

March 5, 2015

Via Electronic Filing and FedEx

Public Utility Commission Attn: Filing Center 3930 Fairview Industrial Drive SE Salem, OR 97308

Re: Docket No. UM 1712: Sierra Club Direct Testimony and Exhibits of

Jeremy Fisher

Please find enclosed the Direct Testimony and Exhibits of Jeremy Fisher on Behalf of Sierra Club in the above-referenced docket.

The redacted version of this filing has been e-filed with the Commission and served upon parties via email. The confidential version of this filing is being filed with the Commission via FedEx and served pursuant to Protective Order No. 14-431 upon all eligible party representatives via USPS.

Please let me know if you have any questions. Thank you.

Respectfully submitted,

/s/ Derek Nelson

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cc: Service List

CERTIFICATE OF SERVICE

I hereby certify that on this 5th day of March, 2015, I caused to be served the foregoing DIRECT TESTIMONY AND EXHIBITS OF JEREMY FISHER ON BEHALF OF SIERRA CLUB upon all party representatives on the official service list for this proceeding via electronic mail. The confidential version of this filing is being served pursuant to Protective Order No. 14-431 upon all eligible party representatives via USPS.

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Dated this 5th day of March, 2015 at San Francisco, CA.

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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. INTRODUCTION AND PURPOSE OF TESTIMONY

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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

interest of the Company's customers. First, I assess if the Company has

appropriately characterized and captured the risk that Huntington may require

additional environmental controls within the timeframe of the CSA that would,

but for the CSA, require Huntington to be closed. Second, I review three elements

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

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

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

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

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

Q Do you support the Company's request?

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

1 Q Please summarize your conclusion.

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

Q How did you arrive at this conclusion?

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

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

¹ PAC/100, Crane/13.

1 Market Case. After this adjustment, the benefit of the transaction is reduced by 2 , to \$ 3 Third, the coal spot market price used by the Company in the Market Case 4 assessment assumes no carbon dioxide (CO₂) regulations, even though Company witness Mr. Seth Schwartz provided coal prices in the presence of CO₂ 5 6 regulations and the Company's reference position in the current Integrated 7 Resource Plan (IRP) process is that CO₂ 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 \$, to \$ Finally, the Company has assumed that, in the Market Case, achieving the correct 10 quality specifications will require blending activities at Hunter that were 11 12 previously performed at the Coal Preparation Plant, a separate facility owned by PacifiCorp. The Company adds a blending cost to Hunter in the Market Case, but 13 not in the Transaction Case, effectively assuming that such services will be 14 provided for free even though Hunter has no contractual 15 obligation after this date. Correcting the assumption that blending 16 services would be provided free of charge further reduces the benefit of the 17 transaction over the market case by \$, to just \$. Table 1, 18 19 below, summarizes each of these adjustments.

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

			Benefit of T	ransaction
Adjustment	Change in	PVRR(d)	(PVR	$\mathbf{R}(\mathbf{d})$
Company Case				
Retiree Med. Obligation				
CO ₂ Effect on Coal Price				
Blending Costs at Hunter				
Total				

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

² Net present value of CSA at prices with from 2016-2029, 2015\$.

³ 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

UE 246, this Commission found that such an analysis formed a critical basis of

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

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

Like other coal units in both PacifiCorp's fleet, and throughout the United States,

Huntington will likely face future environmental obligations that will require

capital retrofits or increased operating costs. Coal plants may also just cease to be

a least cost source of energy for PacifiCorp customers if gas prices remain low

and renewable energy continues to decline in cost.

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

⁴ 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. Utah is in the process of revising its BART determination for
2	Huntington. 6 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, ⁷ presumably for compliance with expected regional haze
12	determination from EPA. The Company's 2014 Strategic Asset Plan (SAP) for
13	Huntington
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15	⁸ 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.

⁵ 77 FedReg 74355

⁶ 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.

<u>http://www.airquality.utah.gov/Planning/regionalhaze/index htm.</u> Screenshot attached as Exhibit Sierra Club/102.

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

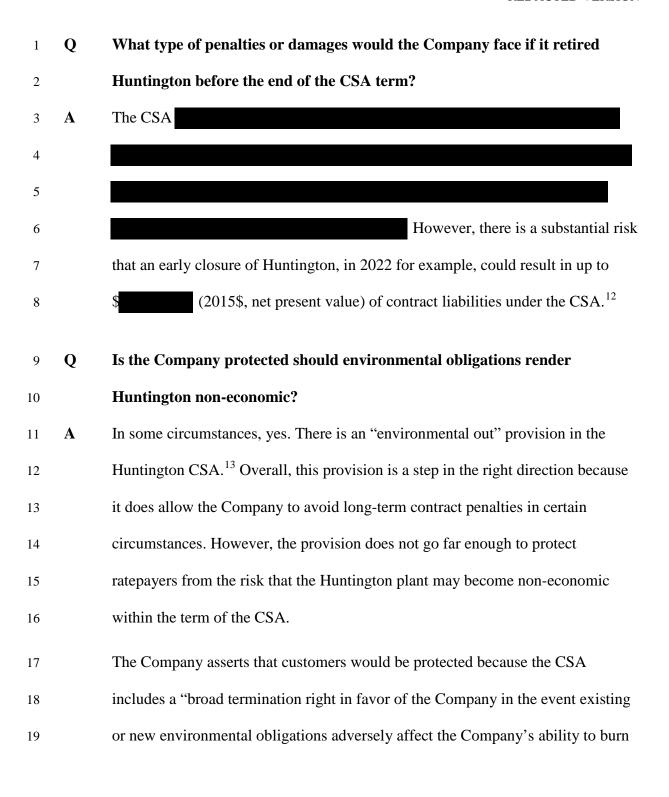
⁸ Huntington 2014 Strategic Asset Plan, provided in Attach Sierra Club 2.7 2nd Supp CONF. Attached as CONFIDENTIAL Exhibit Sierra Club/104.

Q Did the Company consider the possibility that Huntington might retire in the 1 2 early 2020's when it analyzed the Deer Creek Transaction? A No. In response to Sierra Club data request 1.27, the Company stated that in each 3 of the three cases is analyzed, it assumed Huntington would operate through its 4 depreciable life in 2030⁹. This assumption is inconsistent with several scenarios 5 considered in the IRP. It also ignores the very real possibility, if not probability, 6 that a requirement to install SCR at Huntington could make the plant non-7 economic. In fact, the 2014 Huntington SAP indicates 8 9 10 11 12 Even without an SCR requirement, extended low gas prices could keep 13 Huntington out of the money and render it a poor option for ratepayers. Indeed, 14 the cost of energy from coal at Huntington in 2014 was approximately at parity 15 with the cost of energy from a new combined cycle gas unit (in \$/MWh, without 16 O&M costs). 11 It would not be out of the question to imagine that Huntington 17 could become non-economic in the next fourteen years. 18

⁹ Attached as Exhibit Sierra Club/105.

