal provided to Huntington as fully avoidable and variable);
- 12 2. The Company commits to hold ratepayers harmless for any and all coal  
13 liquidated damages and/or take-or-pay penalties resulting from an early  
14 exit from the CSA if a forward-looking assessment of Huntington shows  
15 that either one or both of the units at the plant are non-economic;
- 16 3. The Company commits to modeling the operations of Huntington with a  
17 variable cost of fuel for the Huntington CSA;
- 18 4. The Company commits to assess the forward-looking economics of the  
19 Huntington units, separately, for any capital costs expected to be incurred  
20 at the units in excess of \$25 million, when such requirements are known.

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

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

5 **Q Did the Company assess the benefit of maintaining Huntington through the**  
6 **length of the CSA?**

7 **A** No. The analyses conducted by Ms. Crane review the costs of obtaining coal  
8 under different circumstances, but the Company did not evaluate the probability,  
9 or even remote possibility, that Huntington may not remain economic through  
10 2029.

11 The Commission should require PacifiCorp to analyze large, long-term coal  
12 contracts for existing units with the same level of scrutiny applied to large capital  
13 investments. In order to demonstrate that a long-term fuel contract is prudent, the  
14 utility must consider whether potential future investments and/or long-term  
15 contract liabilities could be avoided through a timely retirement and replacement  
16 of the existing unit at issue. Prior to the 2012 Oregon General Rate Case (UE  
17 246), PacifiCorp did not typically examine whether retiring an existing unit to  
18 meet environmental compliance obligations could be a benefit to ratepayers. In  
19 UE 246, this Commission found that such an analysis formed a critical basis of

1 making forward looking decisions in the face of large commitments.<sup>4</sup> Since that  
2 time, this Commission has reviewed similar analyses for Cholla, Hayden and  
3 Craig, and will likely examine similar analyses for Bridger 3 & 4, and Naughton  
4 3. Consideration of a long-term coal supply agreement is fundamentally the same:  
5 to the extent that the coal contract binds PacifiCorp to a minimum annual cost for  
6 a specified period of time, it represents a ratepayer commitment commensurate  
7 with that of a capital investment.

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

10 **A** Like other coal units in both PacifiCorp's fleet, and throughout the United States,  
11 Huntington will likely face future environmental obligations that will require  
12 capital retrofits or increased operating costs. Coal plants may also just cease to be  
13 a least cost source of energy for PacifiCorp customers if gas prices remain low  
14 and renewable energy continues to decline in cost.

15 The Huntington plant in particular could face additional costs to comply with the  
16 Regional Haze Rule. Utah submitted a proposed best available retrofit technology  
17 ("BART") determination for the Huntington plant in 2011, which was rejected by

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<sup>4</sup> Order 12-493 (December 20, 2012) in 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."

1 EPA in 2012.<sup>5</sup> Utah is in the process of revising its BART determination for  
2 Huntington.<sup>6</sup> Utah could release its revised BART determination any day, and in  
3 fact several environmental organizations, including the Sierra Club, sent a 60-day  
4 notice to sue letter to EPA to require action on the pending BART determinations.  
5 When a Huntington BART determination is finalized, any necessary pollution  
6 control measures will likely be required within five years. Assuming the BART  
7 determination is finalized this year, compliance could be realized as early as 2020.

8 In the current stakeholder materials for the impending 2015 Integrated Resource  
9 Plan (IRP), PacifiCorp's reference case assumes that Huntington 1 & 2 will both  
10 require the addition of selective catalytic reduction (SCR) by December 2022,  
11 respectively,<sup>7</sup> presumably for compliance with expected regional haze  
12 determination from EPA. The Company's 2014 Strategic Asset Plan (SAP) for  
13 Huntington [REDACTED]

14 [REDACTED]  
15 [REDACTED]<sup>8</sup> Two of the Company's alternate regional haze compliance scenarios in the  
16 IRP assume the retirement of one or both of the units in the early 2020s.

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<sup>5</sup> 77 FedReg 74355

<sup>6</sup> Utah Department of Environmental Quality received comments on the Technical Support Document for BART, including an updated BART Analysis for Hunter and Huntington, through December 22, 2014. Utah DEQ website accessed March 3, 2015. <http://www.airquality.utah.gov/Planning/regionalhaze/index.htm>. Screenshot attached as Exhibit Sierra Club/102.

