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September 6, 2017

Via Electronic Filing

Public Utility Commission of Oregon
Attn: Filing Center
201 High St. SE, Suite 100
Salem OR 97301

Re: In the Matter of PACIFICORP's 2016 Power Cost Adjustment Mechanism
Docket No. UE 327

Dear Filing Center:

Please find enclosed the redacted version of the Opening Testimony and Exhibits of Bradley G. Mullins on behalf of the Industrial Customers of Northwest Utilities ("ICNU") in the above-referenced docket.

The confidential portions of ICNU's testimony and exhibits are being handled pursuant to Order No. 17-276 and will follow to the Commission via Federal Express.

Thank you for your assistance. If you have any questions, please do not hesitate to call.

Sincerely,

/s/ Jesse O. Gorsuch
Jesse O. Gorsuch

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the confidential portions of the **Opening Testimony and Exhibits of the Industrial Customers of Northwest Utilities** upon the parties shown below by mailing a copy via First Class U.S. Mail, postage prepaid.

Dated at Portland, Oregon, this 6th day of September, 2017

Sincerely,

/s/ Jesse O. Gorsuch
Jesse O. Gorsuch

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BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UE 327

In the Matter of)
)
)
PACIFICORP, dba PACIFIC POWER,)
)
2016 Power Cost Adjustment)
Mechanism.)
_____)

**CONFIDENTIAL OPENING TESTIMONY OF BRADLEY G. MULLINS
ON BEHALF OF THE INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES**

September 6, 2017

(REDACTED VERSION)

EXHIBIT LIST

ICNU/101 – Regulatory Appearances of Bradley G. Mullins

ICNU/102 – Company Response to ICNU Data Request 001

ICNU/103 – 2017 ECAM, Direct Testimony of Bradley G. Mullins, WIEC Exh. No. 301
(Aug. 21, 2017)

ICNU/104 – Company Response to ICNU DR 002 and Att. ICNU-002-1

Confidential ICNU/105 – Mine Safety and Health Administration (“MSHA”) Correspondence
on Joy Longwall

Confidential ICNU/106 – Company Final Report on Joy Longwall Investigation

I. INTRODUCTION AND RECOMMENDATION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Bradley G. Mullins, and my business address is 333 SW Taylor Street, Suite 400, Portland, Oregon 97204.

Q. PLEASE STATE YOUR OCCUPATION AND IDENTIFY THE PARTY ON WHOSE BEHALF YOU ARE TESTIFYING.

A. I am an independent consultant representing energy and utility customers in jurisdictions around the United States and am appearing in this matter—the 2016 Power Cost Adjustment Mechanism (“PCAM”) filing of PacifiCorp (the “Company”)^{1/}—on behalf of the Industrial Customers of Northwest Utilities (“ICNU”). ICNU is a non-profit trade association whose members are large customers of electric utilities located throughout the Pacific Northwest, including customers of the Company.

Q. PLEASE SUMMARIZE YOUR EDUCATION AND WORK EXPERIENCE.

A. I have a Master of Science degree in Accounting from the University of Utah. After obtaining my Master’s degree I worked at Deloitte, where I ultimately specialized in research and development tax credits. Subsequently, I worked at PacifiCorp as an analyst involved in regulatory matters surrounding power supply costs. I currently provide services to utility customers on matters such as power costs, revenue requirement, rate spread and rate design. I have sponsored testimony in numerous regulatory jurisdictions throughout the United States, including before the Public Utility Commission of Oregon (“OPUC” or the “Commission”). A list of my regulatory appearances can be found in Exhibit No. ICNU/101.

^{1/} PacifiCorp subsidiaries and/or affiliates are implicated by the matters discussed in my testimony. For ease of reference, I sometimes use the term “Company” to encapsulate all these entities.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 A. I respond to PacifiCorp's 2016 PCAM filing, which provides for potential customer recovery
3 or refund based on the difference between actual 2016 net power costs ("NPC") incurred to
4 serve customers and the base NPC established in the Company's 2016 transition adjustment
5 mechanism ("TAM") filing (Docket UE 296).^{2/} The Company filed the 2016 PCAM with the
6 Commission on May 15, 2017.

7 **Q. DOES PACIFICORP PROPOSE ANY CUSTOMER RECOVERY OR REFUND IN**
8 **THE 2016 PCAM?**

9 A. No. On an Oregon-allocated basis, the Company calculates it over recovered actual NPC by
10 \$60,189, relative to the base NPC projected in the 2016 TAM. PacifiCorp must absorb any
11 PCAM difference between negative \$15 million and positive \$30 million. The Company states
12 that the PCAM deadband would preclude any customer recovery or refund.^{3/}

13 **Q. ARE THE COMPANY'S CALCULATIONS ACCURATE?**

14 A. That depends on whether the extraordinary costs associated with the unsuccessful recovery
15 effort and abandonment of the Joy Longwall are appropriately included within the 2016
16 PCAM. In discovery, the Company affirmed that the actual NPC used in the 2016 PCAM
17 "include \$20.1 million in total-Company costs associated with the unsuccessful recovery effort
18 and abandonment of the Joy Longwall."^{4/} That amount, however, only included the direct
19 costs associated with the failed longwall, and did not consider the impacts of lost production on
20 the unit cost of coal delivered to the Jim Bridger power plant. In Wyoming, I filed testimony
21 demonstrating that the actual cost of the Joy Longwall failure was \$59.0 million, which

^{2/} 2016 PCAM Cover Letter at 1 (May 15, 2017).

^{3/} Id.

^{4/} ICNU/102 (the Company's response to ICNU Data Request "DR" 001).

1 corresponds to \$14.4 million of costs on an Oregon-allocated basis. This is detailed in Table 1,
2 below.

TABLE 1
Actual NPC Impact of Joy Longwall Failure

	<u>Total-Company</u>	<u>OR-Allocated</u>
Abandonment Losses	\$ 12,503,830	\$ 3,048,476
Failed Recovery Efforts	7,383,939	\$ 1,800,229
Depreciation Expense	17,742	\$ 4,326
Lost Production Impact		
On Actual Tons Delivered	<u>39,134,007</u>	<u>\$ 9,541,003</u>
Total	\$ 59,039,518	\$ 14,394,033

3 The Company further clarified that Joy Longwall recovery efforts and abandonment
4 costs “are part of the Jim Bridger coal costs included in total-company net power costs.”^{5/}
5 Thus, I am concerned that the Company’s \$20.1 million figure may not fully capture the NPC
6 impact of the Joy Longwall abandonment, especially when effects on Bridger coal plant
7 operations are properly considered. Moreover, if these costs are found to have been
8 imprudently incurred by the Commission, then NPC projections in the 2016 TAM would come
9 close to exceeding actual base NPC by more than \$15 million, and thus, potentially implicating
10 a customer refund.

11 **Q. ON WHAT BASIS MIGHT JOY LONGWALL COSTS BE FOUND IMPRUDENT?**

12 A. Through discovery in this proceeding, both ICNU and OPUC Staff (“Staff”) have inquired
13 about the costs associated with Joy Longwall recovery efforts and abandonment in 2016,
14 including cost causation issues which could bear upon whether such costs were prudently
15 incurred and appropriate for reflection in the PCAM. I am also familiar with these issues as a

^{5/} Id.

1 witness for the Wyoming Industrial Energy Consumers (“WIEC”). Specifically, the prudence
2 of 2016 Joy Longwall costs has arisen before the Public Service Commission of Wyoming
3 (“Wy. PSC”), in PacifiCorp affiliate Rocky Mountain Power’s (“RMP”) 2017 Energy Cost
4 Adjustment Mechanism (“ECAM”) filing.^{6/}

5 In short, I believe there is significant cause to consider that costs associated with Joy
6 Longwall abandonment were not prudently incurred, based on improper Company actions in
7 the face of known mining risks. Preliminary evidence to this effect is included within
8 supporting exhibits to my testimony here. Also, ICNU has sought further information which
9 should be produced by the Company on the day of this testimony filing. While such material
10 cannot be feasibly incorporated within my opening testimony, ICNU may seek to introduce
11 further evidence through subsequent pre-filed testimony and exhibits or at hearing. Further,
12 since the same PacifiCorp costs and management issues associated with the Joy Longwall
13 abandonment are relevant to the 2016 PCAM, I have included a redacted version of my direct
14 testimony on behalf of WIEC in the 2017 ECAM, for the convenience of the Commission and
15 parties.^{7/}

16 **Q. WHAT IS YOUR RECOMMENDATION?**

17 A. Irrespective of whether the Commission finds the costs associated with the Joy Longwall to be
18 prudent, the Company will still have the opportunity to recover those costs through the
19 operation of the deadband in the PCAM. Even if the Joy Longwall costs are taken out of the
20 Company’s calculations, the Company might not be required to refund those dollars to

^{6/} Re Application of RMP for Authority to Decrease Current Rates by \$15.7 Million to Refund Deferred NPC under
Tariff Schedule 95 ECAM, Wy. PSC Docket No. 20000-514-EA-17 (Record No.14696) (“2017 ECAM”).

^{7/} See ICNU/103 (2017 ECAM, Direct Testimony of Bradley G. Mullins, WIEC Exh. No. 301 (Aug. 21, 2017)).
Table BGM-2, on page 11 of ICNU/103, contains the “Total-Company” figures used to produce Table 1 above.

1 customers since the difference will still be less than the \$15 million deadband, albeit very close
2 to exceeding that threshold.^{8/} This is a desired result of the deadbands in the PCAM, which in
3 this instance, are working in the Company's favor.

4 Accordingly, I believe it is probably unnecessary for the Commission to make a finding
5 on the prudence of the Joy Longwall failure for purposes of setting PCAM rates. My
6 recommendation is for the Commission to explicitly state that it has made no finding as to the
7 prudence of actual NPC reflected in the PCAM calculation. Notwithstanding, if the
8 Commission is to make an explicit finding on the prudence of actual NPC, I recommend that it
9 make a concomitant finding with respect to the prudence of the Joy Longwall failure.

10 II. JOY LONGWALL BACKGROUND

11 Q. PLEASE PROVIDE AN OVERVIEW OF THE JOY LONGWALL ABANDONMENT.

12 A. According to the Company, the Joy Longwall Mining System ("Joy Longwall") consists of
13 several major components "working simultaneously to extract coal on a continuous basis."^{9/}
14 For those unfamiliar with the basic concept and operation of a longwall mining system, a brief
15 and highly informative video overview has been published by Caterpillar:

16 http://www.cat.com/en_US/articles/solutions/mining/longwall-principals-video.html.

17 The Joy Longwall was transferred to the Bridger Coal Company ("BCC") and placed
18 into service on September 1, 2015.^{10/} Then, after "[t]he Joy Longwall lost advancement
19 capabilities over a period of time, between December 23, 2015 and December 31, 2015

^{8/} Staff has issued discovery on other PCAM issues, which could affect total PCAM calculations in relation to the application of the deadband.

^{9/} ICNU/104 at 3 (the Company's response to ICNU DR 002, Att. ICNU 002-1 (the Company's response to WIEC DR 1.6(d))).

^{10/} *Id.* at 4 (the Company's response to ICNU DR 002, Att. ICNU 002-1 (the Company's response to WIEC DR 1.6(j))).

1 The Company decided to abandon the Joy Longwall on October 7, 2016.”^{11/} Of the \$18.8
2 million Joy Longwall abandonment loss reflected by BCC, “PacifiCorp’s share is \$12.5
3 million.”^{12/}

4 **Q. ARE ALL THE RELEVANT NPC IMPACTS OF THE JOY LONGWALL**
5 **ABANDONMENT REFLECTED IN PACIFICORP’S ESTIMATE OF THE JOY**
6 **LONGWALL COSTS?**

7 A. No. As I have attempted to explain in direct testimony on behalf of WIEC in RMP’s 2017
8 ECAM proceeding, PacifiCorp NPC increased beyond the direct abandonment loss as a result
9 of the Joy Longwall abandonment.^{13/} For instance, the unit cost of coal delivered the Jim
10 Bridger Power plant increased as a result of lost production at the mine while Joy Longwall
11 recovery efforts were underway.^{14/} Indeed, factoring all costs associated with Joy Longwall
12 recovery efforts and abandonment, I calculated an additional Wyoming-allocated impact of
13 \$7.0 million,^{15/} which equates to about \$14.4 million on an Oregon-allocated basis.

14 **III. PRUDENTLY INCURRED COSTS**

15 **Q. WHY SHOULD THE COMMISSION CONSIDER WHETHER COSTS ASSOCIATED**
16 **WITH THE JOY LONGWALL ABANDONMENT WERE PRUDENTLY INCURRED?**

17 A. Under statute, I understand that a “... final determination on the amount of deferrals allowable
18 in the rates of the utility is subject to a finding by the commission that the amount was
19 prudently incurred by the utility.”^{16/} On the same day the 2016 PCAM was filed, the Company

^{11/} Id. at 4 (the Company’s response to ICNU DR 002, Att. ICNU 002-1 (the Company’s response to WIEC DR 1.6(g)-(h))).

^{12/} Id. at 3 (the Company’s response to ICNU DR 002, Att. ICNU 002-1 (the Company’s response to WIEC DR 1.6(c))).

^{13/} See generally ICNU/103 (2017 ECAM, Direct Testimony of Bradley G. Mullins, WIEC Exh. No. 301).

^{14/} Id. at 34-35 (2017 ECAM, Direct Testimony of Bradley G. Mullins, WIEC Exh. No. 301 at 32-33).

^{15/} Id. at 45 (2017 ECAM, Direct Testimony of Bradley G. Mullins, WIEC Exh. No. 301 at 43).

^{16/} ORS § 757.259(5).

1 applied for authorization of a deferral, if necessary, to facilitate any rate changes under the
2 PCAM, if cost variances exceed the deadbands.^{17/} Since the Commission ultimately adopted
3 Staff’s recommendation to approve the PacifiCorp Application,^{18/} consideration by the
4 Commission of whether Joy Longwall costs were prudently incurred, as subject to a potential
5 deferral, seems appropriate within the statutory context.