¹⁰ 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.

¹¹ 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**



^{12 2015} net present value of CSA coal costs from 2022 through 2029, inclusive, with

PAC/100, Crane/13.

coal as the Huntington power plant." ¹⁴ It is not clear, however, that the language "affect the Company's ability to burn coal" would cover scenarios where environmental regulations or law simply made burning coal more expensive, but did not create an outright prohibition or restriction on burning coal. Sierra Club attempted several times to confirm with the Company whether this provision would extend to the scenario discussed above where an SCR is required, which is consistent with the scenarios identified in the Company's IRP. The Company refused to answer and simply stated that "the contract speaks for itself." ¹⁵ Q Did you review the "environmental out" clause in the Huntington CSA? Yes. The Company included the Huntington CSA as Exhibit PAC/104. Starting A on page 20, the Huntington CSA with Bowie ¹⁶ I am not an attorney, and therefore I would recommend that the Commission rely on legal briefing or its own counsel's analysis of this provision. Nevertheless, absent a clear indication from the Company on the record that ratepayers would not be on the hook for any longterm contract costs if Huntington closes early, I had no choice but to rely on the contract language itself to determine the risk to ratepayers.

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¹⁴ PAC/100, Crane/13.

¹⁵ Response to SC DR 1.25 and 2.1.

¹⁶ See Exhibit PAC/104

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

Generally not. Most environmental laws and regulations impacting coal plants in the west require the plant to meet specific pollution limits, which typically requires the installation of a specific pollution control technology. These requirements can be very costly, and in many instances lead to the conclusion that it would be more economical to shutter the plant than incur the required costs to install pollution controls. While numerous utilities have claimed that environmental regulations render their coal operations non-viable, the choice to continue operations or cease burning coal is generally an economic decision. This means that multiple factors, including gas and power prices, demand forecasts, CO_2 cost estimates and other risk calculations, all play a part in deciding whether

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¹⁷ Ex. PAC/104, Crane/20.

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 regulation by itself "adversely affects the Company's ability to burn coal." ¹⁸ 3 The Company's choice, for example, to convert Naughton 3 to a natural gas 4 burning steam unit is based on PacifiCorp's economic modeling, which indicated 5 that ratepayers would see a benefit if the Company did not retrofit the coal unit. 19 6 PacifiCorp then applied to Wyoming Department of Environmental Quality (WY 7 DEO) to alter their permit conditions, ²⁰ but even in EPA's final rule for 8 Wyoming, the agency indicated that, while the conversion was supported, the 9 agency could not require PacifiCorp to convert the unit to natural gas.²¹ 10 Similarly, the proposed 111(d) rule for carbon dioxide mitigation from existing 11 sources, currently called the Clean Power Plan, does not require the cessation of 12 coal burning operations. This proposed rule provides options to allow the 13 continued use of high emissions resources if those resources are balanced with 14

¹⁸ See. PAC/100, Crane/13.

¹⁹ 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.

²⁰ 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.

²¹ 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."

clean energy options; states (and presumably utilities) are provided flexibility to 1 2 determine how to change operations to meet rate-based limits. Similarly, I know of no settlement yet entered into by PacifiCorp to cease burning 3 4 coal at any unit in response to an environmental law or regulation. At Naughton, PacifiCorp found to its own satisfaction that the unit was more economic 5 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 is also based on a Company proposition, ²² rather than a settlement. 8 Could the Company trigger the "environmental-out" if it determined that 9 Q installing a pollution control on Huntington was non-economic? 10 11 A 12 13 14 15 16 17 18 19

²² 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."

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 abse
	of a specific environmental rule or regulation?
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
	the Bowie CSA.
	²³ If there came a time that th
	continued operation of Huntington became non-economic, or even if Huntington
	dispatch falls below about with economic dispatch, 24
Q	Are there steps the Commission could take to protect ratepayers from the
	risk of long-term coal contract liabilities in this case?
A	Yes. The Commission could condition approval of the Transaction on a finding

prior to the expiration of the Huntington CSA in 2029, due directly or indirectly 1 to any requirement related to any existing or future environmental rules or 2 regulations, then PacifiCorp would not be permitted to recover from ratepayers 3 any long-term coal contract liabilities related to the Huntington CSA. The 4 Commission should also make clear that all of the Company's planning 5 assumptions in its decision making related to environmental retrofits at 6 7 Huntington should assume that the coal contract liabilities are avoidable. 3. RETIREE MEDICAL OBLIGATION IS SETTLED AND A SUNK COST 8 Please explain the benefit to customers derived from the transfer of the Q 9 Company's Retiree Medical Obligation from Energy West to the United 10 Mine Workers of America. 11 As described in Ms. Crane's direct testimony, the Company recently settled a A 12 protracted labor dispute with the UMWA. 25 As part of this settlement, the 13 14 Company negotiated the transfer of its Retiree Medical Obligation (RMO) to the Union in exchange for a one-time lump-sum payment of \$150 million.²⁶ 15 16 17 Because the transfer reduces future expenses that would have been 18

²⁵ PAC/100. Page 15 at 17-19.

²⁶ 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.

²⁷ 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. 28
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.
	0	
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.

²⁸ See Exhibit Sierra Club/108.

Q 1 What is the Company's explanation for why the RMO is inconsistent 2 between the Transaction and Market cases? A In response to discovery, the Company confirmed that the agreement with the 3 United Mine Workers of America (UMWA) to settle the RMO is binding, and the 4 transfer of funds to UMWA is scheduled to occur on June 1, 2015. 29 The 5 Company explained that should the Company fail to "close or sell the Deer Creek 6 Mine, it fully expects the UMWA to file a grievance or lawsuit against the 7 Company since it was relying on the Company's intent to sell to close the mine in 8 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 Deer Creek mine and the Company's present value revenue requirements 11 modeling is appropriate."³⁰ 12 Q Has the Deer Creek mine already been closed? 13 Yes. Deer Creek mine was closed in December of 2014. The closure date is past 14 and according to PacifiCorp, it has ceased operations at the Deer Creek facility. 15 While this would appear to make the "Keep" case inconsistent with the current 16 state of reality, it is consistent with both the Transaction and the Market cases. 17 According to the Company's explanation, UMWA would have no basis for a 18 grievance or lawsuit in the Market case. 19

²⁹ Response to Sierra Club Data Request 2.6.