<sup>7</sup> 2015 Integrated Resource Plan, Public Input Meeting 6. January 29-30, 2015 (Excerpt), at 53. Attached as Exhibit Sierra Club/103.

<sup>8</sup> Huntington 2014 Strategic Asset Plan, provided in Attach Sierra Club 2.7 2nd Supp CONF. Attached as CONFIDENTIAL Exhibit Sierra Club/104.

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

3 **A** No. In response to Sierra Club data request 1.27, the Company stated that in each  
4 of the three cases is analyzed, it assumed Huntington would operate through its  
5 depreciable life in 2030<sup>9</sup>. This assumption is inconsistent with several scenarios  
6 considered in the IRP. It also ignores the very real possibility, if not probability,  
7 that a requirement to install SCR at Huntington could make the plant non-  
8 economic. In fact, the 2014 Huntington SAP indicates [REDACTED]

9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]<sup>10</sup>

13 Even without an SCR requirement, extended low gas prices could keep  
14 Huntington out of the money and render it a poor option for ratepayers. Indeed,  
15 the cost of energy from coal at Huntington in 2014 was approximately at parity  
16 with the cost of energy from a new combined cycle gas unit (in \$/MWh, without  
17 O&M costs).<sup>11</sup> It would not be out of the question to imagine that Huntington  
18 could become non-economic in the next fourteen years.

<sup>9</sup> Attached as Exhibit Sierra Club/105.

<sup>10</sup> 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.

<sup>11</sup> 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**



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

3 **A** The CSA [REDACTED]  
4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED] However, there is a substantial risk  
7 that an early closure of Huntington, in 2022 for example, could result in up to  
8 \$ [REDACTED] (2015\$, net present value) of contract liabilities under the CSA.<sup>12</sup>

9 **Q Is the Company protected should environmental obligations render**  
10 **Huntington non-economic?**

11 **A** In some circumstances, yes. There is an “environmental out” provision in the  
12 Huntington CSA.<sup>13</sup> Overall, this provision is a step in the right direction because  
13 it does allow the Company to avoid long-term contract penalties in certain  
14 circumstances. However, the provision does not go far enough to protect  
15 ratepayers from the risk that the Huntington plant may become non-economic  
16 within the term of the CSA.

17 The Company asserts that customers would be protected because the CSA  
18 includes a “broad termination right in favor of the Company in the event existing  
19 or new environmental obligations adversely affect the Company’s ability to burn

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<sup>12</sup> 2015 net present value of [REDACTED] CSA coal costs from 2022 through 2029, inclusive, with [REDACTED]  
[REDACTED]  
PAC/100, Crane/13.

1 coal as the Huntington power plant.”<sup>14</sup> It is not clear, however, that the language  
2 “affect the Company’s ability to burn coal” would cover scenarios where  
3 environmental regulations or law simply made burning coal more expensive, but  
4 did not create an outright prohibition or restriction on burning coal. Sierra Club  
5 attempted several times to confirm with the Company whether this provision  
6 would extend to the scenario discussed above where an SCR is required, which is  
7 consistent with the scenarios identified in the Company’s IRP. The Company  
8 refused to answer and simply stated that “the contract speaks for itself.”<sup>15</sup>

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

10 **A** Yes. The Company included the Huntington CSA as Exhibit PAC/104. Starting  
11 on page 20, the Huntington CSA with Bowie<sup>16</sup> [REDACTED]  
12 [REDACTED] I am not an attorney, and therefore I would  
13 recommend that the Commission rely on legal briefing or its own counsel’s  
14 analysis of this provision. Nevertheless, absent a clear indication from the  
15 Company on the record that ratepayers would not be on the hook for any long-  
16 term contract costs if Huntington closes early, I had no choice but to rely on the  
17 contract language itself to determine the risk to ratepayers. [REDACTED]

18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED]

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<sup>14</sup> PAC/100, Crane/13.  
<sup>15</sup> Response to SC DR 1.25 and 2.1.  
<sup>16</sup> See Exhibit PAC/104

1 [REDACTED]  
2 [REDACTED]  
3 [REDACTED]  
4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]

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

12 **A** Generally not. Most environmental laws and regulations impacting coal plants in  
13 the west require the plant to meet specific pollution limits, which typically  
14 requires the installation of a specific pollution control technology. These  
15 requirements can be very costly, and in many instances lead to the conclusion that  
16 it would be more economical to shutter the plant than incur the required costs to  
17 install pollution controls. While numerous utilities have claimed that  
18 environmental regulations render their coal operations non-viable, the choice to  
19 continue operations or cease burning coal is generally an economic decision. This  
20 means that multiple factors, including gas and power prices, demand forecasts,  
21 CO<sub>2</sub> cost estimates and other risk calculations, all play a part in deciding whether

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<sup>17</sup> Ex. PAC/104, Crane/20.