6 **Q. ARE THERE ANY INDICATIONS THAT COSTS ASSOCIATED WITH THE JOY**
7 **LONGWALL WERE NOT PRUDENTLY INCURRED?**

8 A. Yes. In response to a discovery request for federal correspondence or reports “concerning the
9 incident leading to, and encompassing, the abandonment of the Joy Longwall,” PacifiCorp
10 provided ICNU with confidential “correspondence between the Company and the Mine Safety
11 and Health Administration (MSHA).”^{19/} In my opinion, the MSHA material, standing alone,
12 contains sufficient information to at least justify Commission inquiry as to whether Joy
13 Longwall abandonment occurred as the direct result of imprudent management decisions.^{20/}

14 **Q. COULD YOU PROVIDE SPECIFIC EXAMPLES FROM THE MSHA MATERIAL?**

15 A. Yes. The MSHA correspondence includes a [REDACTED]
16 [REDACTED]
17 [REDACTED]”^{21/} More

^{17/} Re Application for Reauthorization of Deferred Accounting for NPC Variances, Docket UM 1693(3), PacifiCorp Application for Reauthorization of Deferred Accounting (“PacifiCorp Application”) at 1 (May 15, 2017).

^{18/} Docket UM 1693(3), Order No. 17-282 & App. A (July 25, 2017).

^{19/} ICNU/104 at 2 (the Company’s response to ICNU DR 002, Att. ICNU 002-1 (the Company’s response to WIEC DR 1.6(a))).

^{20/} Confidential ICNU/105 (the Company’s response to ICNU DR 002, Conf. Att. ICNU 002-2 (the Company’s response to WIEC DR 1.6(a))). The Company later provided the same MSHA information to Staff in this proceeding in the Company’s response to OPUC DR 2, Conf. Att. OPUC 2-2. ICNU has included relevant pages from Conf. Att. OPUC 2-2 for Confidential ICNU/105, since the OPUC attachment contains header information which the Company omitted in the earlier response to ICNU.

^{21/} Id. at 1.

1 specifically, the MSHA [REDACTED]

2 [REDACTED]

3 [REDACTED]^{22/} This was apparently occasioned by [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]^{23/} Consequently, “[REDACTED]

7 [REDACTED]”^{24/}

8 The MSHA then recounts Joy Longwall [REDACTED]

9 [REDACTED].^{25/} This proved

10 unsuccessful, since the “[REDACTED]”^{26/}

11 Notwithstanding, “[REDACTED]

12 [REDACTED]

13 [REDACTED]”,^{27/} but abandonment of the Joy Longwall could not be

14 averted. Ultimately, the MSHA concluded that [REDACTED]

15 [REDACTED]

16 [REDACTED]^{28/} Given what appears to have been perfectly avoidable circumstances that directly

17 led to Joy Longwall abandonment and millions in 2016 cost impacts, I do not believe that

^{22/} Id. at 2 (emphasis added).
^{23/} Id. at 3.
^{24/} Id.
^{25/} Id. at 5.
^{26/} Id. at 6.
^{27/} Id.
^{28/} Id. at 8.

1 ratepayers should be responsible for any associated NPC reflected in the 2016 PCAM
2 calculations.

3 **Q. HAS PACIFICORP PROVIDED ANALYSIS TO INDICATE THAT JOY LONGWALL**
4 **ABANDONMENT COSTS WERE PRUDENTLY INCURRED?**

5 A. No. In fact, I would say that the Company’s own analysis supports a finding that Joy Longwall
6 abandonment occurred as a direct result of managerial and operational errors. In response to a
7 request for the provision of “... any root-cause analyses, or similar engineering reports, which
8 discuss the incident leading to, and encompassing, the abandonment of the Joy Longwall,”
9 PacifiCorp provided “documents outlining the chronology of and engineering reviews relating
10 to the Joy Longwall recovery effort and the final report of investigation.”^{29/} While I commend
11 the Company for what appears to have been a thorough internal investigation, culminating in
12 detailed findings designed to effect positive changes to avoid the recurrence of the
13 circumstances that led to Joy Longwall abandonment,^{30/} for this very reason ratepayers should
14 not be responsible for NPC associated with the Joy Longwall abandonment, as is currently
15 reflected in the 2016 PCAM.

16 **Q. PLEASE PROVIDE SUPPORT FOR YOUR ASSESSMENT BASED ON**
17 **PACIFICORP’S OWN ANALYSIS.**

18 A. Similar to the MSHA, the Company confirms, through a [REDACTED]
19 [REDACTED],^{31/} that “[REDACTED]

^{29/} ICNU/104 at 2-4 (the Company’s response to ICNU DR 002, Att. ICNU 002-1 (the Company’s response to WIEC DR 1.6(f))).

^{30/} Confidential ICNU/106 (the Company’s response to ICNU DR 002, Conf. Att. ICNU 002-2 (the Company’s response to WIEC DR 1.6(f))). The Company later provided the same information to Staff in this proceeding in the Company’s response to OPUC DR 2, Conf. Att. OPUC 2-2. ICNU has included relevant pages from Conf. Att. OPUC 2-2 for Confidential ICNU/106, since the OPUC attachment contains header information which the Company omitted in the earlier response to ICNU.

^{31/} Id. at 1.

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[REDACTED]

[REDACTED]

[REDACTED]^{32/} Once more, however, there is every indication that the Company was fully aware of the risks associated with mining under these conditions, yet did not act in a prudent manner considering such risks.

For instance, the Company acknowledges that, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]^{33/} As might be expected, within four months of Joy Longwall operation under such conditions, “[REDACTED]

[REDACTED],” such that “[REDACTED]

[REDACTED]^{34/} This situation was

[REDACTED]”

resulting in what the Company described as “[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]^{35/}

Unfortunate as all of this sounds, however, I have to conclude that the Company should have foreseen such events and taken actions to avoid the need to abandon the Joy Longwall.

^{32/} Id. at 3.
^{33/} Id.
^{34/} Id. at 5.
^{35/} Id.

1 As the MSHA confirmed, “[REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]”^{36/} Indeed, the MSHA explained that “[REDACTED]
5 [REDACTED]
6 [REDACTED]”^{37/}

7 Thus, the “[REDACTED]
8 [REDACTED] of Joy Longwall abandonment that the Company
9 had every reason to have foreseen: “[REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]”^{38/} Even the “[REDACTED]
13 [REDACTED]” should have been foreseeable to Company,^{39/} given the Company’s recognition
14 that “[REDACTED]
15 [REDACTED]”^{40/} meaning that “[REDACTED]
16 [REDACTED]”^{41/}

17 I appreciate what I understand to be the Company’s forthright acknowledgment of
18 circumstances leading up to Joy Longwall abandonment, followed by an [REDACTED]
19 [REDACTED]

^{36/} Confidential ICNU/105 at 3.
^{37/} Id.
^{38/} Confidential ICNU/106 at 5.
^{39/} Id.
^{40/} Id. at 6 (emphasis added).
^{41/} Id. at 7 (emphasis added).

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[REDACTED]

»42/

6 **Q. IS THERE MORE EVIDENCE THAT COULD BE IDENTIFIED AND OFFERED TO**
7 **DEMONSTRATE THAT NPC ASSOCIATED WITH THE JOY LONGWALL WERE**
8 **NOT PRUDENTLY INCURRED?**

9 A. Yes. In Wyoming, I introduced a great deal of evidence further supporting the notion that
10 there were multiple layers of imprudent management actions associated with the Joy Longwall
11 failure. Notwithstanding, since I am recommending that the Commission explicitly not make
12 any finding with respect to the prudence of actual NPC, I have not introduced the same level of
13 evidence in this matter, although much of that information may be relevant, and appropriately
14 introduced, at a later phase in this proceeding.

15 **Q. DOES THIS CONCLUDE YOUR OPENING TESTIMONY?**

16 A. Yes.

^{42/} Id. at 10-11 (emphasis added).

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UE 327

In the Matter of)
)
PACIFICORP, dba PACIFIC POWER,)
)
2016 Power Cost Adjustment Mechanism.)
_____)

EXHIBIT NO. ICNU/101

REGULATORY APPEARANCES OF BRADLEY G. MULLINS

1 **Q. PLEASE PROVIDE A LIST OF YOUR REGULATORY APPEARANCES.**

2 A. I have sponsored testimony in the following regulatory proceedings:

- 3 • In re the 2018 General Rate Case of Puget Sound Energy, Wa.UTC, Docket No.
4 UE-170033 (Cons.).
- 5 • In re PacifiCorp, dba Pacific Power, 2018 Transition Adjustment Mechanism, Or.PUC,
6 Docket No. UE 323.
- 7 • In re Portland General Electric Company, Request for a General Rate Revision, Or.PUC,
8 Docket No. UE 319.
- 9 • In re Portland General Electric Company, Application for Transportation Electrification
10 Programs, Or.PUC, UM 1811.
- 11 • In re Pacific Power & Light Company, Application for Transportation Electrification
12 Programs, Or.PUC, Docket No. UM 1810.
- 13 • In re the Public Utility Commission of Oregon, Investigation to Examine PacifiCorp, dba
14 Pacific Power's Non-Standard Avoided Cost Pricing, Or.PUC, Docket No. UM 1802.
- 15 • In re Pacific Power & Light Co., Revisions to Tariff WN U-75, Advice No. 16-05, to
16 modify the Company's existing tariffs governing permanent disconnection and removal
17 procedures, Wa.UTC, Docket No. UE-161204.
- 18 • In re Puget Sound Energy's Revisions to Tariff WN U-60, Adding Schedule 451,
19 Implementing a New Retail Wheeling Service, Wa.UTC, Docket No. UE-161123.
- 20 • 2018 Joint Power and Transmission Rate Proceeding, Bonneville Power Administration,
21 Case No. BP-18.
- 22 • In re Portland General Electric Company Application for Approval of Sale of Harborton
23 Restoration Project Property, Or.PUC, Docket No. UP 334 (Cons.).
- 24 • In re An Investigation of Policies Related to Renewable Distributed Electric Generation,
25 Ar.PSC, Matter No. 16-028-U.
- 26 • In re Net Metering and the Implementation of Act 827 of 2015, Ar.PSC, Matter No. 16-
27 027-R.
- 28 • In re the Application of Rocky Mountain Power for Approval of the 2016 Energy
29 Balancing Account, Ut.PSC, Docket No. 16-035-01

- 1 • In re Avista Corporation Request for a General Rate Revision, Wa.UTC, Docket No. UE-
2 160228 (Cons.).
- 3 • In re the Application of Rocky Mountain Power to Decrease Current Rates by \$2.7
4 Million to Recover Deferred Net Power Costs Pursuant to Tariff Schedule 95 and to
5 Increase Rates by \$50 Thousand Pursuant to Tariff Schedule 93, Wy.PSC, Docket No.
6 20000-292-EA-16.
- 7 • In re PacifiCorp, dba Pacific Power, 2017 Transition Adjustment Mechanism, Or.PUC,
8 Docket No. UE 307.
- 9 • In re Portland General Electric Company, 2017 Annual Power Cost Update Tariff
10 (Schedule 125), Or.PUC, Docket No. UE 308.
- 11 • In re PacifiCorp, Request to Initiate an Investigation of Multi-Jurisdictional Issues and
12 Approve an Inter-Jurisdictional Cost Allocation Protocol, Or.PUC, UM 1050.
- 13 • In re Pacific Power & Light Company, General rate increase for electric services,
14 Wa.UTC, Docket No. UE-152253.
- 15 • In The Matter of the Application of Rocky Mountain Power for Authority of a General
16 Rate Increase in Its Retail Electric Utility Service Rates in Wyoming of \$32.4 Million Per
17 Year or 4.5 Percent, Wy.PSC, Docket No. 20000-469-ER-15.
- 18 • In re Avista Corporation, General Rate Increase for Electric Services, Wa.UTC, Docket
19 No. UE-150204.
- 20 • In re the Application of Rocky Mountain Power to Decrease Rates by \$17.6 Million to
21 Recover Deferred Net Power Costs Pursuant to Tariff Schedule 95 to Decrease Rates by
22 \$4.7 Million Pursuant to Tariff Schedule 93, Wy.PSC, Docket No. 20000-472-EA-15.
- 23 • Formal complaint of The Walla Walla Country Club against Pacific Power & Light
24 Company for refusal to provide disconnection under Commission-approved terms and
25 fees, as mandated under Company tariff rules, Wa.UTC, Docket No. UE-143932.
- 26 • In re PacifiCorp, dba Pacific Power, 2016 Transition Adjustment Mechanism, Or.PUC,
27 Docket No. UE 296.
- 28 • In re Portland General Electric Company, Request for a General Rate Revision, Or.PUC,
29 Docket No. UE 294.
- 30 • In re Portland General Electric Company and PacifiCorp dba Pacific Power, Request for
31 Generic Power Cost Adjustment Mechanism Investigation, Or.PUC, Docket No. UM
32 1662.

- 1 • In re PacifiCorp, dba Pacific Power, Application for Approval of Deer Creek Mine
2 Transaction, Or.PUC, Docket No. UM 1712.
- 3 • In re Public Utility Commission of Oregon, Investigation to Explore Issues Related to a
4 Renewable Generator's Contribution to Capacity, Or.PUC, Docket No. UM 1719.
- 5 • In re Portland General Electric Company, Application for Deferral Accounting of Excess
6 Pension Costs and Carrying Costs on Cash Contributions, Or.PUC, Docket No. UM
7 1623.
- 8 • 2016 Joint Power and Transmission Rate Proceeding, Bonneville Power Administration,
9 Case No. BP-16.
- 10 • In re Puget Sound Energy, Petition to Update Methodologies Used to Allocate Electric
11 Cost of Service and for Electric Rate Design Purposes, Wa.UTC, Docket No. UE-
12 141368.
- 13 • In re Pacific Power & Light Company, Request for a General Rate Revision Resulting in
14 an Overall Price Change of 8.5 Percent, or \$27.2 Million, Wa.UTC, Docket No. UE-
15 140762.
- 16 • In re Puget Sound Energy, Revises the Power Cost Rate in WN U-60, Tariff G, Schedule
17 95, to reflect a decrease of \$9,554,847 in the Company's overall normalized power
18 supply costs, Wa.UTC, Docket No. UE-141141.
- 19 • In re the Application of Rocky Mountain Power for Authority to Increase Its Retail
20 Electric Utility Service Rates in Wyoming Approximately \$36.1 Million Per Year or 5.3
21 Percent, Wy.PSC, Docket No. 20000-446-ER-14.
- 22 • In re Avista Corporation, General Rate Increase for Electric Services, RE, Tariff WN U-
23 28, Which Proposes an Overall Net Electric Billed Increase of 5.5 Percent Effective
24 January 1, 2015, Wa.UTC, Docket No. UE-140188.
- 25 • In re PacifiCorp, dba Pacific Power, Application for Deferred Accounting and Prudence
26 Determination Associated with the Energy Imbalance Market, Or.PUC, Docket No. UM
27 1689.
- 28 • In re PacifiCorp, dba Pacific Power, 2015 Transition Adjustment Mechanism, Or.PUC,
29 Docket No. UE 287.
- 30 • In re Portland General Electric Company, Request for a General Rate Revision, Or.PUC,
31 Docket No. UE 283.
- 32 • In re Portland General Electric Company's Net Variable Power Costs (NVPC) and
33 Annual Power Cost Update (APCU), Or.PUC, Docket No. UE 286.