³⁰ 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. ³¹ 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 \$
12		\$
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

³¹ 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. 32
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." ³³
10		The market coal prices provided by EVA to PacifiCorp are shown in Confidential
11		Figure 1, below. The price of coal is approximately \$ (2014\$) lower in the
12		carbon case from 2020 to 2025, inclusive.

Direct Testimony of Seth Schwartz, p.24, lines 19-20.
 Direct Testimony of Seth Schwartz, p.25, lines 2-5.

Confidential Figure 1. EVA Utah Market Coal Price Forecasts³⁴

- 3 Q Did the Company account for the impact of carbon regulation on coal prices
- 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.

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

Q	Is the use of the No Carbon price forecast consistent with the Company's
	resource planning?
A	No. The Company has explicitly assumed compliance with expected or
	impending CO ₂ regulations elsewhere in resource planning over the last several
	years, and through the current Integrated Resource Plan (IRP). For example:
	1. In 2011 the Wyoming Certificate for Public Convenience and Necessity
	(CPCN) docket for the Naughton 3 SCR, the Company's base case
	assumed a "medium" carbon price, reflecting the potential for impending
	carbon regulations. 35
	2. In the Utah resource decision docket to construct SCR at Jim Bridger 3 &
	4, the Company's base case assumed a CO ₂ price of \$16/ton in 2021,
	escalating at 3% thereafter. ³⁶
	3. In the recent Special Update to the 2013 IRP with regards to Cholla Unit
	4, the Company's March 2013 official forward price curve "included a
	CO ₂ price beginning 2022 at \$16/ton and escalating to over \$25/ton by
	2032." ³⁷
	4. In the current draft 2015 IRP materials, the Company reviews 30 "core
	cases" with various CO ₂ regulatory assumptions. All but three (i.e. 90%)
	A

 $^{^{35}}$ Direct Testimony of Mr. Rick Link. Wyoming Docket 20000-400-EA-11, page 12, lines 10-12 $^{\circ}$ The base case represents the Company's most current official forward price curve ("FPC") and most current expectations for CO₂ price levels and timing."

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

37 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 ₂ emissions will be regulated after
2		$2020.^{38}$
3		Based on these filings and the ongoing IRP process, I believe that the Company's
4		reference position is that CO ₂ 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	0	TT. 1
7	Q	How does the use of the No Carbon coal price forecast bias the estimate of
8	Q	benefits from the Transaction?
	A	
8		benefits from the Transaction?
8		benefits from the Transaction? The use of a No Carbon (i.e. higher) market price forecast biases the estimate of
8 9 10		benefits from the Transaction? The use of a No Carbon (i.e. higher) market price forecast biases the estimate of benefits in favor of the Transaction by making the coal spot market appear less
8 9 10 11		benefits from the Transaction? The use of a No Carbon (i.e. higher) market price forecast biases the estimate of benefits in favor of the Transaction by making the coal spot market appear less favorable. Correcting for this error reduces the relative value of the Bowie

^{38 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/2015IR P/PacifiCorp_2015IRP_DRAFTCoreCase_FactSheets_11-14-14.pdf

2 FOR FREE Q Does the Company currently blend coal burned at the Hunter plant? 3 4 A Yes. The Company currently owns and operates the Coal Preparation Plant which is used to blend coal burned at the Hunter plant.³⁹ Under the Transaction case, 5 Hunter would obtain coal from Bowie under a revised CSA ("Hunter CSA"), 6 wherein Bowie would take responsibility for providing blended coal to Hunter 7 through the end of 2020.⁴⁰ 8 In the Market case, the Company has currently assumed that they would 9 The analysis of the Market case assumes that blending 10 responsibilities would be taken on at the Hunter facility, at a cost of \$ 11 (2015\$) per year. 12 Q If ownership of the Coal Preparation Plant were passed onto Bowie from the 13 Company, would there still be incremental costs to the Company for 14 blending coal in the future? 15 Yes, after the Hunter CSA lapses at the close of 2020, Hunter would start A 16 acquiring market coal, according to the Company's assumptions. However, the 17 Company does not assume that Hunter would either incur blending costs on-site, 18 or have a higher cost of market coal due to the blending services offered by 19 Bowie at the Preparation Plant. Effectively, in the Transaction case, the Company 20

TRANSACTION CASE ASSUMES THAT MARKET COAL AT HUNTER IS BLENDED

5.

Direct Testimony of Ms. Cindy Crane, page 7 lines 8-10.
 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 <u>plus</u> 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		\$. 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 \$ compared to the Market Case, indicating an error of over \$
11		and reduction of nearly 77% relative to the assumed benefit in this
12		application. Noting that a \$ change in the expected market price of coal
13		over six years altered the benefit of the Transaction by over \$, I
14		conclude that the remaining \$ 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 \$

1		investment (2015\$). The calculated \$ 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;

7	A	It does.
6	Q	Does this conclude your testimony?
5		in optionality imposed by the Huntington CSA.
4		With these commitments, ratepayers are reasonably protected from the reduction
3		at the units in excess of \$25 million, when such requirements are known.
2		Huntington units, separately, for any capital costs expected to be incurred
1		4. The Company commits to assess the forward-looking economics of the

UM 1712

Exhibit Sierra Club/101

Curriculum Vitae of Jeremy I. Fisher, PhD



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PROFESSIONAL EXPERIENCE

Synapse Energy Economics, Cambridge MA. Principal Associate, 2013 – present, Scientist, 2007 – 2013.

Consulting on economic analysis of climate change and energy, carbon, and emissions policies.

Quantitative evaluations of regional climate change impact, energy efficiency programs, long- and short-term electric industry planning, carbon reduction planning, and emissions compliance programs.

Tulane University, New Orleans, LA. *Ecology and Evolutionary Biology Postdoctoral Research Scientist*, 2006 –2007.

Determining Hurricane Katrina's impact on Gulf Coast ecosystems using satellite and field data.

University of New Hampshire, Durham, NH. *Earth, Oceans, and Space Postdoctoral Research Scientist,* 2006 –2007.

Organizing team synthesis review of causes and rates of natural rainforest loss in the Amazon basin.

Brown University Watson Institute for International Studies, Providence, RI. *Visiting Fellow*, 2007 – 2008.

Designing study to examine migratory bird response to climate variability in the Middle East.