1 or not to continue to operate a plant. While a specific regulation may be the straw  
2 that breaks the camel's back, it is often hard to say that an environmental  
3 regulation by itself "adversely affects the Company's ability to burn coal."<sup>18</sup>

4 The Company's choice, for example, to convert Naughton 3 to a natural gas  
5 burning steam unit is based on PacifiCorp's economic modeling, which indicated  
6 that ratepayers would see a benefit if the Company did not retrofit the coal unit.<sup>19</sup>

7 PacifiCorp then applied to Wyoming Department of Environmental Quality (WY  
8 DEQ) to alter their permit conditions,<sup>20</sup> but even in EPA's final rule for  
9 Wyoming, the agency indicated that, while the conversion was supported, the  
10 agency could not require PacifiCorp to convert the unit to natural gas.<sup>21</sup>

11 Similarly, the proposed 111(d) rule for carbon dioxide mitigation from existing  
12 sources, currently called the Clean Power Plan, does not require the cessation of  
13 coal burning operations. This proposed rule provides options to allow the  
14 continued use of high emissions resources if those resources are balanced with

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<sup>18</sup> See, PAC/100, Crane/13.

<sup>19</sup> 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 Sierra Club/106.

<sup>20</sup> 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 Sierra Club/107.

<sup>21</sup> 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."

1 clean energy options; states (and presumably utilities) are provided flexibility to  
2 determine how to change operations to meet rate-based limits.

3 Similarly, I know of no settlement yet entered into by PacifiCorp to cease burning  
4 coal at any unit in response to an environmental law or regulation. At Naughton,  
5 PacifiCorp found to its own satisfaction that the unit was more economic  
6 converted than retrofit. Similarly, the Company's decision to retire Carbon was  
7 unilateral, and the impending decision to convert Cholla 4 to natural gas in 2025  
8 is also based on a Company proposition,<sup>22</sup> rather than a settlement.

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

11 **A** [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]

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<sup>22</sup> 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."

1

[REDACTED]

2

[REDACTED]

3 **Q**

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

6 **A**

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

10

[REDACTED]<sup>23</sup> If there came a time that the continued operation of Huntington became non-economic, or even if Huntington dispatch falls below about [REDACTED] with economic dispatch,<sup>24</sup> [REDACTED]

13

[REDACTED]

14

[REDACTED]

15 **Q**

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

16

17 **A**

Yes. The Commission could condition approval of the Transaction on a finding that if PacifiCorp reduces or ceases coal operation at the Huntington coal plant

18

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<sup>23</sup> Exhibit PAC/104. [REDACTED]

[REDACTED]

1 prior to the expiration of the Huntington CSA in 2029, due directly or indirectly  
2 to any requirement related to any existing or future environmental rules or  
3 regulations, then PacifiCorp would not be permitted to recover from ratepayers  
4 any long-term coal contract liabilities related to the Huntington CSA. The  
5 Commission should also make clear that all of the Company's planning  
6 assumptions in its decision making related to environmental retrofits at  
7 Huntington should assume that the coal contract liabilities are avoidable.

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

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

12 **A** As described in Ms. Crane's direct testimony, the Company recently settled a  
13 protracted labor dispute with the UMWA.<sup>25</sup> As part of this settlement, the  
14 Company negotiated the transfer of its Retiree Medical Obligation (RMO) to the  
15 Union in exchange for a one-time lump-sum payment of \$150 million.<sup>26</sup> [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED] Because the transfer reduces future expenses that would have been

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<sup>25</sup> PAC/100. Page 15 at 17-19.

<sup>26</sup> 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 Sierra Club/108.

<sup>27</sup> Company Workpapers, UM1712 SC 1-1 EW Fin Model 12-15-14, EW FRF Pro Forma Closure Sale.xlsx, tab PRW Settlement, cell B5.