- 1 • In re Portland General Electric Company 2014 Schedule 145 Boardman Power Plant
2 Operating Adjustment, Or.PUC, Docket No. UE 281.

- 3 • In re PacifiCorp, dba Pacific Power, Transition Adjustment, Five-Year Cost of Service
4 Opt-Out (adopting testimony of Donald W. Schoenbeck), Or.PUC, Docket No. UE 267.

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UE 327

In the Matter of)
)
PACIFICORP, dba PACIFIC POWER,)
)
2016 Power Cost Adjustment Mechanism.)
_____)

EXHIBIT NO. ICNU/102

COMPANY RESPONSE TO ICNU DATA REQUEST 001

UE 327 / PacifiCorp
August 4, 2017
ICNU Data Request 001

ICNU Data Request 001

Does the Company agree that actual net power costs used in the 2016 Power Cost Adjustment Mechanism include \$20.1 million in total-Company costs associated with the unsuccessful recovery effort and abandonment of the Joy Longwall? If no, please explain.

Response to ICNU Data Request 001

Yes. Recovery efforts and abandonment costs related to the Joy Longwall mining equipment are part of the Jim Bridger coal costs included in total-company net power costs.

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UE 327

In the Matter of)
)
PACIFICORP, dba PACIFIC POWER,)
)
2016 Power Cost Adjustment Mechanism.)
_____)

EXHIBIT NO. ICNU/103

2017 ECAM, DIRECT TESTIMONY OF BRADLEY G. MULLINS,

WIEC EXH. NO. 301 (AUG. 21, 2017)

BEFORE THE PUBLIC SERVICE COMMISSION OF WYOMING

**IN THE MATTER OF THE APPLICATION)
OF ROCKY MOUNTAIN POWER FOR)
AUTHORITY TO DECREASE CURRENT) DOCKET NO. 20000-514-EA-17
RATES BY \$15.7 MILLION TO REFUND) (Record No. 14696)
DEFERRED NET POWER COSTS UNDER)
TARIFF SCHEDULE 95 ENERGY COST)
ADJUSTMENT MECHANISM AND TO)
DECREASE CURRENT RATES BY \$528)
THOUSAND UNDER TARIFF SCHEDULE)
93, REC AND SO2 REVENUE)
ADJUSTMENT MECHANISM)**

DIRECT TESTIMONY AND EXHIBITS

OF

BRADLEY G. MULLINS

On Behalf of

Wyoming Industrial Energy Consumers

August 21, 2017

WIEC Exhibit No. 301

REDACTED NON-CONFIDENTIAL PUBLIC VERSION

TABLE OF CONTENTS

TO THE OPENING TESTIMONY OF BRAD MULLINS

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EXHIBIT LIST

WIEC Exhibit No. 301.1:	Qualification Statement of Bradley G. Mullins
WIEC Exhibit No. 301.2: (Conf):	ECAM Balance Calculations
WIEC Exhibit No. 301.3:	Responses to Data Requests
WIEC Exhibit No. 301.4 (Conf):	Joy Longwall Justification Memo
WIEC Exhibit No. 301.5 (Conf):	Internal Joy Longwall Root Cause Analysis
WIEC Exhibit No. 301.6 (Conf):	Geologic Report of the 14th Longwall Panel
WIEC Exhibit No. 301.7 (Conf):	Mine Health and Safety Administration Field Investigation
WIEC Exhibit No. 301.8 (Conf):	External Review of Recovery Efforts
WIEC Exhibit No. 301.9:	Department of Energy Overview of Longwall Mining
WIEC Exhibit No. 301.10 (Conf):	Email from Joy Global
WIEC Exhibit No. 301.11 (Conf):	Map of 13 th through 16 th Right Longwall Panels

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Bradley G. Mullins, and my business address is 333 SW Taylor Street, Suite
3 400, Portland, Oregon 97204.

4 **Q. PLEASE STATE YOUR OCCUPATION AND ON WHOSE BEHALF YOU ARE**
5 **TESTIFYING.**

6 A. I am an independent consultant representing large energy consumers in jurisdictions around
7 the United States. I am appearing on behalf of the Wyoming Industrial Energy Consumers
8 (“WIEC”), an unincorporated association of large customers served by electric utilities in
9 Wyoming, including PacifiCorp d/b/a Rocky Mountain Power (“PacifiCorp” or the
10 “Company”).

11 **Q. PLEASE SUMMARIZE YOUR EDUCATION AND WORK EXPERIENCE.**

12 A. I received Bachelor of Science degrees in Finance and Accounting from the University of
13 Utah. I also received a Master of Science degree in Accounting from the University of
14 Utah. After receiving my Master of Science degree, I worked at Deloitte Tax, LLP, where
15 I was a Tax Senior providing tax consulting services to multi-national corporations and
16 investment fund clients. Subsequently, I worked at PacifiCorp Energy as an analyst
17 involved in regulatory matters, primarily related to power supply costs. I began performing
18 independent consulting in September 2013 and have since been involved with various
19 regulatory matters on behalf of utility customers located throughout the United States,
20 including before the Wyoming Public Service Commission (“Commission”). A
21 qualification statement can be found in WIEC Exhibit No. 301.1.

1 **I. INTRODUCTION AND SUMMARY**

2 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

3 A. The purpose of my Direct Testimony is to address the application of the Company in this
4 matter, where the Company has proposed to refund approximately \$4.9 million in
5 connection with Net Power Costs (“NPC”) deferred over the period January 1, 2016
6 through December 31, 2016 (“Deferral Period”).¹ Relative to the total-Company NPC
7 established in the 2015 General Rate Case (“GRC”) of \$1,517.3 million, actual NPC
8 incurred in the deferral period was \$1,463.4 million, or about \$53.9 million lower than the
9 2015 GRC forecast.² The Company proposes, however, to include in Actual NPC
10 extraordinary costs of approximately \$59.0 million related to the failure and abandonment
11 of the Joy Longwall.³ After adjusting for this extraordinary item, the Company’s model in
12 the 2015 GRC over-forecast power costs by a material amount of approximately \$112.9
13 million in calendar year 2016.

14 **Q. WHAT WAS THE SCOPE OF YOUR REVIEW?**

15 A. My analysis primarily focused on the costs incurred with respect to generating electricity
16 at the Jim Bridger power plant. As the Company discusses in Direct Testimony, the cost
17 of coal at the Jim Bridger power plant was a key driver of the Company’s actual NPC in
18 the deferral period,⁴ and the higher than expected costs at the Jim Bridger power plant were
19 incurred as a result of the failure of the Joy Longwall mining system in the Bridger Coal

1 Direct Testimony of Michael G. Wilding, page 6, Table 1.

2 *Id.*, at page 12, lines 1 – 13.

3 See Confidential WIEC Exhibit No. 301.2, page 37 (Tab 10).

4 Direct Testimony of Michael G. Wilding, page 14, line 16 – page 19, line 10.

1 Company underground mine. My investigation focused primarily on understanding the
2 causes of the failure and whether the Company is appropriately allowed recovery of
3 amounts incurred in connection with the failure through the ECAM.

4 **Q. WHAT IS YOUR RECOMMENDATION?**

5 A. Based on my review of the Company's testimony, and its responses to discovery requests,
6 I do not believe that the extraordinary costs incurred in connection with the failure of the
7 Joy Longwall are appropriately recoverable from ratepayers through the ECAM.
8 Accordingly, I recommend that the Commission increase the ECAM refund by
9 approximately \$7.0 million, corresponding to a total refund amount of \$11.9 million. The
10 calculation of these amounts are detailed in Confidential WIEC Exhibit No. 301.2.

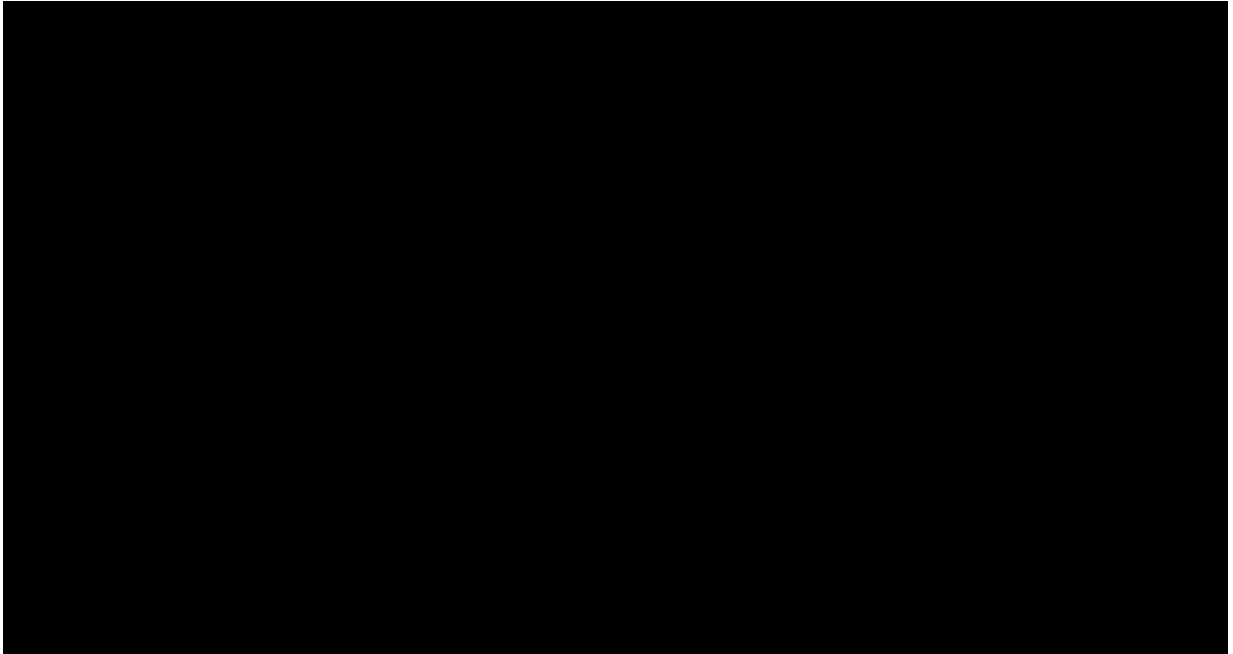
11 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

12 A. My testimony first provides a brief comparison of Actual NPC in the Deferral Period
13 relative to that approved in the 2015 GRC, followed by a detailed discussion of the
14 incidents surrounding the failure of the Joy Longwall system that occurred in late
15 December of 2015.

16 **II. NPC COMPARISON**

17 **Q. WHAT CAUSED THE DIFFERENCE BETWEEN ACTUAL AND FORECAST
18 NPC IN THE DEFERRAL PERIOD?**

19 A. Confidential Table BGM-1, below, is a conventional analysis, known as a side-by-side
20 analysis. It presents the various elements of NPC at a high level and compares them on
21 the basis of total dollars and volumes, with the objective of determining which NPC
22 categories are driving the forecast variance.

Confidential Table BGM-1

1 **Q. WHAT IS DRIVING THE REDUCTION IN NPC BASED UPON THE ANALYSIS**
2 **PROVIDED IN CONFIDENTIAL TABLE BGM-1, ABOVE?**

3 A. The test period used in final revenue requirement studies in the 2015 GRC was January 1,
4 2015 through December 1, 2015, which does not correspond to the Deferral Period. Some
5 of the changes detailed in the analysis above can be attributed to that timing difference.

6 Declining loads, however, were also a primary contributor to the reduction in NPC,
7 relative to the 2015 GRC. Compared to the load forecast for the 2015 test period, actual
8 loads were down by about (-)3.4%.

9 **Q. HOW HAS THE LOAD IN WYOMING COMPARED TO OTHER STATES?**

10 A. If the loads from the Jurisdiction Allocation Model (“JAM”) are used, the reduction in
11 system load is greater than what I calculate based upon the NPC studies. Using the JAM,
12 loads appear to be down by approximately 4.6% on a total-Company basis. Compared to
13 other states, Wyoming experienced larger load reductions relative to the forecast.

1 Wyoming loads were down by approximately (-)9.6% in the Deferral Period, relative to
2 the JAM forecast. In contrast, loads in Utah and Oregon were down by only (-)3.9% and
3 (-)3.3%, respectively. In Idaho, loads better corresponded to the forecast declining by only
4 (-)0.8%.

5 **Q. HOW HAVE DECLINING LOADS IN WYOMING IMPACTED ITS SHARE OF**
6 **SYSTEM COSTS?**

7 A. After considering Wyoming's declining loads, the Company's proposed level of
8 Wyoming-allocated actual NPC was approximately (-)\$5.2 million, or (-)2.1%, less than
9 the amount ECAM revenues established in the 2015 GRC.⁵ Since loads and demands in
10 Wyoming have declined by more than in other states, the percentage of system costs
11 allocated to Wyoming has also declined by a greater amount than the system average.