Brown University Department of Geological Sciences, Providence, RI. Research Assistant, 2001 –2006.

Tracking impact of climate change on New England forests from satellites. Working with West African communities to determine impact of climate change and practice on landscape. Modeling coastal power plant effluent from satellite data.

EDUCATION

Brown University, Providence, RI Doctor of Philosophy in Geological Sciences, 2006

Brown University, Providence, RI Master of Science in Geological Sciences, 2003

University of Maryland, College Park, MD Bachelor of Science in Geography and Geology, 2001

FELLOWSHIPS & AWARDS

- Visiting Fellow, Watson Institute for International Studies, Brown University, 2007
- Finalist, Congressional Fellowship, American Institute of Physics and Geological Society of America, 2007
- Fellow, National Science Foundation East Asia Summer Institute (EASI), 2003
- Fellow, Henry Luce Foundation at the Watson Institute for International Studies, Brown University, 2003

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Fisher, J.I., J.F. Mustard, "High resolution phenological modeling in Southern New England." Seminar at the Woods Hole Research Center in Woods Hole, MA, March 16, 2005.

TESTIMONY

Oklahoma Corporation Commission (Case No. PUD 201400): Direct and rebuttal testimony comparing the modeling performed by Oklahoma Gas & Electric in support of its request for authorization and cost recovery of a Clean Air Act compliance plan and Mustang modernization against best practices in resource planning. On behalf of Sierra Club. December 16, 2014 and January 26, 2015.

New Mexico Public Regulation Commission (Case 12-00390-UT): Direct and surrebuttal testimony evaluating the economic modeling performed by Public Service Company of New Mexico in support of its application for certificate of public convenience and necessity for the acquisition of San Juan Generating Station and Palo Verde units. On behalf of New Energy Economy. August 29, 2014; December 29, 2014.

Wyoming Public Service Commission (Docket No. 20000-446-ER-14): Direct testimony in the matter of the application of Rocky Mountain Power for authority to increase its retail electric utility service rates in Wyoming approximately \$36.1 million per year or 5.3 percent. On behalf of Sierra Club. July 25, 2014.

Indiana Utility Regulatory Commissions (Cause No. 44446): Direct testimony evaluating the economic modeling performed on behalf of Vectren South in support of its application for certificate of public convenience and necessity for various retrofits at Brown 1 & 2, Culley 3 and Culley plant, and Warrick 4. On behalf of Sierra Club, Citizens Action Coalition, and Valley Watch. May 28, 2014.

Utah Public Service Commission (Docket No. 13-035-184): Direct testimony In the matter of the application of Rocky Mountain Power for authority to increase its retail electric utility service rates in Utah and for approval of its proposed electric service schedules and electric service regulations. On behalf of Sierra Club. May 1, 2014.

Louisiana Public Service Commission (Docket No. U-32507): Direct testimony regarding the application of Cleco Power LLC for: (i) authorization to install emissions control equipment at certain of its generating facilities in order to comply with the federal national emissions standards for hazardous air pollutants from coal and oil-fired electric utility steam generating units rule; and (ii) authorization to recover the costs associated with the emissions control equipment in LPSC jurisdictional rates. ON behalf of Sierra Club. November 8, 2013.

Nevada Public Utilities Commission (Docket No. 13-07021): Direct testimony regarding a joint application of Nevada Power Company d/b/a NV Energy, Sierra Pacific Power Company d/b/a NV Energy (referenced together as "NV Energy, Inc.") and MidAmerican Energy Holdings Company ("MidAmerican") for approval of a merger of NV Energy, Inc. with MidAmerican. On behalf of Sierra Club. October 24, 2013.

Indiana Utility Regulatory Commission (Cause No. 44339): Direct testimony in the matter of Indianapolis Power & Light Company's application for a Certificate of Public Convenience and Necessity for the construction of a combined cycle gas turbine generation facility. On behalf of Citizens Action Coalition of Indiana. August 22, 2013.

Indiana Utility Regulatory Commission (Cause No. 44242): Direct and surrebuttal testimony regarding Indianapolis Power & Light Company's petition for approval of clean energy projects and qualified pollution control property. On behalf of Sierra Club. January 28, 2013; April 3, 2013.

Wyoming Public Service Commission (Docket 2000-418-EA-12): Direct testimony regarding the application of PacifiCorp for approval of a certificate of public convenience and necessity to construct selective catalytic reduction systems on the Jim Bridger Units 3 and 4. On behalf of Sierra Club. February 1, 2013.

Public Service Commission of Wisconsin (Docket No. 6690-CE-197): Direct, rebuttal, and surrebuttal testimony regarding Wisconsin Public Service Corporation's application for authority to construct and place in operation a new multi-pollutant control technology system for Unit 3 of Weston Generating Station. On behalf of Clean Wisconsin. Direct testimony submitted November 15, 2012, rebuttal testimony submitted December 14, 2012, surrebuttal testimony submitted January 7, 2013.

Utah Public Service Commission (Docket 12-035-92): Direct, surrebuttal, and cross-answering testimony regarding Rocky Mountain Power's request for approval to construct Selective Catalytic Reduction systems at Jim Bridger units 3 and 4. On behalf of Sierra Club. November 30, 2012.

Oregon Public Utility Commission (Docket UE 246): Direct testimony in the matter of PacifiCorp's filing of revised tariff schedules for electric service in Oregon. On behalf of Sierra Club. June 20, 2012.

Kentucky Public Service Commission (Docket 2011-00401): Direct testimony regarding the application of Kentucky Power Company for approval of its 2011 environmental compliance plan, for approval of its amended environmental cost recovery surcharge tariff, and for the granting of a certificate of public convenience and necessity for the construction and acquisition of related facilities. On behalf of Sierra Club. March 12, 2012.

Kentucky Public Service Commission (Dockets 2011-00161/2011-00162): Direct testimony regarding the application of Kentucky Utilities/Louisville Gas and Electric Company for certificates of public convenience and necessity and approval of its 2011 compliance plan for recovery by environmental surcharge. On behalf of Sierra Club and Natural Resources Defense Council (NRDC). September 16, 2011.

Kansas Corporation Commission (Docket 11-KCPE-581-PRE): Direct testimony in the matter of the petition of Kansas City Power & Light (KCP&L) for determination of the ratemaking principles and treatment that will apply to the recovery in rates of the cost to be incurred by KCP&L for certain electric generating facilities under K.S.A. 66-1239. On behalf of Sierra Club. June 3, 2011.