1 incurred by the Company and passed on to customers, it is treated as a benefit to  
2 customers. A Memorandum of Understanding memorializing this settlement was  
3 signed by the Company and UMWA on December 8, 2014.<sup>28</sup>

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

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

14 **Q Is the MOU with UMWA conditional on the approval of the CSA with**  
15 **Bowie?**

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

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<sup>28</sup> See Exhibit Sierra Club/108.



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

3 **A** In response to discovery, the Company confirmed that the agreement with the  
4 United Mine Workers of America (UMWA) to settle the RMO is binding, and the  
5 transfer of funds to UMWA is scheduled to occur on June 1, 2015.<sup>29</sup> The  
6 Company explained that should the Company fail to “close or sell the Deer Creek  
7 Mine, it fully expects the UMWA to file a grievance or lawsuit against the  
8 Company since it was relying on the Company’s intent to sell to close the mine in  
9 reaching the settlement agreement.” In addition, “as a result, the RMO settlement  
10 is truly a benefit to customers resulting from its proposed early closure of the  
11 Deer Creek mine and the Company’s present value revenue requirements  
12 modeling is appropriate.”<sup>30</sup>

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

14 Yes. Deer Creek mine was closed in December of 2014. The closure date is past  
15 and according to PacifiCorp, it has ceased operations at the Deer Creek facility.  
16 While this would appear to make the “Keep” case inconsistent with the current  
17 state of reality, it is consistent with both the Transaction and the Market cases.  
18 According to the Company’s explanation, UMWA would have no basis for a  
19 grievance or lawsuit in the Market case.

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<sup>29</sup> Response to Sierra Club Data Request 2.6.

<sup>30</sup> See Company response to Sierra Club DR 2.6. Attached as Exhibit Sierra Club/109.

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

3 **A** No. Even assuming that the Company is correct that it was only able to resolve  
4 the RMO liability question because the UMWA relied on representations by the  
5 Company that it intended to sell or close the mine, the effect of settling the  
6 obligation is identical in both the Transaction and Market Cases.<sup>31</sup> In the Market  
7 Case, the Company still assumes that the mine closes in 2014; therefore, there is  
8 no additional leverage that would have been created to settle the RMO between  
9 the Market Case and the Transaction Case. Therefore, the Market case should  
10 have included the full benefit of the RMO settlement with UMWA. Correcting for  
11 this error reduces the relative value of the Bowie Transaction by \$ [REDACTED], to  
12 \$ [REDACTED].

13 **4. MARKET COAL COSTS INAPPROPRIATELY ASSUME NO CARBON REGULATION**  
14 **OR LEGISLATION**

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

16 **A** Company witness Seth Schwartz presents several forecasts of coal market prices  
17 for coal types and regions developed by Energy Ventures Analysis (EVA). The  
18 forecasts available for use in Ms. Crane's workpapers are entitled "Oct 14 – WVA  
19 Carbon" and "Oct 14 – EVA Carbon". According to Witness Schwartz, the

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<sup>31</sup> Sierra Club does not dispute the Company's exclusion of the Retiree Medical Obligation benefit from the Keep Case.

1 Carbon forecast was intended to “model the impacts of the EPA’s proposed rules  
2 on coal markets”—referring to the Clean Power Plan.<sup>32</sup>

3 **Q How does Mr. Schwarz explain the impact of the Clean Power Plan on the  
4 Utah coal price forecast?**

5 **A** Mr. Schwartz describes that “EVA projects that the principal impact [of the Clean  
6 Power Plan] will be the acceleration of the projected retirement of the  
7 Intermountain power plant from 2027 to 2020,” and that “EVA forecasts that this  
8 would result in a lower market price for Utah coal during this time period, but that  
9 the impacts will disappear by 2026.”<sup>33</sup>