12 **Q. DOES THIS MEAN THAT THE COMPANY OVER-COLLECTED NPC IN**
13 **RATES DURING THE DEFERRAL PERIOD?**

14 A. Yes.

15 **Q. HOW IS THIS OVER-COLLECTION HANDLED IN THE ECAM?**

16 A. As the Commission reaffirmed in the 2015 GRC, the over- or under-collection of NPC is
17 subject to 70/30 sharing between the Company and ratepayers.⁶ If the Company under-
18 collects NPC, the mechanism only allows the Company to collect 70% of the under-

⁵ See the Direct Testimony of Michael G. Wilding, page 6, Table 1 (Calculated by taking the difference between Actual Collections of Base NPC (\$241.9 million) and Wyoming Allocated Actual Adjusted NPC (\$236.7 million)).

⁶ In re the Application of Rocky Mountain Power for Approval of a General Rate Increase in its Retail Electric Utility Service Rates in Wyoming of \$32.4 Million Per Year or 4.5 Percent, Docket No. 20000-469-ER-15 (Record No. 14076), Memorandum Opinion, Findings of Fact, Decision and Order, pages 26 – 28 (Dec. 30, 2015).

1 collection from ratepayers, leaving the Company to absorb the remaining 30% of the under-
2 collection. If the Company over-collects NPC, the mechanism only requires the Company
3 to return 70% of the over-collection to ratepayers, allowing the Company to retain 30% of
4 the over-collection.

5 **Q. HOW DO THE SHARING BANDS IMPACT THE COMPANY'S NPC RECOVERY**
6 **IN THE DEFERRAL PERIOD?**

7 A. Based on \$5.2 million of Wyoming-allocated over-collection of NPC that the Company
8 reports, the mechanics of the ECAM provide the Company with the ability to retain \$1.6
9 million in over-collected NPC revenues. After considering other aspects of the ECAM,
10 such as the embedded cost differential and chemical costs, the Company is provided the
11 ability to retain \$2.1 million of over-collection.

12 **Q. DO YOU CONTEST THE AMOUNTS THAT THE COMPANY PROPOSES TO**
13 **RETAIN THROUGH THE 70/30 ECAM SHARING MECHANISM?**

14 A. No. The ability of the Company to retain those amounts through a symmetrical sharing
15 mechanism was discussed in the 2015 GRC, and while I do have some concerns with
16 allowing the Company to retain these amounts when its overall earnings have proved to be
17 reasonable, it is not necessary to consider the sharing aspect of the ECAM mechanism at
18 this time. Notwithstanding, the Commission might look to this instance in the future as a
19 reason to adopt asymmetrical sharing, as used in Oregon and Washington.

1 **Q. HOW SHOULD THE 70/30 SHARING BE CONSIDERED WHEN EVALUATING**
2 **THE ISSUES RELATED TO THE JOY LONGWALL?**

3 A. When considering the issues discussed below related to the Joy Longwall, it is important
4 to recognize that, as a result of the application of the 70/30 sharing mechanism, the
5 Company is already in a position of over-recovering ECAM costs by \$2.1 million in its
6 initial filing. In addition, if further reductions to NPC result from the Commission's
7 consideration of the prudence of the Joy Longwall costs, the Company is still provided the
8 ability to retain 30% of any costs found to be imprudent.

9 **III. THE JOY LONGWALL**



10 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS RELATED TO THE JOY**
11 **LONGWALL.**

12 A. The Joy Longwall system was transferred from the Deer Creek mine near Huntington, Utah
13 to the Bridger Underground mine, where it began operation on September 1, 2015.⁷ The
14 reason for transferring the Joy Longwall to the Bridger Underground mine was to gain
15 access to areas in the mine where the coal seam was too narrow to be effectively mined
16 with its existing DBT longwall system, manufactured by Caterpillar.⁸ The Joy Longwall
17 was initially installed in the 14th Right longwall panel, and made only modest advancement
18 before losing advancement capabilities, which occurred four months after beginning
19 operations in the Bridger Underground mine.⁹ Ultimately, the Company's strategy of using
20 the Joy Longwall to access areas of the Bridger Underground mine with low coal seam

⁷ WIEC Exhibit No. 301.3, page 3 (Company's Resp. to Data Request ("DR") 1.6(j)).

⁸ See Confidential WIEC Exhibit No. 301.4 (Joy Longwall Justification Memo).

⁹ See Confidential WIEC Exhibit No. 301.5 (Internal Joy Longwall Root Cause Analysis).

1 height was the cause of the Joy Longwall failure. The Company was fully aware of the
2 risks associated with mining into the soft claystone material beneath the floor of the coal
3 seam.¹⁰ Notwithstanding, when confronted with an area of reduced coal seam thickness,
4 “
5 .”¹¹ This action exposed
6 the soft claystone and ultimately lead to the immobilization of the shearer. It also led to a
7 failed recovery effort that lasted approximately 10 months.¹²

8 The Company now requests that the Commission allow it to recover the
9 extraordinary losses that it incurred with respect to the Joy Longwall failure through the
10 ECAM. These losses amount to approximately \$59.0 million on a total-Company basis,
11 and include both direct costs, as well as indirect costs associated with lost mine production.
12 Based on the evidence presented below, however, I disagree that those losses are
13 appropriately recovered from ratepayers, and request that the Commission remove those
14 costs from the ECAM deferral balance.

15 **Q. PLEASE DESCRIBE THE COSTS THE COMPANY IS REQUESTING**
16 **RECOVERY.**

17 A. Table BGM-2, below, details the amount of direct costs and indirect cost that the Company
18 has proposed to include in, and which I recommend the be removed from, the ECAM
19 balance.

¹⁰ See Confidential WIEC Exhibit No. 301.6, page 5 (Geologic Report of 14th Longwall Panel).

¹¹ See Confidential WIEC Exhibit No. 301.7, page 2 (MHSA Field Investigation).

¹² See Confidential WIEC Exhibit No. 301.8 (External Review of Recovery Efforts).

Table BGM-2
ECAM Costs Associated with Joy Longwall Failure
(Whole Dollars, Before 70/30 Sharing)

	<u>Total-Company</u>	<u>WY-Allocated</u>
Abandonment Losses	\$ 12,503,830	\$ 2,084,142
Failed Recovery Efforts	7,383,939	1,230,757
Depreciation Expense	17,742	2,957
Lost Production Impact		
On Actual Tons Delivered	<u>39,134,007</u>	<u>6,522,867</u>
Total	\$ 59,039,518	\$ 9,840,722

1 There is no dispute regarding the amount of direct costs incurred in connection with
2 abandonment losses, recovery efforts, and depreciation expenses.¹³ Since there was no
3 longwall system in place in the underground mine for the majority of 2016, however, the
4 failure also had a material impact on the unit cost of coal consumed at the Jim Bridger
5 power plant. When requested to quantify the impact of lost mine production on coal
6 delivered in the test period, the Company stated that it had never performed such an
7 analysis, and was not willing to “speculate” about what the impacts might be.¹⁴ I view the
8 calculation to be important and relatively straightforward, so it was not clear to my why
9 the Company had not performed such an analysis and was unwilling to do so. Confidential
10 WIEC Exhibit No. 301.2 quantifies those costs through an analysis of the budgeted unit
11 costs of coal from the Bridger Underground mine to the actual unit cost of coal from the
12 Bridger Underground mine in the Deferral Period.¹⁵

¹³ WIEC Exhibit No. 301.3, page 7 (Company’s Resp. to WIEC DR 2.4(a)).

¹⁴ *Id.* (Company’s Resp. to WIEC DR 2.4(c)).

¹⁵ Confidential WIEC Exhibit No. 301.2, page 37.

1 **Q. HAVE ISSUES BEEN RAISED WITH RESPECT TO JOY LONGWALL IN PRIOR**
2 **PROCEEDINGS?**

3 A. Yes. My Direct Testimony in the 2016 ECAM identified the transfer price associated with
4 the Joy Longwall as an issue, which was ultimately resolved in a stipulation in that matter.
5 In addition, the failure of the Joy Longwall system occurred at the Bridger Coal Company
6 (“BCC”) mine, the costs of which WIEC has contested for several years as being
7 uncontrolled and uncompetitive relative to other sources of coal in Wyoming.

8 **Q. DID THE COMPANY IDENTIFY THE PROBLEMS THAT HAD OCCURRED**
9 **WITH RESPECT THE JOY LONGWALL IN THE 2016 ECAM?**

10 A. No. In responding to data requests and in its Rebuttal Testimony on the Joy Longwall in
11 the 2016 ECAM, the Company omitted the material fact that, while the Joy Longwall had
12 been physically transferred, the Joy Longwall failed four months after it was moved to the
13 Bridger Underground mine. From any objective perspective, the transfer was not a success.
14 Yet, when the transfer of Joy Longwall was investigated in the 2016 ECAM, the Company
15 did not disclose the Joy Longwall failure, which occurred in December 2015 or about nine
16 months prior to when the Company filed Rebuttal Testimony. The costs at issue in the
17 2016 ECAM with respect to the transfer price were relatively small, limited to a minor
18 amount of depreciation expenses incurred in calendar year 2015. Notwithstanding, the
19 failure was relevant to the matter because one might reasonably reach a different
20 conclusion with respect to those expenses, had the Company disclosed that the transfer did
21 not succeed. One might further consider the indirect costs associated with transferring and
22 installing the equipment, had the problems been disclosed.

1 **Q. ARE YOU CONTESTING THE COSTS APPROVED IN THE 2015 ECAM?**

2 A. Little can be done at this point about the filed rates approved in the 2016 ECAM, and is it
3 not my intention to suggest that anything should. The point, however, is that the omission
4 is, in a way, further evidence of imprudence. One would appropriately question why, if
5 the Company truly believed it should have the opportunity to recover the extraordinary
6 costs associated with the Joy Longwall, the Company did not identify the problems with
7 the Joy Longwall when the Joy Longwall was subject to review in the 2016 ECAM.

8 **Q. WHEN DID THE COMPANY FIRST COMMUNICATE THE LONGWALL**
9 **PROBLEMS TO THE COMMISSION?**

10 A. In response to WIEC Data Request 3.6, the Company notes that on August 17, 2016, it
11 informally communicated about the longwall failure to two of the three commissioners
12 following a tour of the underground mine.¹⁶ This occurred during the pendency of the 2016
13 ECAM proceeding, after WIEC filed testimony opposing the treatment of the Joy Longwall
14 transfer on August 22, 2016, but before the Company filed its Rebuttal Testimony on
15 September 7, 2016. The Company also noted that it informed the Commission by phone
16 of the decision to abandon the Joy Longwall around the time that it made the decision to
17 abandon the equipment on October 7, 2016. Hearings approving the stipulation in the
18 ECAM were conducted on October 11, 2016. It is not clear why the Company informally
19 communicated about the Joy Longwall failure to the Commission during the 2016 ECAM
20 proceeding, but did not similarly communicate the issue to the parties in that proceeding.

¹⁶ See WIEC Exhibit No. 301.3, page 27 (Company's Resp. to WIEC DR 3.6).

1 **a. Problems at the Bridger Coal Company Mine**

2 **Q. PLEASE PROVIDE BACKGROUND ON THE BRIDGER COAL COMPANY**
3 **MINE.**

4 A. The BCC mine, located in Sweetwater County, Wyoming, is the primary source of fuel for
5 the Jim Bridger power plant. The other source of fuel for the Jim Bridger power plant is
6 the Black Butte mine, located in the same vicinity.

7 The BCC mine consists of sub-bituminous coal deposits in two, somewhat
8 independent mining operations: the Bridger Surface mine and the Bridger Underground
9 mine. The Bridger Surface mine has been in operation since approximately 1974, when
10 the Jim Bridger power plant began operations. The Bridger Underground mine was
11 developed more recently and began operations around 2004. The Bridger Underground
12 mine originally was developed using continuous mining technique, but in 2007, the
13 Company invested and began operating the mine using a longwall mining system.

14 **Q. WHAT IS LONGWALL MINING?**

15 A. Longwall mining is a method of underground mining where rectangular areas, or *panels* of
16 underground coal are mined in a systematic process, involving the use of mechanized roof
17 supports known as *shields*. The longwall shields are installed end-to-end and advance into
18 the coal panel as coal is mined using a piece of mining equipment called a *shearer*. The
19 shearer travels on a monorail system that is housed beneath the mechanized longwall
20 shields, alongside a conveyor system. As the shearer travels along the monorail system,
21 coal is cut from the face of the coal seam and transferred out of the mining area using the
22 conveyor. Once an area of the coal face has been mined with the shearer, the longwall

1 shields, monorail, and conveyors advance forward to continue mining in the direction
2 parallel to the long end of the rectangular longwall panel. As the longwall shields advance
3 forward, the roof area behind the shields is allowed to cave-in creating an unstable rocky
4 area referred to as “gob.” Figures BGM-1 and BGM-2 provide visual illustrations of this
5 process:

Figure BGM-1
EIA Illustration of Longwall Mining

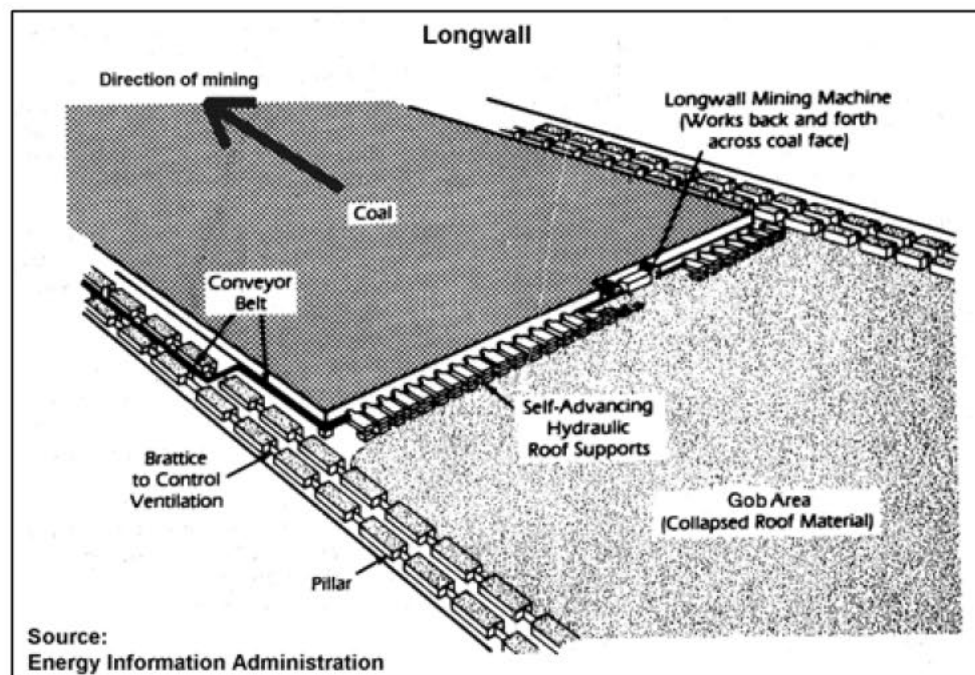


Figure BGM-2
Image of Underground Mining Operations



1 Several references exist, which provide detailed overviews of the longwall mining
2 process. One such document can be found in WIEC Exhibit No. 301.9, a Department of
3 Energy report published in 1995 that provides a relatively comprehensive overview of the
4 longwall mining technique and its application in the United States. As of the time of
5 writing this testimony, Caterpillar published a video online, providing a basic illustration
6 of the longwall mining process:

7 http://www.cat.com/en_US/articles/solutions/mining/longwall-principals-video.html.