Utah Public Service Commission (Docket 10-035-124): Direct testimony in the matter of the application of Rocky Mountain Power for authority to increase its retail electric utility service rates in Utah and approval of its proposal electric service schedules and electric service regulations. On behalf of Sierra Club. May 26, 2011.

Wyoming Public Service Commission (Docket 20000-384-ER-10): Direct testimony in the matter of the application of Rocky Mountain Power for authority to increase its retail electric utility rates in Wyoming

approximately \$97.9 million per year or an average overall increase of 17.3 percent. On behalf of Powder River Basin Resource Council. April 11, 2011.

Resume dated December 2014

UM 1712

Exhibit Sierra Club/102

Utah Department of Environmental Quality DAQ: Planning: Regional Haze

Planning

Regional Haze

This page presents the Technical Support Document for Utah's Review of the Best Available Retrofit Technology (BART) Determination in the 2008 Regional Haze SIP, Section XX.

Public Comment Period

November 1, 2014 through December 22, 2014

Note: The public comment period has been extended through December 22nd to allow public review and comment on modeling files and the engineering review summary that were not available at the beginning of the public comment period. The remaining information will be posted by November 21, 2014. Please check back for these updates.

Contents

- 1. PacifiCorp BART Analysis
 - a. June 2012, BART Analysis for Hunter Unit 1 (7MB)
 - b. June 2012, BART Analysis for Hunter Unit 2 (7MB)
 - c. June 2012, BART Analysis for Huntington Unit 1 (6MB)
 - d. June 2012, BART Analysis for Huntington Unit 2 (7MB)
 - e. August 2014, Utah Five Factor Analysis Update (9MB)
- 2. DAQ Engineering Review
 - a. EPA Fact Sheet SNCR
 - b. EPA Fact Sheet SCR
 - c. PacifiCorp System-wide Costs

PacifiCorp's July 12, 2012 comments regarding Overall System Costs in Response to EPA's *Proposals in the Alternative for PacifiCorp's Jim Bridger Units 1, 2, 3, and 4 NOx BART.*

- d. DAQ calculations
- e. Review of the Revised NOx Best Available Retrofit Technology
 Analysis for Hunter Units 1 & 2 and Huntington Units 1 & 2
- 3. Emissions Inventory
 - a. EGU Emission Data from EPA's Clean Air Markets Division
 - b. RH SIP Inventory
- 4. Monitoring
 - a. Ammonium Nitrate Seasonal Trends
 - b. Improve Trends
 - c. Ammonia Trends
 - d. Links to Improve Data:
 - FED
 - IMPROVE
 - WRAP TSS
- Modeling

- a. PacifiCorp's 2012 Modeling Results are Documented in the BART Analysis Documents Listed in Section 1
- b. DAQ Modeling Update
 - Modeling Protocol
 - RH SIP Technical Support Documentation: Visibility Modeling
 - Visibility Calculation Methodology
- 6. SO2 Milestone Reports and Technical Support Documentation

From 2011/2008/2003 Regional Haze SIP. Scroll down on this page to find links to the milestone reports and the TSD.

UM 1712

Exhibit Sierra Club/103

2015 Integrated Resource Plan, Public Input Meeting 6 January 29-30, 2015 (Excerpt)











2015 Integrated Resource Plan

Public Input Meeting 6 January 29-30, 2015



Rocky Mountain Power Pacific Power PacifiCorp Energy

Regional Haze Scenarios

Coal Unit	Reference	RH-I	RH-2	RH-3
Dave Johnston I	Shut Down Dec 2027	Shut Down Mar 2019	Shut Down Mar 2019	Shut Down Dec 2027
Dave Johnston 2	Shut Down Dec 2027	Shut Down Dec 2027	Shut Down Dec 2023	Shut Down Dec 2027
Dave Johnston 3	SCR by Mar 2019; Shut Down Dec 2027	Shut Down Dec 2027	Shut Down Dec 2027	Shut Down Dec 2027
Dave Johnston 4	Shut Down Dec 2027	Shut Down Dec 2032	Shut Down Dec 2032	Shut Down Dec 2027
Hunter 2	SCR by Dec 2021	Shut Down by Dec 2032	Shut Down by Dec 2024	Shut Down by Dec 2032
Huntington I	SCR by Dec 2022	Shut Down by Dec 2036	Shut Down by Dec 2024	SCR by Dec 2022
Huntington 2	SCR by Dec 2022	Shut Down by Dec 2021	Shut Down by Dec 2021	Shut Down by Dec 2029
Jim Bridger I	SCR by Dec 2022	Shut Down by Dec 2023	Shut Down by Dec 2023	SCR by Dec 2022
Jim Bridger 2	SCR by Dec 2021	Shut Down by Dec 2032	Shut Down by Dec 2028	SCR by Dec 2021
Wyodak	SCR by Mar 2019	Shut Down by Dec 2039	Shut Down by Dec 2032	Shut Down by Dec 2039

Common to All Scenarios:

Carbon 1&2 shutdown 2015; Cholla 4 gas conversion 2025; Colstrip 3&4 SCR 2023/2022, respectively; Craig 1&2 SCR 2021/2018, respectively; Hayden 1&2 SCR 2015/2016, respectively; Naughton 1&2 shutdown 2029; Naughton 3 gas conversion 2018, shutdown 2029; Hunter 1&3 SCR 2021/2024, respectively; and Bridger 3&4 SCR 2015/2016, respectively

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CONFIDENTIAL Exhibit Sierra Club/104

Huntington 2014 Strategic Asset Plan, Provided in Attach Sierra Club 2.7 2nd Supp CONF

This exhibit is confidential and is provided under separate cover.

UM 1712

Exhibit Sierra Club/105

Response to Sierra Club Data Request 1.27

UM-1712/PacifiCorp January 28, 2015 Sierra Club Data Request 1.27

Sierra Club Data Request 1.27

Reference the Direct Testimony of Cindy Crane, page 26, lines 14-19. For each of the three cases analyzed by the Company (Keep Case; Transaction Case; and Market Case), please identify the date that PacifiCorp assumed the Huntington plant would stop burning coal? (i.e. retire or convert to natural gas)

Response to Sierra Club Data Request 1.27

The analysis performed by the Company for the three cases is based on the approved 2030 depreciable life of the Huntington Plant. Note, however, the analysis extends only through 2029, the date through which the Huntington coal supply agreement extends. In PacifiCorp's other state jurisdictions, the approved depreciable life for the Huntington plant is 2036.