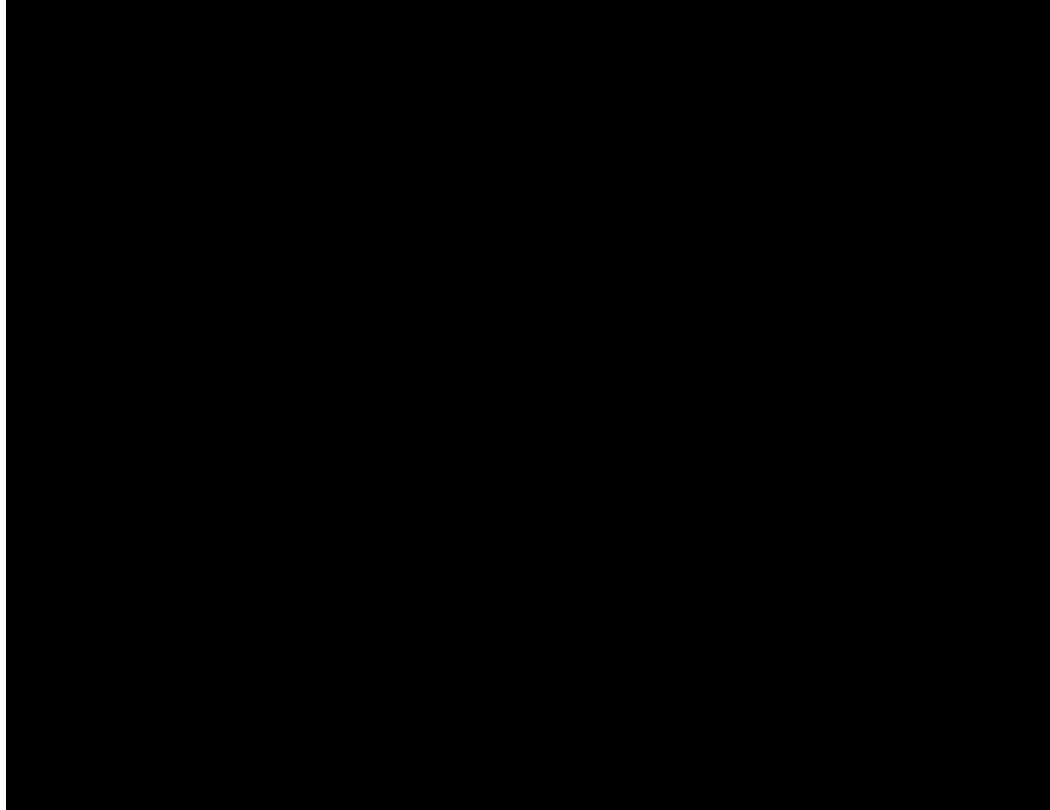
10 The market coal prices provided by EVA to PacifiCorp are shown in Confidential  
11 Figure 1, below. The price of coal is approximately \$ [REDACTED] (2014\$) lower in the  
12 carbon case from 2020 to 2025, inclusive.

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<sup>32</sup> Direct Testimony of Seth Schwartz, p.24, lines 19-20.

<sup>33</sup> Direct Testimony of Seth Schwartz, p.25, lines 2-5.

1 **Confidential Figure 1. EVA Utah Market Coal Price Forecasts<sup>34</sup>**



2

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

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

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<sup>34</sup> Company Workpapers, UM1712 SC 1-1 EW Fin Model 12-15-14, Market Price Projections.xlsx

1 **Q Is the use of the No Carbon price forecast consistent with the Company's**  
2 **resource planning?**

3 **A** No. The Company has explicitly assumed compliance with expected or  
4 impending CO<sub>2</sub> regulations elsewhere in resource planning over the last several  
5 years, and through the current Integrated Resource Plan (IRP). For example:

- 6 1. In 2011 the Wyoming Certificate for Public Convenience and Necessity  
7 (CPCN) docket for the Naughton 3 SCR, the Company's base case  
8 assumed a "medium" carbon price, reflecting the potential for impending  
9 carbon regulations.<sup>35</sup>
- 10 2. In the Utah resource decision docket to construct SCR at Jim Bridger 3 &  
11 4, the Company's base case assumed a CO<sub>2</sub> price of \$16/ton in 2021,  
12 escalating at 3% thereafter.<sup>36</sup>
- 13 3. In the recent Special Update to the 2013 IRP with regards to Cholla Unit  
14 4, the Company's March 2013 official forward price curve "included a  
15 CO<sub>2</sub> price beginning 2022 at \$16/ton and escalating to over \$25/ton by  
16 2032."<sup>37</sup>
- 17 4. In the current draft 2015 IRP materials, the Company reviews 30 "core  
18 cases" with various CO<sub>2</sub> regulatory assumptions. All but three (i.e. 90%)

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<sup>35</sup> 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 CO<sub>2</sub> price levels and timing."

<sup>36</sup> Direct Testimony of Mr. Rick Link. Utah Docket 12-035-92, page 11, Table 1.