8 **Q. WHAT IS A COAL SEAM?**

9 A. The nature of a *coal seam* is of particular importance to the issues related to the failure of
10 the Joy Longwall. The coal seam is the layer of underground coal that is mined in an
11 underground coal mine. A coal seam can possess varying degrees of thickness, although

1 “thin seam longwalls tend to be less productive than thicker seam operations.”¹⁷ The top
2 of the seam is referred to as the roof, and the bottom of the seam is referred to as the floor.¹⁸
3 It is notable that “[t]he mine floor must provide a firm base for the movable roof supports
4 used in longwall mining.”¹⁹ In addition, in the process of underground longwall mining,
5 care must be taken to avoid mining out of the coal seam, and cutting into the roof or floor
6 of the coal seam.²⁰ Doing so materially reduces the quality of coal mined, increasing ash
7 content and reducing the heat (MMBtu) content of coal delivered to, and consumed at, the
8 generating facility. Mining out-of-seam can also result in additional wear and tear on, and
9 possibly damage to, mining equipment.²¹ Finally, as experienced with respect to the Joy
10 Longwall, mining into the floor of the coal seam can produce geological and safety
11 concerns, resulting in destabilization of the longwall shields. The many problems
12 encountered with respect to longwall mining out-of-seam are probably one of the factors
13 that has contributed to “the clear trend away from thinner seam longwall mining.”²²

14 **Q. IS THE BCC A COMPETITIVE MINE?**

15 A. Far from it. As WIEC, has noted in prior proceedings, the BCC mine is unequivocally the
16 most expensive source of coal in Wyoming. Figure BGM-3 below, demonstrates the
17 weighted average delivered cost of coal from each of the coal mines located in Wyoming:

17 WIEC Exhibit No. 301.9, page viii.

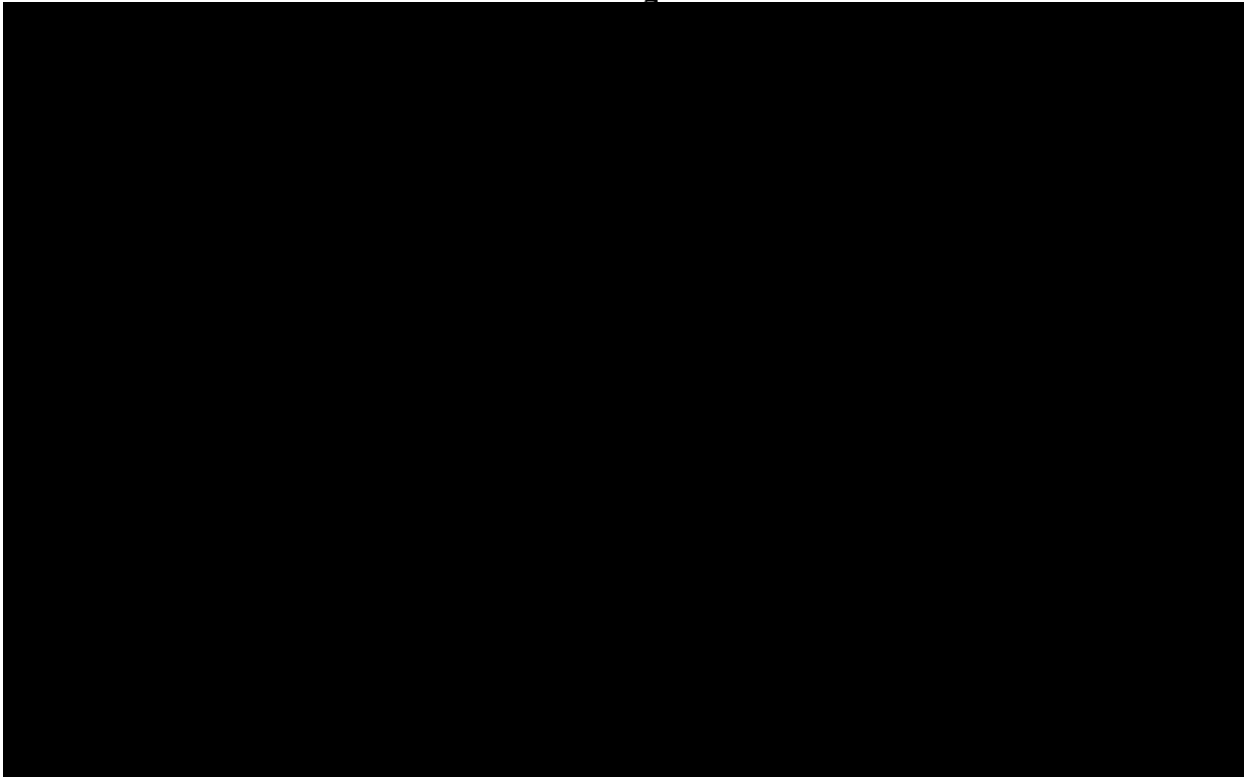
18 Confidential WIEC Exhibit No. 301.6 provides an overview of these characteristics in the area of the mine
where the Joy Longwall lost advancement capability.

19 WIEC Exhibit No. 301.9, page 5.

20 *Id.*, at pages 49 – 48.

21 *Id.*

22 *Id.*, at page viii.

Confidential Figure BGM-3

1 **Q. PLEASE DESCRIBE THE DATA USED TO DEVELOP FIGURE BGM-3.**

2 A. Figure BGM-3 is based on public data from Energy Information Administration (“EIA”)
3 Form 923, a filing that large power producers must make to provide information on their
4 fuel supply, including pricing terms and volumes for coal contracts. The EIA cost data
5 used to develop the above figure includes all of the rail transportation costs necessary to
6 deliver coal from the mine to the power plant where the coal is ultimately consumed. Based
7 on a review of the information provided in discovery, however, the EIA data does not
8 appear to include all of the impacts of the Joy Longwall in the cost per ton of coal from the
9 Bridger Underground mine. For that reason, confidential information from the Company’s

1 response to WIEC DR 1.7 has been used for BCC in the above figure,²³ including a
2 provision for the return on the mine assets that is reflected in base rates. Collectively, the
3 cost of coal from BCC was approximately \$ [REDACTED]/ton in the deferral period.

4 **Q. WHAT CONCLUSION DO YOU DRAW FROM FIGURE BGM-3?**

5 A. The coal prices in Figure BGM-3 include rail transportation costs to areas as distant as the
6 Charles P. Crane Generating Station in Bowleys Quarters, Maryland. The cost of coal from
7 BCC, on the other hand, includes no transportation costs to deliver coal to the Jim Bridger
8 power plant. Thus, BCC coal continues to be the most expensive coal currently being
9 produced in Wyoming because its cost exceeds the average cost of coal from every other
10 coal mine located in Wyoming, including the cost of transportation.

11 **Q. HOW DOES COAL FROM BCC COMPARE TO THE MARKET PRICE FOR**
12 **COAL?**

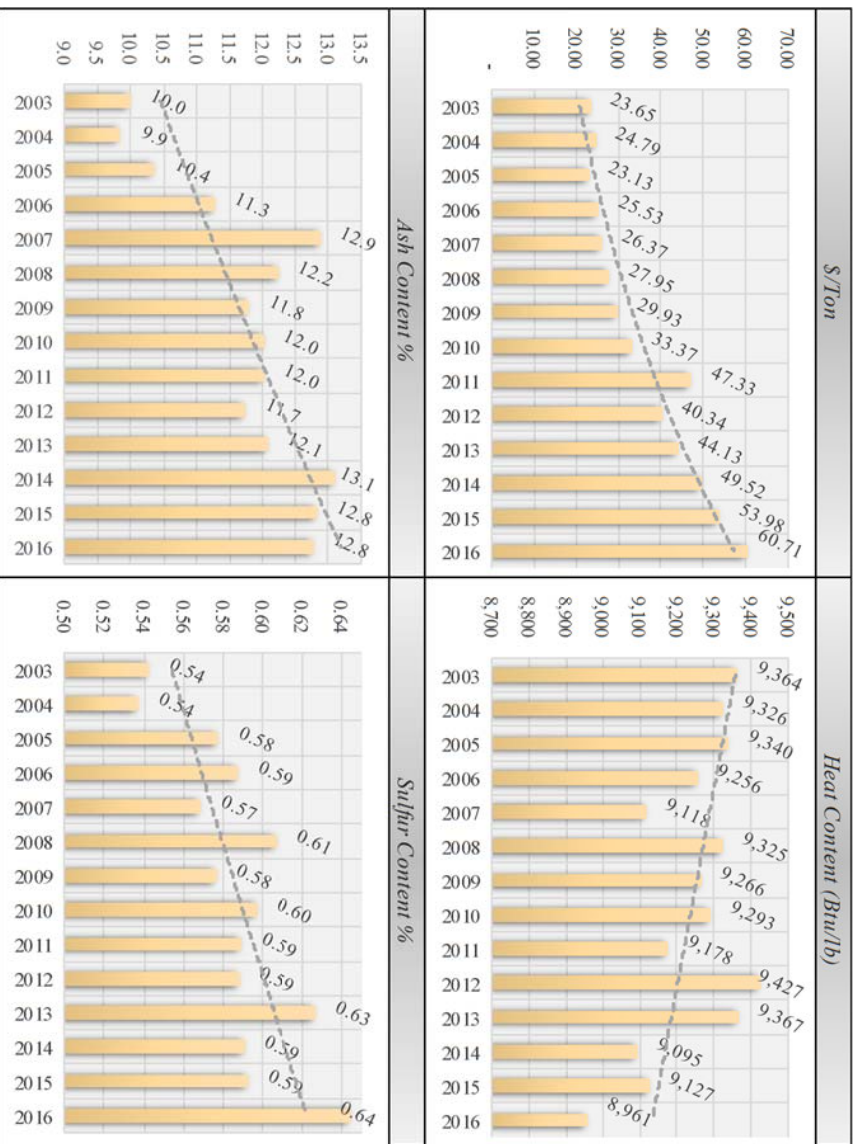
13 A. In response to WIEC Data Request 1.7 (g), the Company reported that its forecast for the
14 market price for coal from the Powder River Basin in 2017 was \$ [REDACTED]/Ton. Thus, at
15 approximately \$ [REDACTED]/ton, BCC continues to be uncompetitive relative to the market by a
16 wide margin.

17 **Q. HAVE THERE BEEN OTHER PROBLEMS AT BCC BESIDES COSTS?**

18 A. Yes. In recent years the quality of coal produced at BCC has also been problematic. In
19 fact, the poor coal quality at the underground mine was one of the factors leading to the
20 transfer of the Joy Longwall from the Deer Creek mine. Specifically, the mine has suffered
21 from issues related to high ash content, which can be noted in Figure BGM-4, below.

²³ See WIEC Exhibit No 302.2, pages 38 – 40.

Figure BGM-4
Historical Attributes of Coal from Bridger Coal Company
Source: EIA Form 923



- 1 **Q. PLEASE EXPLAIN FIGURE BGM-4.**
- 2 **A.** Figure BGM-4 details certain attributes of the coal from BCC over the period 2003 through
- 3 2016.²⁴ On every measurement, the BCC mine has been trending unfavorably. Costs are
- 4 up. Heat content is also down, dropping to 8,960 btu/lb in the test period. Of note, the
- 5 declining heat content is likely another indirect cost associated with the Joy Longwall
- 6 failure, which has not been reflected in the indirect costs I have calculated as a part of this

²⁴ Note there are slight differences the cost per ton reported in EIA Form 923 and the amounts described in testimony above, presumably due to the way that information gets reported to the EIA. I did not attempt to reconcile the two cost calculations as a part of preparing this testimony.

1 testimony. Ash content is up, [REDACTED]
2 [REDACTED]. Sulfur content also increased over the period. This is viewed over a period
3 when coal mines have been struggling to compete, and many have been forced to cease
4 operations. Notwithstanding, there appears to have been no improvement, and in fact,
5 worsening conditions at BCC.

6 **Q. HOW DOES HIGH ASH CONTENT IMPACT OPERATIONS AT A COAL**
7 **PLANT?**

8 A. Ash content negatively impacts the operation of a coal plant in several ways. First, high
9 ash coal can produce slag, a black glass like substance that can cause problems by
10 accumulating around the boiler. It can also cause other harmful coal combustion residuals,
11 requiring expensive remediation efforts to correct. High ash coal also tends to have lower
12 heat content, making it more expensive to burn. In addition, high ash coal can produce
13 opacity problems, making it difficult for a plant to comply with haze requirements. All of
14 these factors contribute to making high ash coal more expensive to consume at a coal plant
15 relative to low ash coal, and many of those costs may not be known for many years until a
16 site undergoes remediation efforts.