UM 1712

Exhibit Sierra Club/106

Wyoming Docket 20000-400-EA-11 RMP Motion Requesting Permission to Withdraw Application Mark C. Moench
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Attorneys for Rocky Mountain Power

BEFORE THE WYOMING PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF) Docket No. 20000-400-EA-11
PACIFICORP FOR APPROVAL) Record No. 12953
OF A CERTIFICATE OF PUBLIC CONVENIENCE)
AND NECESSITY TO CONSTRUCT THE)
SELECTIVE CATALYTIC REDUCTION SYSTEM,	
PULSE JET FABRIC FILTER SYSTEM AND)
RELATED UPGRADES FOR NAUGHTON UNIT 3)

MOTION REQUESTING PERMISSION TO WITHDRAW APPLICATION

Comes now, Rocky Mountain Power (the "Company"), and hereby requests the Commission allow it to withdraw the Application currently pending in this Docket. Because the Application is being withdrawn, the Company does not intend to formally respond to the intervenors' surrebuttal testimony but will do so in future proceedings as appropriate. However, the Company does note that several contentions contained in the testimony of Mr. Falkenberg on behalf of the Wyoming Industrial Energy Consumers

("WIEC") and Mr. Freeman on behalf of the Wyoming Office of Consumer Advocate ("OCA") demand a brief response.¹ In support of its Motion, Rocky Mountain Power states as follows:

- 1. On April 9, 2012, the Company filed rebuttal testimony and exhibits that contained updated analysis and information. 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. The analysis shows that the conversion to natural gas is the risk adjusted, lowest cost compliance alternative when compared to the mandated environmental upgrade projects using updated model input assumptions, updated market information and advancements in modeling methodology.
- 2. In his surrebuttal testimony, Mr. Freeman contends that these are Company decisions that are largely at the discretion of management. In response, the Company would note that the decisions being made are not "largely" at management's discretion but are, instead, almost completely circumscribed by federal and state requirements and regulatory policies that the Company is attempting to prudently reconcile and manage.
- 3. Mr. Freeman also criticizes the prudence standard used in nearly every state that judges a utility's prudence based upon facts and circumstances known or

¹ Because the Application is being withdrawn, the Company does not intend to address all disputed positions taken by these witnesses. Future proceedings appear the proper venue for these exchanges.

reasonably knowable at the time the decision is made.² Mr. Freemen effectively proposes a new prudence test which would assess prudence on the basis of hindsight. While Mr. freemen suggests the current test for prudence is "unfair" and "intolerable" for consumers, it would be even more unfair and intolerable to judge the Company's decisions on conditions that Mr.Freemen himself acknowledges are uncertain by using 20-20 hindsight.

- 4. Mr. Freeman's testimony also references the conversion to natural gas as occurring in 2015. While perhaps not intended, the reference could be interpreted to suggest the decision not to install environmental controls should be judged based upon what will be known in 2015. The Company wants to make clear that the decision not to install environmental controls at this time is being made now.
- 5. In Mr Falkenberg's surrebuttal testimony, he contends the Commission should order the Company to perform analyses with the GRID model. In response, the Company would note that substantially more evidence would be required in this docket to justify Mr. Falkenberg's recommendation. Running multiple models is time-consuming and expensive, and should not be mandated without a convincing record of the need and propriety. This is not the docket for the Commission to make such a determination.
- 6. Accordingly, Rocky Mountain Power hereby requests that the Commission allow the Company to withdraw the current certificate Application, which requests authority to construct the environmental upgrades. The Company is prepared to present any information that the Commission requests to aid in its review of this request,

² Under the prudent investment rule, the utility is compensated for all prudent investments at their actual cost when made (their "historical" cost), irrespective of whether individual investments are deemed necessary or beneficial in hindsight. *Duquesne v. Barasch*, 488 U.S. 299 (1989).

Sierra Club/106 Fisher/4

but respectfully submits that the public hearings currently scheduled for May 29-June 1,

2012, are no longer necessary.

WHEREFORE, by this Motion, Rocky Mountain Power respectfully requests that

the Commission allow the Company to withdraw the Application for a certificate of

public convenience and necessity for construction of the environmental upgrades to the

Naughton Unit 3 generating facility.

DATED this 11th day of May 2012.

Respectfully submitted,

Mark C. Moench

Daniel E. Solander

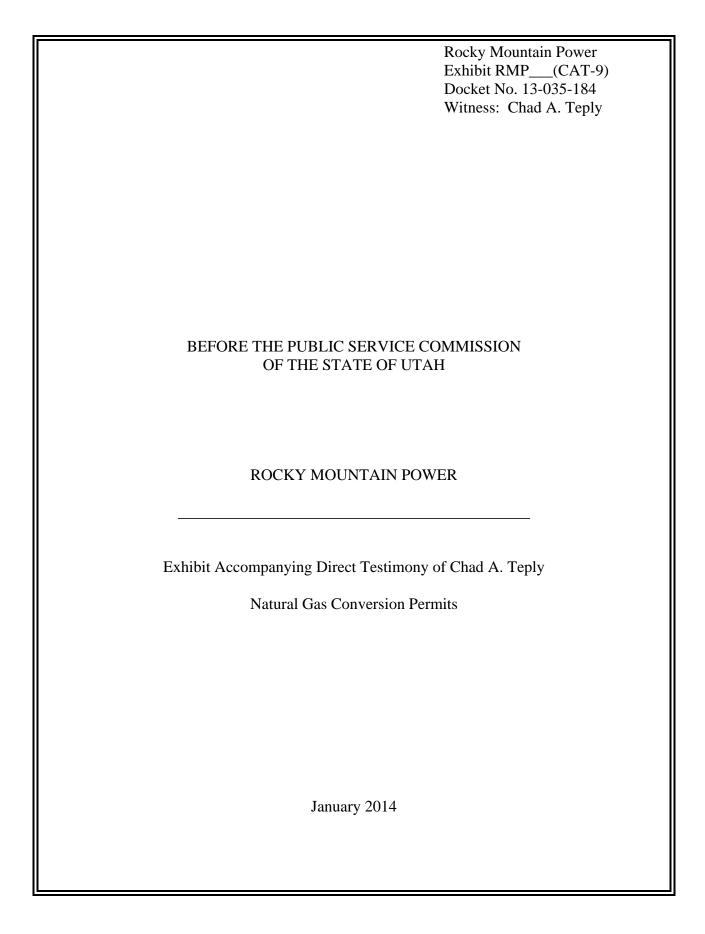
Paul J. Hickey

O'Kelley H. Pearson

UM 1712

Exhibit Sierra Club/107

Utah Docket 13-035-184 Exhibit RMP___(CAT-9)



Rocky Mountain Power Exhibit RMP___(CAT-9) Page 1 of 2 Docket No. 13-035-184 Witness: Chad A. Teply

Natural Gas Conversion Permits

The Company intends to convert Naughton Unit 3 to 100% natural gas fueling in lieu of installing a SCR and baghouse. Before doing so, however, the state of Wyoming must change its Regional Haze SIP and the associated documents to allow for the natural gas conversion. Also, once EPA issues its final action on the Naughton Unit 3 portion of the Regional Haze SIP, EPA may need to reopen that approval and instead agree that the Naughton Unit 3 natural gas conversion meets regional haze requirements.

