



Oregon

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Public Utility Commission

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April 13, 2012

Via Electronic Filing

OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
PO BOX 2148
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**RE: Docket No. UE 233- Phase II – In the Matter of
IDAHO POWER COMPANY Request for General Rate Revision.**

Enclosed for electronic filing in the above-captioned docket is the Public
Utility Commission Staff's Response Testimony.

/s/ Mark Brown

Mark Brown

Utility Program

Filing on Behalf of Public Utility Commission Staff

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c: UE 233 Service List (parties)

**PUBLIC UTILITY COMMISSION
OF OREGON**

UE 233 - Phase II

STAFF RESPONSE TESTIMONY OF

Erik Colville

**In the Matter of
IDAHO POWER COMPANY
Request for General Rate Revision.**

April 13, 2012

CASE: UE 233
WITNESS: Erik Colville

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 1000

Response Testimony

April 13, 2012

1 **Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS**
2 **ADDRESS.**

3 A. My name is Erik Colville. I am a Senior Utility Analyst for the Public Utility
4 Commission of Oregon. My business address is 550 Capitol Street NE
5 Suite 215, Salem, Oregon 97301-2551.

6 **Q. HAVE YOU FILED TESTIMONY PREVIOUSLY IN THIS CASE?**

7 A. No.

8 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
9 **WORK EXPERIENCE.**

10 A. I graduated with a Bachelor of Science in Agricultural Engineering degree
11 from Washington State University in June 1979, and a Master of Business
12 Administration degree from City University of Seattle in June 1989. I have
13 been a Licensed Professional Engineer since 1984, and licensed as such
14 in Oregon since 1997. I have approximately 31 years of professional
15 engineering experience, including approximately 23 years evaluating,
16 planning, permitting, designing, and supporting construction of energy
17 generation facilities. I have been a utility analyst for approximately two
18 years.

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

20 A. The purpose of my testimony is to analyze the prudence of approximately
21 \$8.2 million of incremental investment at Unit 3 of the Jim Bridger power
22 plant (Jim Bridger Unit 3) related to the installation of pollution control
23 equipment during 2011(the Jim Bridger Unit 3 Scrubber Upgrade Project).

1 My testimony provides an overview of the Jim Bridger Unit 3 Scrubber
2 Upgrade Project, a description of what drove Idaho Power to make this
3 incremental investment in the Jim Bridger Unit 3, a discussion of cost-
4 effective alternatives to this incremental investment, a summary of the
5 basis for the claimed incremental investment amount, and a description of
6 my analysis and conclusion related to the prudence of the incremental
7 investment made by Idaho Power.

8 **Q. DID YOU PREPARE EXHIBITS FOR THIS DOCKET?**

9 A. Yes. I prepared Exhibit Staff/1001, consisting of one page.

10 **Q. PLEASE SUMMARIZE YOUR CONCLUSION.**

11 A. I conclude the incremental investment made by Idaho Power for the
12 installation of pollution control equipment during 2011 at Jim Bridger Unit 3
13 was prudent.

14 **Q. WHAT WAS THE JIM BRIDGER UNIT 3 SCRUBBER UPGRADE
15 PROJECT?**

16 A. Idaho Power, along with the plant co-owner PacifiCorp, upgraded the
17 existing scrubbers for the Jim Bridger Unit 3 to improve the removal of
18 sulfur dioxide (SO₂) from the plant emissions. The work was completed in
19 the spring of 2011, during a planned outage. The Company's share of the
20 capital investment in the project is claimed to be \$8.2 million during the
21 test year.

22

1 According to the January 2007 Best Available Retrofit Technology (BART)
2 Analysis for Jim Bridger Unit 3 by CH2M Hill, upgrading the wet FGD
3 system would achieve an SO₂ outlet emission rate of 0.10 lb/MMBtu (91.7
4 percent SO₂ removal) by closing the bypass damper to eliminate routine
5 bypass flue gas flow used to reheat the treated flue gas from the scrubber,
6 relocating the opacity monitor, adding new fans, adding a stack liner and
7 drains for wet operation, and using a refined soda ash reagent.

8 **Q. WHAT DROVE IDAHO POWER TO MAKE THIS INCREMENTAL**
9 **INVESTMENT IN JIM BRIDGER UNIT 3?**

10 A. The Regional Haze Rule (RHR) was established by the Federal
11 Environmental Protection Agency (EPA) in 1999 to address regional haze
12 in 156 national parks and wilderness areas (Class 1 areas) in the United
13 States. Under these regulations, states are required to develop strategies
14 to reduce emissions that contribute to regional haze and demonstrate
15 "reasonable progress" toward emissions reductions. The Rules require 26
16 categories of major stationary sources of pollution — including electric
17 generating units (EGUs) — to install BART if the state determines the
18 source may reasonably be anticipated to cause or contribute to any
19 impairment of visibility in any Class I area. BART, for the period through
20 2018, for certain states could be met using an alternative trading program
21 — but only if it achieved greater progress in improving visibility. In
22 compliance with the alternative trading program provisions, the states of
23 Wyoming, Utah, and New Mexico formed the Regional SO₂ Milestone and

1 Backstop Trading Program, which established annual emissions targets
2 from 2003 to 2018. Under this alternative trading program it was
3 determined that the Jim Bridger Unit 3 would need to meet an SO₂
4 emission limit of 0.15 lb/MMBtu. After 2018, the non-alternative trading
5 program BART requirements must be met. This rate of 0.15 lb/MMBtu is
6 also considered BART by the EPA in the RHR, thus supporting
7 compliance with the post-2018 requirements.