17 **Q. DID HIGH ASH COAL HAVE AN IMPACT ON THE OPERATIONS OF THE JIM**
18 **BRIDGER POWER PLANT IN THE DEFERRAL PERIOD?**

19 A. Yes. [REDACTED]
20 [REDACTED] In response to WIEC
21 Data Request 2.1, the Company provided details of all instances where a thermal plant was
22 derated, or not capable of operating at its maximum capacity due to equipment, or some

1 other outage-related, problem. Based on that information, [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 **Q. WHEN DID LONGWALL MINING ORIGINALLY BEGIN AT THE BRIDGER**
7 **UNDERGROUND MINE?**

8 A. Longwall operations began in 2007, when the Company invested in the DBT longwall
9 system manufactured by Caterpillar.²⁵ Following the transfer of the Joy Longwall—which
10 derives its name from the manufacturer, Joy Global—the DBT longwall was idled
11 beginning around September 1, 2015.²⁶ Following the failure of the Joy Longwall in late
12 December 2015, the DBT longwall did not return to service until August 2016.
13 Accordingly, for an approximate 8 month period in 2016, the Company had no active
14 longwall mining operation in the underground mine. This factor, along with the
15 abandonment losses and costs associated with the failed recovery effort associated with the
16 Joy Longwall, which will be discussed below, compounded to make worse what was
17 already a bad situation at BCC.

²⁵ WIEC Exhibit No. 301.3, page 7.

²⁶ *Id.*

1 **b. The Joy Longwall Transfer**

2 **Q. WHY DID THE COMPANY TRANSFER THE JOY LONGWALL SYSTEM TO**
3 **THE BRIDGER UNDERGROUND MINE?**

4 A. Attached as Confidential WIEC Exhibit No. 301.4 is the memorandum the Company relied
5 upon to justify transferring the Joy Longwall to BCC. Several, pertinent facts can be
6 ascertained from that document. The first relates to the timing of the decision. That
7 memorandum was issued on [REDACTED],²⁷ although [REDACTED]

8 [REDACTED]

9 [REDACTED]²⁸ Having been involved in the proceedings surrounding the closure of the Deer
10 Creek mine that occurred in early 2015, this timing was surprising to me. The Company
11 made no mention of the alternative of transferring the Joy Longwall to the BCC mine in
12 the Deer Creek proceeding, yet [REDACTED]

13 [REDACTED] to when the Company filed its application
14 regarding the Deer Creek Mine in December 2014.²⁹ Based on this timing one would
15 appropriately conclude that the omission of the potential transfer of the Joy Longwall in
16 the Deer Creek Mine proceeding was due to the fact that, [REDACTED]

17 [REDACTED], the Company
18 believed the alternative of transferring the Joy Longwall to be inviable at the time of its
19 application, only to subsequently change its mind on the matter.

²⁷ Confidential WIEC Exhibit No. 301.4, page 4.

²⁸ See Confidential WIEC Exhibit No. 301.10.

²⁹ See In re the Application of Rocky Mountain Power for Approval of the Transaction for Closure Of Deer Creek Mine and a Deferred Accounting Order, Docket No. 20000-464-EA-14 (Record No. 14041), Application (Dec. 15, 2014).

1 **Q. WHAT WAS THE REASON FOR TRANSFERRING THE JOY LONGWALL TO**
2 **THE BRIDGER UNDERGROUND MINE?**

3 A. The reason for transferring the Joy Longwall was to access areas of the mine with low coal
4 seam height. The Company noted the following in the executive summary of Confidential
5 WIEC Exhibit No. 301.4:

6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]

11 **Q. HAD THE COMPANY COMPLETED ANY GEOLOGICAL ASSESSMENT OF**
12 **USING THE JOY LONGWALL, PRIOR TO MAKING THE DECISION TO**
13 **TRANSFER IT?**

14 A. No. The Company has not provided any evidence of having conducted any geological
15 assessment associated with transferring the Joy Longwall prior to the time it made the
16 decision to transfer the Joy Longwall to the Bridger Underground mine. The decision to
17 transfer the Joy Longwall to the Bridger Underground mine was made through the
18 justification memorandum dated [REDACTED] and provided in Confidential WIEC Exhibit
19 No. 301.4. [REDACTED]

20 [REDACTED]
21 [REDACTED]

³⁰

WIEC Exhibit No. 301.3, page 10 (the Company's Resp. to WIEC DR 2.5(a)).

1 [REDACTED]

2 [REDACTED]³¹

3 **Q. DID THE COMPANY EVENTUALLY PERFORM A GEOLOGICAL**
4 **ASSESSMENT OF THE JOY LONGWALL TRANSFER?**

5 A. Yes. This assessment was provided in the Company's Supplemental response to WIEC
6 Data Request 2.5(b) and is attached as Confidential WIEC Exhibit No. 301.6. [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]³² [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 **Q. DID THE GEOLOGICAL ASSESSMENT IDENTIFY THE RISK OF MINING**
16 **INTO THE FLOOR THAT LED TO THE JOY LONGWALL FAILURE?**

17 A. [REDACTED]

18 [REDACTED]³³ [REDACTED]

19 [REDACTED]³⁴ [REDACTED]

³¹ Confidential WIEC Exhibit No. 301.4, page 1.

³² Confidential WIEC Exhibit No. 301.6, page 1.

³³ *Id.*, at page 5.

³⁴ *Id.*

1 [REDACTED]

2 [REDACTED]

3 [REDACTED] 35 [REDACTED]

4 [REDACTED]

5 [REDACTED] 36 [REDACTED]

6 [REDACTED]

7 [REDACTED] 37 [REDACTED]

8 [REDACTED]

9 [REDACTED] 38 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED] 39 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 **Q. DID THE COMPANY FOLLOW THAT GEOLOGICAL ADVICE IN THE**
16 **PERIOD LEADING UP TO THE FAILURE?**

17 A. No. [REDACTED]

18 [REDACTED]

35 *Id.*
36 *Id.*
37 Confidential WIEC Exhibit No. 301.7, page 2.
38 Confidential WIEC Exhibit No. 301.6, page 5.
39 *Id.* (Emphasis in original).

1 [REDACTED] 40 [REDACTED]

2 [REDACTED] 41

3 **Q. DID THE COMPANY EXPOSE THE SOFT CLAYSTONE IN ANY OF THESE**
 4 **INSTANCES WHERE THE FLOOR WAS MINED?**

5 A. Yes. Claystone was exposed on multiple instances in the period leading to failure. In
 6 response to WIEC Data Request 3.12, the Company indicates that the claystone was
 7 exposed on December 15, 2015, December 16, 2015, and December 23, 2015.⁴² No
 8 corrective or preventative actions appear to have been taken as a result of exposing the soft
 9 claystone in these instances, despite the known risk associated with exposure. After
 10 December 23, 2015, it appears the claystone was exposed continuously until the time that
 11 the shearer became immobilized, although no geologist visited the coal face over that
 12 critical period.

13 **Q. HAD THE JOY LONGWALL BEEN OPERATING SUCCESSFULLY PRIOR TO**
 14 **THE FAILURE?**

15 A. [REDACTED]

16 [REDACTED] 43 [REDACTED]

17 [REDACTED]

18 [REDACTED] 44 [REDACTED]

40 See Confidential WIEC Exhibit No. 301.5, page 19.

41 *Id.*

42 See WIEC Exhibit No. 301.3, page 33 (The Company's Resp. to WIEC DR 3.12).

43 See Confidential WIEC Exhibit No. 301.6, page 12.

44 See Confidential WIEC Exhibit No. 301.11 (Map of 13th through 16th Longwall Panels, the [REDACTED] obtained by counting the cross cut sections mined in the period leading up to the failure. The Joy

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[REDACTED]

[REDACTED]

c. The Failure of the Joy Longwall

Q. PLEASE SUMMARIZE THE INCIDENT LEADING TO THE FAILURE OF THE JOY LONGWALL.

A. Confidential WIEC Exhibit No. 301.5, provided in the Company's Response to WIEC Data Request 1.6(f), provides the Company's assessment of the failure of the Joy Longwall. The

Company describes the event as beginning on [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Longwall had mined [REDACTED]
[REDACTED] of the entire panel).

1 **Q. WHEN DID THE COMPANY BEGIN MINING INTO THE FLOOR OF THE**
2 **COAL SEAM?**

3 A. Diagram E of Confidential WIEC Exhibit No. 301.5 details each instance where the
4 Company geologists observed that the longwall system had mined into the floor of the coal
5 seam.⁴⁵

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

⁴⁵ Confidential WIEC Exhibit No. 301.5, page 19.

1

[REDACTED]

2

[REDACTED]

3

[REDACTED]

4

[REDACTED]

5

[REDACTED]

6

[REDACTED] In response to WIEC Data Request 3.12, the Company confirmed that the soft

7

claystone layer was exposed during this period.⁴⁶

8

[REDACTED]

9

[REDACTED]

10

[REDACTED]

11

[REDACTED]

12 **Q.**

WAS ANY GEOLOGICAL MONITORING UNDERTAKEN AFTER DECEMBER

13

17, 2015?

14 **A.**

No. In response to WIEC Data Request 3.5, the Company reported that geological staff

15

made no visits to the coal face over the critical period of December 17, 2015 through

16

January 8, 2015.⁴⁷ The geological conditions had been deteriorating in the period leading

17

up to December 23, 2015, when the Company's employees first began to suspect that there

18

might be a problem with the Joy Longwall. Yet, when faced with these geological

19

problems, no geological assessments of the coal face were made. In fact, the geological

20

staff did not visit the coal face until January 8, 2015, [REDACTED]

⁴⁶

WIEC Exhibit No. 301.3, page 33 (Company's Resp. to WIEC DR 3.12).

⁴⁷

WIEC Exhibit No. 301.3, page 25 (Company's Resp. to WIEC DR 3.5).

1 [REDACTED]. It is possible that, as a result of the winter
2 holidays, the geological staff were on vacation. But in any event, it is clear that the
3 Company had been undertaking the risky geological activity of mining into the floor of the
4 coal seam for an extended period of time. It had also knowingly exposed the soft claystone
5 on multiple occasions. Yet, after the incidents began to occur on December 23, 2015, no
6 geologist visited the coal face for sixteen days.

7 **Q. WERE UNCONTROLLABLE GEOLOGICAL FEATURES THE CAUSE OF THE**
8 **PROBLEMS?**

9 A. The Company characterizes the cause of this event as being the result of geological
10 conditions that were outside of its control. It suggests the cause was related to
11 “undulations, or structural rolls, in the floor [that] became more pronounced and
12 frequent.”⁴⁸ The Company, however, does not discuss the level of care that it exercised
13 when confronted with these conditions.⁴⁹ The longwall crew knew when the shearer was
14 mining into the floor of the coal seam. The layers can be clearly noted through visual
15 inspection of the coal face. Thus, the fact that no geological staff was involved in
16 navigating this challenging geological area speaks to the lack of care exercised by the
17 Company when confronted with these risky conditions.

18 In addition, if one were to conclude that the geological conditions were too
19 challenging to be mined effectively by the Joy Longwall, even with the support of

⁴⁸ Direct Testimony of Michael G. Wilding, page 17, lines 18 – 19.

⁴⁹ On August 18, 2017, the Company responded to WIEC DR 3.4 and 3.5. These responses included the profile documents underlying the observed instances where the Company had mined into the floor of the coal seam, as well as communications between geological staff and the longwall crew around the time of the longwall failure. The Confidential attachments, however, were not received in time to be reviewed for Direct Testimony.

1 geological staff, that speaks to the lack of care exercised by the Company when considering
2 the geological suitability of the Joy Longwall in that area of the mine. As discussed above,
3 the Company had made no such assessment prior to making the decision to transfer the Joy
4 Longwall to the Bridger Underground mine.

5 **Q. WAS THE LONGWALL FOREMAN REQUIRED TO CONSULT WITH A**
6 **GEOLOGIST PRIOR TO MAKING THE DECISION TO MINE INTO THE**
7 **FLOOR?**

8 A. No.⁵⁰ The Company had no policies in place requiring the longwall crew to communicate
9 challenging conditions to geological staff.

10 **Q. DID THE COMPANY CHANGE ITS POLICIES AND PROCEDURES**
11 **FOLLOWING THE JOY LONGWALL FAILURE?**

12 A. Yes. The Company recognized the deficiencies in the policies that existed prior to the
13 failure, and made several policy and procedure changes. These changes were identified in
14 the Company's 1st Supplemental Response to WIEC Data Request 2.5 (j).⁵¹

15 **Q. HAS AN INDEPENDENT REVIEW OF THE FAILURE BEEN PERFORMED?**

16 A. No. The Company obtained an independent review of the recovery efforts, but no
17 independent root cause analysis has been performed with respect to the events that led to
18 the Joy Longwall failure. The independent review, which consists of only 3 pages, was
19 conducted by Golder Associates, an Australian based engineering firm, and has been
20 provided as Confidential WIEC Exhibit No. 301.8.

⁵⁰ *Id.* (the Company's 1st Supplemental Response to WIEC DR 2.5(h)).

⁵¹ *Id.*

1 **Q. HAS THE MINE HEALTH AND SAFETY ADMINISTRATION REVIEWED THE**
2 **INCIDENT?**

3 A. On February 22, 2017, the Mine Health and Safety Administration (MHSa) issued an
4 investigative report detailing its investigation of the mine ground conditions during the
5 recovery effort. That report is attached as Confidential WIEC Exhibit No. 301.7 and does
6 not consider the root cause of the failed longwall. One important distinction that can be
7 gained from this report is that, in the Company's investigation provided in Confidential
8 WIEC Exhibit No. 301.5, [REDACTED]
9 [REDACTED]⁵² In contrast, the MHSa
10 Report indicates that [REDACTED]
11 [REDACTED]. When asked to confirm who made the decision to mine
12 into the floor, the Company confirmed that it is ultimately the responsibility of the
13 Longwall Shift Foreman and the Mine Manager to make such decisions, when confronted
14 with areas of critical geological concern, such as those encountered in 14th Right longwall
15 panel in early December 2015.⁵³

16 **Q. BASED ON THESE FACTS, DO YOU BELIEVE THE COMPANY SHOULD BE**
17 **ALLOWED TO INCLUDE THE EXTRAORDINARY COSTS ASSOCIATED**
18 **WITH THE JOY LONGWALL IN THE DEFERRAL BALANCE?**

19 A. No. The Company's strategy of using the Joy Longwall to access areas of the mine that
20 were not minable by the existing DBT longwall had failed. The Company entered into this

⁵² Confidential WIEC Exhibit No. 301.5.