In the abstract, changing the Wyoming Regional Haze SIP, the supporting state permitting documents, and EPA's approval to allow for a gas conversion should not pose major permitting problems. This is because, as compared to burning coal with the SCR and baghouse alternative, the natural gas conversion will result in both lower total emissions (for sulfur dioxide ("SO₂"), NOx, particulate matter ("PM")) and reduced visibility impact.

The Company's preferred timing for the conversion is to proceed with the tie-in work after December 31, 2017 - three years after the December 31, 2014 deadline for installing a SCR and baghouse. The exact conversion commissioning date, however, has not yet been finalized.

On January 28, 2013, the Company submitted a Prevention of Significant Deterioration ("PSD") applicability determination to the WDEQ AQD. The Company sought approval to convert Naughton Unit 3 from a coal fueled unit to a natural gas fueled unit. The natural gas conversion is proposed as a better-than-BART alternative to the permit conditions that require the installation of a SCR

Rocky Mountain Power
Exhibit RMP___(CAT-9) Page 2 of 2
Docket No. 13-035-184
Witness: Chad A. Teply

24	and baghouse on Naughton Unit 3 by December 31, 2014. The Company also
25	requested that the natural gas conversion be delayed until after December 31,
26	2017.
27	On July 5, 2013, the WDEQ AQD completed its final review of the
28	Company's application to modify the Naughton plant by reducing permitted
29	emissions from Unit 3 and ultimately converting the unit from a coal fueled unit
30	to a 100% natural gas fueled unit in 2018. Consequently, the WDEQ AQD issued
31	Permit MD-14506 to the Company for the natural gas conversion in 2018.
32	Exhibit CAT - 6 illustrates the permitting and regulatory timeline.

UM 1712

Exhibit Sierra Club/108

Response to ICNU Data Request 1.16 (Excerpt)

UM-1712/PacifiCorp January 30, 2015 ICNU Data Request 1.16

ICNU Data Request 1.16

Please reference the testimony of Ms. Crane, PAC/100, page 15, lines 15-19. Please provide a copy of the settlement agreement between Energy West and the UMWA, including all Memoranda of Understanding and the 2014 Wage Agreement.

Response to ICNU Data Request 1.16

Please refer to Attachment ICNU 1.16.



B. MEMORANDUM OF UNDERSTANDING RELATED TO PROVISION OF MEDICAL AND PHARMACEUTICAL BENEFITS TO ELIGIBLE/RETIREES

This Memorandum of Understanding is entered into this day of day of day of 2014 between Energy West Mining Company ("Energy West"), the International Union, United Mine Workers of America ("UMWA"), (the UMWA and Energy West are also collectively referred to as the "Parties").

WHEREAS: The Parties have been engaged in bargaining related to medical and pharmaceutical benefits for retirees (and their eligible dependents) of Energy West; and

WHEREAS: The Parties agree that this MOU is the product of good faith discussions between the Parties pursuant to the 2014 Bituminous Coal Wage Agreement; and

NOW THEREFORE, in consideration of value received and mutual promises made to each other, the Parties agree to the following:

- 1. The 2014 UMWA Prefunded Plan and Trust ("2014 Prefunded Plan") shall be funded by a transfer of monies from Energy West (or any of its affiliates) to the 2014 Prefunded Plan pursuant to section 4 below. The 2014 Prefunded Plan shall be administered by the UMWA, and Energy West shall have no other duties or obligations to the 2014 Prefunded Plan except for payment in accordance with section 4 below.
- 2. After payment in full of the amounts set forth in section 4 below, Energy West (and any affiliate and/or any entity in common control with Energy West) shall no longer have any liability or obligation to contribute, provide or cover any health and welfare benefits for its UMWA non-Coal Act retirees, except for costs incurred prior to 12:01 AM on June 1, 2015 ("Effective Retiree Medical Date"); provided that any such costs incurred must be submitted to the current plan administrator no later than 365 days after the cost was incurred. Notwithstanding any other provisions, there shall be no payment for any cost or claim for non-Coal Act retiree health and welfare benefits submitted 365 days after the Effective Retiree Medical Date. Additionally, following payment of such amounts set forth in section 4 below, all Coal Act retirees shall receive their benefits for claims incurred on or after the Effective Retiree Medical Date from the 2014 Prefunded Plan, provided it has assets available for such benefits. Energy West shall not be responsible for those medical costs incurred by Coal Act retirees prior to the Effective Retiree Medical Date that are not submitted to the current plan administrator within 365 days after the Effective Retiree Medical Date.
- 3. Upon the Effective Retiree Medical Date and the creation of the 2014 Prefunded Plan necessary to effectuate this MOU, all retirees receiving, eligible to receive or that become eligible to receive retiree health care benefits from Energy West shall no longer receive such benefits from Energy West, any entity in common control with Energy West and/or any affiliate of these entities, as described in Section 2. All retirees described in the first sentence in this section 3 shall receive retiree health care benefits only from the 2014 Prefunded Plan, if they are eligible.