<sup>37</sup> Oregon Docket LC 57. September 29, 2014. Confidential Special 2013 IRP Update (redacted version) on Cholla Unit 4. Page 8.

1 include an explicit assumption that CO<sub>2</sub> emissions will be regulated after  
2 2020.<sup>38</sup>

3 Based on these filings and the ongoing IRP process, I believe that the Company's  
4 reference position is that CO<sub>2</sub> regulations will be enacted. In this filing, Witness  
5 Schwartz does not explain why only the No Carbon forecast was used in  
6 evaluating the benefits of the Transaction.

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

9 **A** The use of a No Carbon (i.e. higher) market price forecast biases the estimate of  
10 benefits in favor of the Transaction by making the coal spot market appear less  
11 favorable. Correcting for this error reduces the relative value of the Bowie  
12 Transaction by \$ [REDACTED]. Combined with the correction for the RMO, the value  
13 of the Transaction compared to the Market Case after this correction is only \$ [REDACTED]  
14 [REDACTED].

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<sup>38</sup> 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/PacifiCorp\\_2015IRP\\_DRAFTCoreCase\\_FactSheets\\_11-14-14.pdf](http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2015IRP/PacifiCorp_2015IRP_DRAFTCoreCase_FactSheets_11-14-14.pdf)

1 **5. TRANSACTION CASE ASSUMES THAT MARKET COAL AT HUNTER IS BLENDED**  
2 **FOR FREE**

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

4 **A** Yes. The Company currently owns and operates the Coal Preparation Plant which  
5 is used to blend coal burned at the Hunter plant.<sup>39</sup> Under the Transaction case,  
6 Hunter would obtain coal from Bowie under a revised CSA (“Hunter CSA”),  
7 wherein Bowie would take responsibility for providing blended coal to Hunter  
8 through the end of 2020.<sup>40</sup>

9 In the Market case, the Company has currently assumed that they would [REDACTED]  
10 [REDACTED]. The analysis of the Market case assumes that blending  
11 responsibilities would be taken on at the Hunter facility, at a cost of \$ [REDACTED]  
12 (2015\$) per year.

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

16 **A** Yes, after the Hunter CSA lapses at the close of 2020, Hunter would start  
17 acquiring market coal, according to the Company’s assumptions. However, the  
18 Company does not assume that Hunter would either incur blending costs on-site,  
19 or have a higher cost of market coal due to the blending services offered by  
20 Bowie at the Preparation Plant. Effectively, in the Transaction case, the Company

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<sup>39</sup> Direct Testimony of Ms. Cindy Crane, page 7 lines 8-10.

<sup>40</sup> Direct Testimony of Ms. Cindy Crane, page 13 lines 12-16.

1 has assumed that they can obtain blending services for free from Bowie,  
2 inconsistently with the Market case.

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

7 Correcting for this error reduces the relative value of the Bowie Transaction by  
8 \$ [REDACTED]. Combined with the correction for the RMO and using the correct cost  
9 of coal with a carbon assumption, the value of the Transaction after this correction  
10 is only \$ [REDACTED] compared to the Market Case, indicating an error of over \$ [REDACTED]  
11 [REDACTED] and reduction of nearly 77% relative to the assumed benefit in this  
12 application. Noting that a \$ [REDACTED] change in the expected market price of coal  
13 over six years altered the benefit of the Transaction by over \$ [REDACTED], I  
14 conclude that the remaining \$ [REDACTED] value in the CSA is tenuous, at best.

15 **6. CONCLUSIONS AND RECOMMENDATIONS**

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

17 The Company's analysis severely overstated the value of the Transaction Case  
18 compared to the Market Case. Although there remains some estimated value  
19 between the Transaction Case and the Market Case, that relatively small value is  
20 substantially outweighed by the risk associated with the 15-year take-or-pay  
21 requirements in the Huntington CSA. This CSA will commit ratepayers to a \$ [REDACTED]



1 [REDACTED] investment (2015\$). The calculated \$ [REDACTED] benefit of the transaction  
2 is tenuous, hinges on long-run estimates of market prices, and is a small fraction  
3 of the overall cost of the investment.

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

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

9 **A** The Commission may approve the request to close the Deer Creek mine. The  
10 Commission should conditionally reject the Company's request to approve the  
11 Huntington CSA.

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

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

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

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

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

7   **A**     It does.