⁵³ See WIEC Exhibit No. 301.3, page 17 (Company's 1st Supplemental Response to WIEC DR 2.5(f)).

1 strategy without considering the geological risks faced in the areas of the mine with a
2 thinning coal seam. Once mining operations began, [REDACTED]
3 [REDACTED],
4 yet the Company provided no evidence that it undertook any proactive measures to avoid
5 mining the floor of the coal seam. Thus, the Company's strategy to utilize the Joy Longwall
6 in place of the DBT Longwall failed and the Company failed to take proper precautions
7 when implementing the strategy. The unexpected slow progress of the Joy Longwall also
8 likely contributed to the lack of care the Company exercised when confronted with the
9 known geological risks in the 14th Right longwall panel. These actions lead to a series of
10 expensive recovery attempts, as well as significant reductions to the output of the mine, the
11 cost of which will be discussed below.

12 **d. The Cost of Lost Mine Production**

13 **Q. DID THE COMPANY RECOGNIZE THE FAILURE INCREASED THE COST OF**
14 **COAL DUE TO LOST PRODUCTION?**

15 A. It is not clear. When asked directly in WIEC Data Request 2.4(c) whether production at
16 the mine declined as a result of the failure, the Company objected on the basis that it
17 believed such a question to be overly broad and not reasonably calculated to lead to the
18 discovery of admissible evidence.⁵⁴ I disagree. As noted above, lost production at the
19 mine during the period when the recovery efforts were underway increased the unit cost of
20 coal delivered to the Jim Bridger power plant. This is due to the fact that, as the tons
21 delivered by the mine decline, the cost of operating the mine gets spread over fewer tons.

⁵⁴ WIEC Exhibit No. 303.3, page 6 (Company's Resp. to WIEC DR 2.4(c)).

1 Accordingly, such costs are relevant when determining the total cost associated with the
2 failure of the Joy Longwall system.

3 **Q. DID YOU ALSO ASK THE COMPANY TO QUANTIFY THE IMPACT OF**
4 **REDUCED UNDERGROUND MINE PRODUCTION?**

5 A. Yes. In the same request, WIEC Data Request 2.4(c), the Company was asked to “provide
6 the Company's best estimate of the total cost in dollars, dollars per ton, and dollars per
7 MMBtu associated with the reduced production.” The Company responded that it had “not
8 performed a calculation of the requested amounts and cannot speculate as to what these
9 amounts might be, as the Joy longwall event did not occur in isolation nor independently
10 from other changes in the economy, which also significantly impacted the level of
11 production at the mine.”⁵⁵

12 **Q. DID PRODUCTION DECLINE AT THE BRIDGER UNDERGROUND MINE AS**
13 **A RESULT OF THE JOY LONGWALL FAILURE?**

14 A. Yes. Between January 2016 and August 2016, the Company had no active longwall
15 system in place. The DBT Longwall, which had been idled in another section of the mine
16 beginning around the time of the transfer of the Joy Longwall, did not resume coal
17 operations for approximately 8 months after the failure of the Joy Longwall occurred.⁵⁶

⁵⁵ *Id.*

⁵⁶ *Id.* (Company’s Resp. to WIEC DR 2.4(f)).

1 **Q. WHAT PRODUCTION WAS OCCURRING IN BRIDGER UNDERGROUND**
2 **MINE IN THE PERIOD AFTER THE JOY LONGWALL FAILED?**

3 A. It is not clear. In WIEC Data Request 3.2, the Company was asked to describe the mining
4 activities during the period when no longwall system was in place due to the failure of the
5 Joy Longwall. It responded that such information was provided in response WIEC Data
6 Request 1.6, the Internal Joy Longwall Root Cause Analysis in Confidential WIEC Exhibit
7 No. 301.5. That document, however, does not discuss the underground mine production
8 activities that were underway during the period in question.

9 Notwithstanding, the Bridger Underground mine did produce coal in this period,
10 and as I understand, the coal production during this period was accomplished using the
11 continuous miner, which is less efficient and more expensive than the longwall mining
12 system that had been in place in the underground mine.

13 **Q. HOW MUCH COAL WAS DELIVERED FROM THE BRIDGER**
14 **UNDERGROUND MINE IN THE DEFERRAL PERIOD?**

15 A. In response to WIEC Data Request 1.7(b), the Company provided BCC operating results
16 for the Deferral Period.⁵⁷ The relevant portions of Confidential Attachment 1.7 -2 to that
17 request have been included in Tab 11 of the workpapers in Confidential WIEC Exhibit
18 No. 301.2.⁵⁸ As can be noted from that document, the Bridger Underground mine delivered
19 [REDACTED] tons of coal to the Jim Bridger power plant in the Deferral Period.⁵⁹

⁵⁷ *Id.*, at page 4 (Company's Resp. to WIEC DR 1.7(b)).

⁵⁸ Confidential WIEC Exhibit No. 301.2, pages 38 – 40.

⁵⁹ *Id.*, at page 40.

1 **Q. HOW MUCH COAL WAS EXPECTED TO BE DELIVERED FROM THE**
2 **BRIDGER UNDERGROUND MINE IN THE DEFERRAL PERIOD?**

3 A. In response to WIEC Data Request 1.7(a), the Company provided operating budgets for
4 the BCC mine, in the period encompassing the deferral period.⁶⁰ Confidential Attachment
5 1.7 -1 to that request included the 2016 operating budget for the Bridger Coal Company.
6 That budget was prepared in July 2015, around the time that the Company made the
7 decision to transfer the Joy Longwall to the Bridger Underground mine and has been
8 included in Tab 12 of my workpapers in Confidential WIEC Exhibit No. 301.2.⁶¹ As can
9 be noted from that document, the Company expected to deliver [REDACTED] tons of coal from
10 the Bridger Underground Mine in the Deferral Period.⁶² Thus, actual production at the
11 mine was [REDACTED] % less than what the Company had forecast a few months prior to the
12 Deferral Period.

13 **Q. WHAT WAS THE IMPACT OF THAT LOST PRODUCTION ON THE COST OF**
14 **COAL?**

15 A. The impact of lost production on the cost of coal from the Bridger Underground mine was
16 material. In actual operations, the total cost of the Bridger Underground mine was
17 approximately \$ [REDACTED] million.⁶³ This value excludes the direct cost impact of any recovery
18 efforts associated with the Joy Longwall. The Company also confirmed in response to

⁶⁰ WIEC Exhibit No. 301.3, page 4 (Company's Resp. to WIEC DR 1.7(b)).

⁶¹ Confidential WIEC Exhibit No. 301.2, pages 41 – 44.

⁶² *Id.*, at page 43.

⁶³ *Id.*, at page 40 (When arriving at this amount, an extra line was added to the Company's workpapers to remove the direct costs associated with the Joy Longwall failure from the cost of coal produced at the Bridger Underground mine).

1 WIEC Data Request 3.1(a) that the abandonment losses of \$12.5 million were not actually
2 recorded on the books of BCC, and that the Company recorded that amounts as a separate
3 adjustment to its own books.⁶⁴

4 In contrast, the Company's budget forecast total cost of the Bridger Underground
5 mine in 2016 was \$ [REDACTED] million.⁶⁵ Thus, mine production had declined by [REDACTED]%,
6 whereas total costs declined by only [REDACTED]%, after removing the direct costs associated with
7 the Joy Longwall failure,

8 **Q. BASED UPON YOUR ANALYSIS, WHAT WAS THE COST IMPACT OF THIS**
9 **REDUCED PRODUCTION IN THE DEFERRAL PERIOD?**

10 A. In Tab 10 of Confidential WIEC Exhibit No. 301.2, I detail the cost per ton of coal in the
11 Company's budget, compared to the cost per ton of coal produced in actual operations.⁶⁶
12 As can be noted from the exhibit, the cost per ton of coal delivered to the Jim Bridger
13 power plant, excluding any direct costs associated with the Joy Longwall recovery effort,
14 increased from \$ [REDACTED]/ton to \$ [REDACTED]/ton. The budgeted \$ [REDACTED]/ton is hardly a favorable
15 number when one considers that the market cost of coal is closer to \$11.00/ton.
16 Notwithstanding, the delivered cost of coal had increased by [REDACTED]% due to the lost
17 production associated with the Joy Longwall failure.

18 Accordingly, had the coal delivered to the Jim Bridger power plant corresponded
19 to the budgeted level of underground mine output, cost at the Jim Bridger power plant
20 would have been \$39.1 million lower than experienced in the Deferral Period, on a total-

⁶⁴ WIEC Exhibit No. 301.3, at page 20 (Company's Resp. to WIEC DR 3.1(a)).

⁶⁵ Confidential WIEC Exhibit No. 301.2, page 43.

⁶⁶ *Id.*, at page 37.

1 Company basis. This value can be obtained by multiplying the actual delivered tons
2 (██████████) by the difference between the actual cost per ton (\$██████████) and the budgeted
3 cost per ton (\$██████████), and I have used this value to determine the impact of my adjustment
4 related to the Joy Longwall, discussed above.

5 One important note with respect to this amount is that, as this coal enters the coal
6 pile of the Company, it is not immediately consumed. As a result of the Company's coal
7 pile accounting, a portion of this cost may flow through the cost of coal in the 2017 Deferral
8 Period. Based on the increased cost per ton experienced at the coal pile at the Jim Bridger
9 power plant, I estimate that approximately \$████ million of this cost has been reflected in
10 the cost of the coal pile, which will be consumed in 2017. To account for this, however,
11 would require a revaluation of the cost per ton included in the Company's coal pile. To
12 avoid such a revaluation, I have reduced the cost of coal in the test period by the entire
13 \$39.1 million amount, and did not revalue the expensive coal remaining in the coal pile.

14 **Q. HAS THE COMPANY PROVIDED FURTHER INFORMATION ABOUT THE**
15 **COST OF LOST PRODUCTION?**

16 A. WIEC Data Request 3.2(a) requested the Company confirm that it has not conducted an
17 analysis of the increased cost of coal at the Jim Bridger Power plant resulting from having
18 no active longwall system in place for the majority of 2016.⁶⁷ In its response, which was
19 received one business day prior to the filing of Direct Testimony, the Company appears to
20 confirm that lost production at the Bridger Underground mine did increase the cost of coal
21 at the Jim Bridger power plant. The Company alleges that an \$8.4 million dollar figure

⁶⁷ WIEC Exhibit No. 301.3, page 21 (Company's Resp. to WIEC DR 3.2(b)).

1 cited in testimony is representative of that cost. Unfortunately, the confidential workpapers
2 underlying that figure were not received in time to be reviewed for this testimony.

3 Based on my understanding, the \$8.4 million value does not, and was not intended
4 to, quantify the impact of the increased unit cost of coal from the Bridger Underground
5 mine. The Company certainly did not believe that this was the intent of its calculation
6 when responding to WIEC Data Request 2.4(c). Rather, the Company's analysis quantified
7 the impact of reduced generation at the Jim Bridger power plant, which was unrelated to
8 lost production at the mine. It was also based on a comparison between the generation
9 assumed in the 2015 GRC, which used a calendar year 2015 test period, to generation in
10 the calendar year 2016 Deferral Period. Thus, the Company's analysis is based on
11 misaligned periods and does not provide a meaningful indication of the lost mine
12 production associated with the Joy Longwall failure, although further review of the
13 Company's confidential workpapers underlying this amount are warranted to understand
14 precisely what that the amount represents.

15 In my view, comparison to the budgeted levels of mine output for 2016 provides
16 the best indication of the indirect cost impacts associated with lost production at the
17 underground mine. The July 2015 budget would have reflected the Company's expected
18 generation at the Jim Bridger power plant for 2016, and thus, is appropriately used to isolate
19 the indirect cost associated with the Joy Longwall failure for the purpose of considering
20 the prudence of the costs incurred as a result of the Joy Longwall failure.

1 **e. Regulatory Principles of Prudent Management**

2 **Q. WHAT RATEMAKING STANDARD DO YOU RECOMMEND BE APPLIED**
3 **WHEN CONSIDERING THE JOY LONGWALL COSTS IN THE ECAM?**

4 A. A longstanding regulatory principle, which was once described as a matter of “regulatory
5 common law,”⁶⁸ is that a public utility is only allowed to recover costs that are the result
6 of prudent management.⁶⁹ There are various theories that have been advanced over the
7 years underlying this principle. Professor Bonbright, for example, cites the prudent
8 investment principle as one of the foundational concepts underlying the use of original
9 cost, rather than replacement costs, in ratemaking. He notes “prudent investment is the
10 original historical cost minus any fraudulent, unwise, or extravagant outlays that should
11 not be a burden on ratepayers.”⁷⁰ Bonbright also block quotes Justice Brandeis’ dissenting
12 opinion in *Southwestern Bell* case, stating “the investor agrees, by embarking capital in a
13 utility, that its charges to the public shall be reasonable.”⁷¹ Thus, when considering the
14 Company’s proposal to include the Joy Longwall costs in the ECAM deferral balance, the
15 principle question before the Commission is whether those losses are prudent, and
16 reasonably included in the rates charged to customers in Wyoming.

17 One thing needs to be noted at this point with respect to applying the prudence
18 standard in the modern ratemaking environment. The prudent investment principle existed

68 NARUC, Utility Regulatory Policy, page 66 (Citation from Goodman, The Process of Ratemaking, Page 858, Footnote 1 (1998).

69 Goodman, The Process of Ratemaking, pages 855 – 883 (1998).

70 Bonbright, et al., Principles of Public Utility Rates, pages 222 – 224.

71 *State of Missouri ex rel. Southwestern Bell Tel. Co. v. Pub. Serv. Comm’n of Mo.*, 262 U.S. 276, 290 (1923).