- 4. Upon the Effective Retiree Medical Date and the creation of the 2014 Prefunded Plan necessary to effectuate this MOU, Energy West shall transfer to the 2014 Prefunded Plan a sum total of \$150,000,000. In addition to the lump sum payment of \$150,000,000 referenced above, Energy West shall make a one-time additional transfer of \$156,000 per eligible beneficiary (limited to retirees and their spouses, notwithstanding any other provision in this MOU, no payment shall be made for dependents that become eligible) that becomes eligible for benefits from the 2014 Prefunded Plan pursuant to section 5 below. This one-time additional payment shall be equal to the number of eligible beneficiaries that gain eligibility pursuant to section 5 multiplied by \$156,000 and shall be made ten (10) business days after the parties mutually agree on the number of persons that have attained eligibility pursuant to section 5 but not later than thirty (30) days after the fifth (5th) anniversary of the Effective Retiree Medical Date or thirty (30) days after the eighth (8th) anniversary of the date of execution of this Memorandum of Understanding, whichever is earlier.
- Any employee on the attached Potential Employee Eligibility List: (a) who attained age 5. 50 years or older on or before the closing date of the sale or transfer of the Deer Creek Mine: and, (b) who was not eligible for retirce health care from Energy West as of the closing date of sale or transfer of the Deer Creek Mine can earn eligibility for retiree health care for themselves and eligible spouses and dependents from the 2014 Prefunded Plan through performance of work for the employer at the Deer Creek Mine covered by the Modified 2014 Coal Wage Agreement and any successor agreement. For each individual described in this section 5, that individual shall earn service credit by working in employment covered by the Modified 2014 Coal Wage Agreement and any successor agreement in the same manner that the individual would earn service credit for purposes of retiree health care if still working for Energy West, but only up to a maximum of five years of additional service credit. No service credit will be given for any time worked after five years from the closing date of sale or transfer of Deer Creek Mine. Employees that attain 20 years or more of properly credited service shall become eligible for retiree health care benefits for themselves and eligible spouses and dependents from the 2014 Prefunded Plan in accordance with the Plan's eligibility requirements.
- 6. The 2014 Prefunded Plan shall become the only responsible entity for all retiree health care benefits as described in sections 3 and 5 above for any and all appropriate retiree health care costs incurred on or after 12:01 AM on the Effective Retiree Medical Date. The 2014 Prefunded Plan (and any successor or appropriately merged plan) shall be the responsible entity for all retiree health care benefits for Coal Act beneficiaries of Energy West unless and until it does not have assets available for such benefits.
- 7. The benefit plan maintained for non-Coal Act beneficiaries under the 2014 Prefunded Plan initially shall have the same benefit design as the UMWA 1993 Benefit Plan, including copayments, deductibles and out-of-pocket maximums. The benefit plan maintained for the Coal Act Beneficiaries under the 2014 Prefunded Plan shall be consistent with the requirements of the Coal Act. The 2014 Prefunded Plan and its Trustees are authorized to modify the benefits in the future for non-Coal Act retirees, but shall not increase the level of such benefits. The 2014 Prefunded Plan and its Trustees shall not modify the eligibility requirements for the 2014 Prefunded Plan unless such modification requires more stringent eligibility requirements than currently exist in the 2014 Prefunded Plan on the Effective Retiree Medical Date or are required

by law. The 2014 Prefunded Plan shall not be merged with any other retiree health or welfare plan where such a merger would subject the benefits and/or the assets to any risk of loss or use by any individual who would otherwise not be entitled to benefits from the 2014 Prefunded Plan. The 2014 Prefunded Plan may transfer any remaining assets to the UMWA 1993 Benefit Plan but only after there are no remaining beneficiaries of the 2014 Prefunded Plan.

- 8. The 2014 Prefunded Plan shall maintain a separate accounting for those beneficiaries receiving benefits pursuant to the Coal Act. Of the \$150,000,000 million transfer, an initial amount of \$15,000,000 million shall be allocated to pay for the benefits of the Coal Act beneficiaries and shall not be used to pay for any benefits of non-Coal Act beneficiaries. These separate accounts may be pooled for investment purposes but must maintain their separate accounting. If the \$15,000,000 million initial transfer is depleted, then the Trustees shall make any and all additional transfers from the non-Coal Act beneficiary account into the Coal Act beneficiary account as necessary to pay Coal Act benefits. Upon the death of the last remaining Coal Act beneficiary and the determination by the 2014 Prefunded Plan that no additional benefits will be paid to or on behalf of a Coal Act beneficiary, the Coal Act account shall be eliminated and all assets contained therein shall be transferred to the non-Coal Act account for its use for non-Coal Act beneficiaries.
- 9. The Parties further agree that Energy West shall designate a Monitor of the 2014 Prefunded Plan. Such Monitor shall receive an agreed-upon summary of certain financial, actuarial, accounting and medical reports of the 2014 Prefunded Plan, and such actual reports or reports in their entirety that have been created by or provided to the 2014 Prefunded Plan and any of its Trustees as the Monitor may request from time to time. In the event that the 2014 Prefunded Plan assets are determined to be insufficient to meet all Coal Act beneficiary obligations as determined by the Trustees, the 2014 Prefunded Plan shall reduce the level of benefits for non-Coal Act beneficiaries to the satisfaction of the Plan's Trustees that such reductions will allow for the payment of all projected benefit obligations of the Coal Act beneficiaries.
- 10. The reference to retirees in this agreement shall include surviving spouses, spouses and dependents who are eligible to receive retiree health care benefits from Energy West pursuant to a Wage Agreement between the Parties (including any predecessor companies) or section 9711 of the Coal Act.
- 11. This Memorandum of Understanding ("MOU") B shall become effective upon execution, subject to the written approval and acceptance of the 2014 Prefunded Plan established by this MOU B by the Trustees of the 2014 Prefunded Plan and Energy West.

IN WITNESS WHEREOF, each Party signatory hereto has caused this Memorandum of Understanding to be signed this day of Lenke, 2014.

United Mine Workers of America
Authorized Representative

Energy West Mining Company Authorized Representative

UM 1712

Exhibit Sierra Club/109

Response to Sierra Club Data Request 2.6

UM-1712/PacifiCorp February 17, 2015 Sierra Club Data Request 2.6

Sierra Club Data Request 2.6

Please refer to the Direct Testimony of Ms. Crane, page 28, lines 10-14. Please confirm that the Retiree Medical Obligation is already settled. Please confirm that this obligation is sunk and should be reflected in all cases. If not, explain how the Retiree Medical Obligation can be undone.

Response to Sierra Club Data Request 2.6

The Company confirms that it has a binding agreement with the United Mine Workers of America (UMWA) to settle the retiree medical obligation (RMO). The transfer of funds is scheduled to occur June 1, 2015. However, this settlement is not "sunk" and should not be reflected in all cases because the settlement was achieved only because the UMWA was aware of the Company's intent to sell the Deer Creek mine or close the operations if the Company's efforts to sell were unsuccessful. Although the Company and the UMWA are contractually bound to the settlement, if the Company does not close or sell the Deer Creek mine, it fully expects the UMWA to file a grievance or lawsuit against the Company since it was relying on the Company's intent to sell or close the mine in reaching the settlement agreement. As a result, the RMO settlement is truly a benefit to customers resulting from its proposed early closure of the Deer Creek mine and the Company's present value revenue requirement modeling is appropriate.