1 long before the expansion of the various regulatory mechanisms that today's utilities often
2 use to recover costs. In fact, it was originally thought of primarily in terms of prudent
3 *investments*, and did not consider the degree to which extraordinary operating *costs*, such
4 as those related to the Joy Longwall in the ECAM, might be prudent. Utilities did not have
5 the opportunity to reach back and recover these sort of catastrophic losses at issue with
6 respect to the Joy Longwall, as mechanisms like the ECAM were not widely used at that
7 time. Mechanisms such as the ECAM serve an interesting role within the context of
8 ratemaking, in that they allow a Company to more closely align rates with the actual
9 variable cost of providing service. In this sense, one might argue ratemaking for ECAM
10 has moved even further away from any concept of the value of service, towards cost.
11 Accordingly, when considering the prudent investment principle with respect to an
12 extraordinary loss in a deferral mechanism, in contrast to an investment, one might argue
13 that the prudent management principle ought to be considered as a heightened standard
14 since, absent the mechanisms, the utility would be prohibited under retroactive ratemaking
15 principles from including in rates extraordinary historical losses that have previously been
16 charged to operating income.

17 **Q. HOW DO YOU RECOMMEND THE COMMISSION DETERMINE WHETHER**
18 **THE COMPANY ACTED PRUDENTLY IN THIS CASE?**

19 A. With respect to an investment, the presumption favors utility management.⁷² This notion
20 was established in *Southwestern Bell*. However, when dealing with extraordinary costs in
21 a deferral mechanism, such as the ECAM, one might argue that a different presumption

⁷² *Southwestern Bell* 262 U.S. 276 (1923).

1 applies. That is, since the utility would have been prohibited from including historical
2 losses in rates under the principles of retroactive ratemaking, that it must affirmatively
3 demonstrate the reasonableness of all costs it proposes to collect from customers through
4 a deferral mechanism. A utility must be allowed to recoup prudently incurred investments,
5 as the denial of such costs would be confiscatory to the utility. The same, however, is not
6 true for historical costs. For historical extraordinary losses, such as those at issue with
7 respect to the Joy Longwall, the presumption is that retroactive ratemaking principals
8 would prohibit recovery. Given the evidence at hand, however, such a distinction would
9 be largely irrelevant in the current investigation.

10 **Q. WHAT SHOWING IS REQUIRED TO OVERCOME THE PRESUMPTION IN**
11 **FAVOR OF MANAGEMENT?**

12 A. “An allegation of imprudence must be supported by evidence that creates a serious doubt
13 regarding the prudence of the investment,”⁷³ or in this case historical cost. It is not
14 sufficient to simply identify a cost, or to identify a particular decision resulting in a cost.
15 Notwithstanding, “[o]nce the presumption of prudent management has been overcome with
16 a *prima facie* case of imprudence, then the burden of going forward with evidence shifts
17 to the utility.”⁷⁴ Thus, once a case has been made, it is the responsibility of the utility to
18 affirmatively demonstrate that it acted with care and diligence.

⁷³ Goodman, *The Process of Ratemaking*, page 861 (1998), citing *Minnesota Power and Light Co.*, 11FERC ¶61,312 (1980).

⁷⁴ *Id.*

1 **Q. WHAT FACTORS SHOULD BE CONSIDERED WHEN EVALUATING THE**
2 **ACTIONS OF A UTILITY?**

3 A. Actions of a utility with respect to imprudent management are considered not on the basis
4 of hindsight, but on whether the decisions were reasonable given the information that was
5 known at the time.⁷⁵ That is not to say, however, that the hindsight principle is a static
6 principle, that would ignore any recognition of changing circumstances. In the case of the
7 Shoreham Nuclear Facility, for example, the New York Public Service Commission noted
8 “that a company must be held to account if it fails to respond adequately to changing
9 circumstances or to new challenges that may arise as a project progresses.”⁷⁶ Thus, it is not
10 sufficient for a utility to claim that it could not have reasonably foreseen an issue, if it did
11 not properly respond when confronted with an issue. If the utility failed to take appropriate
12 corrective action at the time the issue arose, the resulting costs should not be considered
13 prudent, even if the utility had no way of foreseeing that the problem would arise.

14 **f. Conclusion**

15 **Q. BASED ON THESE PRINCIPLES, WHAT IS YOUR CONCLUSION?**

16 A. The evidence identified in discovery provides clear evidence of imprudence. When
17 developing the strategy associated with transferring the Joy Longwall, the Company
18 neglected to properly assess the risks associated with using the Joy Longwall to mine areas
19 of the Bridger Underground mine with low coal seam height. In developing its strategy,

⁷⁵ Bonbright, et al., *Principles of Public Utility Rates*, page 238.

⁷⁶ Goodman, *The Process of Ratemaking*, page 862 (1998), citing *Long Island Lighting Company—Phase II—Proceeding on Motion of Commission to Investigate Cost of Construction of Shoreham Nuclear Generating Facility*, N.Y.PSC Order No 85-23 CCH Utils. Law Rep ¶124,922, p. 60,528 (1985).

1 the Company was aware that it would encounter areas where it would have to mine outside
2 of the coal seam. The Company was also aware of the risks associate with mining into the
3 floor of the coal seam. Notwithstanding, those risks were not considered by the Company
4 when it developed its strategy of transferring the Joy Longwall.

5 Shortly after the longwall was transferred, slow progress in the 14th Right longwall
6 panel indicate that the Company's strategy was not succeeding. The Company was aware
7 of the grave consequences that would result if it mined into the soft claystone area beneath
8 the thin sandstone floor of the coal seam, yet the evidence shows that the Company had
9 been mining into the floor almost continually since the Joy Longwall began operating. In
10 December 2015, when conditions worsened due to the narrowing coal seam, the Company
11 has not identified a single precaution that was undertaken to avoid exposing the soft
12 claystone. Confronted with these circumstances, the Company continued to mine more
13 extensively into the floor of the coal seam ultimately leading to the failure of the shields
14 and immobilization of the shearer.

15 Taking this evidence into consideration, I believe that the costs in question are the
16 direct result of multiple layers of imprudent actions on the part of the Company, and for
17 that reason, the Company should not be provided with the opportunity to include those
18 costs in the ECAM balance. As detailed in Confidential WIEC Exhibit No. 301.2, the
19 impact of removing these costs from the deferral balances is to increase the ECAM refund
20 by approximately \$7.0 million, corresponding to a total refund of \$11.9 million.

21 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

22 **A. Yes.**

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UE 327

In the Matter of)
)
PACIFICORP, dba PACIFIC POWER,)
)
2016 Power Cost Adjustment Mechanism.)
_____)

EXHIBIT NO. ICNU/104

COMPANY RESPONSE TO ICNU DR 002 AND ATT. ICNU-002-1

UE 327 / PacifiCorp
August 4, 2017
ICNU Data Request 002

ICNU Data Request 002

Please provide the Company's Response to Wyoming Industrial Energy Consumers' (WIEC) Data Request 1.6, concerning the abandonment of the Joy Longwall, in Wyoming Public Service Commission Docket No. 20000-514-EA-17, the 2017 Wyoming Energy Cost Adjustment Mechanism filing of the Company. (For reference purposes, please include the text of the WIEC request with the Company's response).

Response to ICNU Data Request 002

The Company objects to this request as overly broad and not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, the Company responds as follows:

Please refer to Attachment ICNU 002 -1 and Confidential Attachment ICNU 002 -2.

Confidential information is designated as Protected Information under Order No. 17-276 and may only be disclosed to qualified persons as defined in that order.

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.

20000-514-EA-17 / Rocky Mountain Power
July 5, 2017
WIEC Data Request 1.6

WIEC Data Request 1.6

Reference the Direct Testimony of Mr. Wilding at page 16, line 12 through page 19, line 10, concerning the abandonment of the Joy Longwall:

- (a) Please provide any correspondence or reports in the Company's possession between the Company and the Mine Safety and Health Administration concerning the incident leading to, and encompassing, the abandonment of the Joy Longwall.
- (b) Please state the gross book value, depreciation reserves and allowance for deferred income taxes associated with the Joy Longwall, immediately prior the Company abandoning it.
- (c) Please state the total amount of abandonment losses and depreciation expense associated with the Joy Longwall reflected in net power costs in this matter.
- (d) Please provide an explanation for the depreciation methodology used with respect to the Joy Longwall.
- (e) Please provide any internal memoranda discussing the incident leading to, and encompassing, the abandonment of the Joy Longwall.
- (f) Please provide any root-cause analyses, or similar engineering reports, which discuss the incident leading to, and encompassing, the abandonment of the Joy Longwall.
- (g) Please identify the precise date that the Joy Longwall became stuck.
- (h) Please identify the precise date that the Company decided to abandon the Joy Longwall.
- (i) Please provide operating logs for the Joy Longwall for the period September 1, 2016 to December 31, 2016.
- (j) Please identify the precise date that the Joy Longwall was transferred to the Bridger Coal Company.
- (k) Please state the transfer price associated with the transfer of the Joy Longwall to Bridger Coal Company.
- (l) Please state the gross book value, depreciation reserves and allowance for deferred income taxes of the Joy Longwall, immediately prior to being transferred to Bridger Coal Company.

Response to WIEC Data Request 1.6

- (a) Please refer to Confidential Attachment WIEC 1.6 -1, which provides correspondence between the Company and the Mine Safety and Health Administration (MSHA),

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relating to the abandonment of the Joy Longwall.

- (b) The gross book value of the Joy Longwall prior to the abandonment was \$17,753,950, on the books of Bridger Coal Company (BCC), excluding construction work in progress (CWIP), materials and supplies, and deferred Longwall costs. PacifiCorp's two-thirds share of this amount is \$11,835,967. The accumulated depreciation was \$1,310,951 on BCC books, resulting in \$873,967 for PacifiCorp's two-thirds share. The PacifiCorp two-thirds share of the allowance for deferred income taxes prior to the abandonment was \$2,658,071 (two-thirds of the Bridger Coal deferred income taxes of \$3,987,106).
- (c) The abandonment loss reflected in the filing is \$18.8 million, of which PacifiCorp's two-thirds share is \$12.5 million. Depreciation applicable to the Joy Longwall, recorded by BCC for 2016, was \$26,612, of which PacifiCorp's two-thirds share is \$17,742. This amount is relatively low due to the limited "number of cycles" realized in 2016. Please refer to the Company's response to subpart (d) below, which provides an explanation of the dependency of depreciation expense on "cycles". These amounts were included in the delivered cost of coal, a portion of which was included in fuel costs at the Jim Bridger Plant in 2016, based on actual coal consumed at the weighted average price of coal in the stockpile.

Note: A portion of the BCC depreciation booked on the Joy Longwall includes an amount allocable to the refurbishment of the Longwall equipment, the transportation / freight costs borne by BCC, as well as sales taxes on the transaction, which were not part of the net book value (NBV) of the assets sold.

- (d) The Joy Longwall Mining System consists of several major components assembled into a single mining system working simultaneously to extract coal on a continuous basis. At the time of acquisition it was anticipated that all major components would have the same useful service life, thus the Joy Longwall System was placed in property, plant and equipment investment records as one asset or system.

Calculation of depreciation expense is based upon the "number of cycles" the system advances during a monthly reporting period. With each pass of the shearing machine (which extracts coal from the work face), the longwall system advances to maintain proper operating distance from the receding coal face. These system advances are known as cycles. The longwall shields / supports are designed to perform a specific number of cycle advances.

- (e) PacifiCorp objects to this request to the extent it requests information protected by the attorney-client privilege or attorney work product doctrine. Without waiving these objections, PacifiCorp responds as follows:

Please refer to the Company's response to subpart (a) above and subpart (f) below.

- (f) PacifiCorp objects to the extent it requests information protected by the attorney-client privilege or attorney work product doctrine. Without waiving these objections, PacifiCorp responds as follows:

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July 5, 2017
WIEC Data Request 1.6

Please refer to Confidential Attachment WIEC 1.6 -2, which provides documents outlining the chronology of and engineering reviews relating to the Joy Longwall recovery effort and the final report of investigation.

- (g) The Joy Longwall lost advancement capabilities over a period of time, between December 23, 2015 and December 31, 2015. Please refer to the Company's response to subpart (f) above.
- (h) The Company decided to abandon the Joy Longwall on October 7, 2016.
- (i) Please refer to Confidential Attachment WIEC 1.6 -3, which provides the Joy Longwall operating logs for the time period requested.
- (j) The Joy Longwall was transferred to BCC in multiple shipments and was placed in-service on September 1, 2015. It was then invoiced to BCC following required approval of the affiliate transaction by certain regulatory bodies.
- (k) The Joy longwall was transferred to BCC for \$16,776,509, which consisted of the market value of the equipment of \$13,303,700, plus reimbursement of \$2,986,980 for the cost of rebuilding the equipment, and \$485,829 for transportation of the equipment to BCC. PacifiCorp's two-thirds share of the amounts recorded on BCC books would be as follows:

PacifiCorp Share of Total Transferred	<u>\$11,184,339</u>
Consisting of:	
a. Market value	\$ 8,869,133
b. Reimbursement for cost of rebuilding	\$ 1,991,320
c. Transportation	\$ 323,886

Note: The amounts shown do not include sales taxes paid by BCC on the transaction.

- (l) The gross book value of the Joy Longwall on PacifiCorp's books prior to the transfer to BCC was \$34,828,774, with accumulated depreciation reserves of \$(12,668,485), for a net book value of \$22,160,289. The allowance for deferred income taxes was \$7,786,837 (Total PacifiCorp).

Confidential information is provided subject to the terms and conditions of the protective agreement in this proceeding.

Respondent: Bradley Davis

Witness: Michael G. Wilding

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UE 327

In the Matter of)
)
PACIFICORP, dba PACIFIC POWER,)
)
2016 Power Cost Adjustment Mechanism.)
_____)

**CONFIDENTIAL EXHIBIT NO. ICNU/105
MINE SAFETY AND HEALTH ADMINISTRATION (“MSHA”)
CORRESPONDENCE ON JOY LONGWALL**

(REDACTED VERSION)

EXHIBIT ICNU/105 CONTAINS PROTECTED INFORMATION AND HAS BEEN REDACTED IN ITS ENTIRETY.

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UE 327

In the Matter of)
)
PACIFICORP, dba PACIFIC POWER,)
)
2016 Power Cost Adjustment Mechanism.)
_____)

CONFIDENTIAL EXHIBIT NO. ICNU/106
COMPANY FINAL REPORT ON JOY LONGWALL INVESTIGATION
(REDACTED VERSION)

EXHIBIT ICNU/106 CONTAINS PROTECTED INFORMATION AND HAS BEEN REDACTED IN ITS ENTIRETY.