8
9 In summary, Idaho Power contends the investment in the scrubber
10 upgrade was required to comply with existing regulations, specifically, the
11 Regional SO₂ Milestone and Backstop Trading Program developed in
12 alignment with existing federal regulations and administered in Utah and
13 Wyoming, state-issued construction and operating permits, and state
14 implementation plans. The Company also contends the scrubber upgrade
15 will support compliance with the post-2018 RHR requirements, the
16 National Ambient Air Quality Standards, and the Mercury and Air Toxics
17 Standard (MATS).

18 **Q. WERE THERE COST-EFFECTIVE ALTERNATIVES TO THIS**
19 **INCREMENTAL INVESTMENT?**

20 A. Yes. PacifiCorp, as the plant operator and majority owner, completed
21 detailed analyses of the appropriate technology to be applied to this
22 BART-eligible facility to achieve established emissions control objectives.
23 The detailed analyses are presented in the January 2007 BART Analysis

1 for Jim Bridger Unit 3 by CH2M Hill, and its March 2008 Addendum. Idaho
2 Power contends that after a thorough review of the analysis, the owners
3 concluded that upgrading the scrubbers presented the most cost-effective
4 method to bring the Jim Bridger Unit 3 into compliance with current,
5 proposed, and probable environmental regulations.

6 **Q. WHAT IS THE BASIS FOR THE CLAIMED INCREMENTAL**
7 **INVESTMENT AMOUNT?**

8 A. Idaho Power claims its share of cost for the scrubber upgrade for Jim
9 Bridger Unit 3 is \$8.2 million, in 2011 dollars. Idaho Power has a 33.3
10 percent share in this Unit, making the total project cost \$24.6 million. The
11 2007 study by CH2M Hill presented a cost estimate of \$13 million (2007
12 dollars) for the scrubber upgrade. The 2008 study addendum presented a
13 cost estimate of \$25.3 million, in 2012 dollars.

14 **Q. DESCRIBE YOUR ANALYSIS AND CONCLUSION RELATED TO THE**
15 **PRUDENCE OF THE INCREMENTAL INVESTMENT MADE BY IDAHO**
16 **POWER.**

17 A. I evaluated the suite of regulatory requirements and conclude that an
18 investment to upgrade SO2 capture from Jim Bridger Unit 3 emissions is
19 required for the Unit to continue operation until 2018. Further, I considered
20 and agree with the Company's claim that the scrubber upgrade will
21 support compliance with the post-2018 RHR requirements, and with
22 MATS compliance. Because the upgrades are necessary to bring the Unit

1 into compliance, I conclude the upgrades are used to provide utility
2 service to customers.

3
4 I reviewed the 2007 study and 2008 study addendum commissioned by
5 PacifiCorp whereby CH2M Hill analyzed alternative compliance
6 approaches, and I conclude that the scrubber upgrade appears to be the
7 most cost effective alternative for compliance until 2018. In addition, the
8 project cost of \$25.3 million, in 2012 dollars, presented in the CH2M Hill
9 study, at an assumed four percent annual inflation, would be \$24.3 million
10 in 2011 dollars. Idaho Power's 33.3 percent share would be \$8.1 million,
11 thus confirming the \$8.2 million cost claimed by Idaho Power in this case.

12
13 I prepared an analysis comparing the net present value (NPV) of
14 continuing operation of the Jim Bridger Unit 3 until 2018 compared with
15 replacing it with a combined cycle combustion turbine (CCCT) fueled with
16 natural gas. My analysis is presented on Exhibit 1. My analysis shows
17 that, for the period between 2011 and 2018, Idaho Power's share of the
18 NPV benefit of continuing operation of the Jim Bridger Unit 3 compared to
19 replacing it with a CCCT is more than \$200 million. This analysis is
20 presented in Exhibit Staff/1001. With a NPV benefit of continuing
21 operation of the Unit that is significantly larger than the incremental
22 investment made by Idaho Power, I conclude Idaho Power reasonably
23 invested in the Jim Bridger Unit 3 Scrubber Upgrade Project. Based on my

1 analysis described above, I conclude the incremental investment made by
2 Idaho Power for the installation of pollution control equipment during
3 2011 at Jim Bridger Unit 3 is prudent.

4 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

5 A. Yes.

CASE: UE 233
WITNESS: Erik Colville

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 1001

**Exhibit in Support of
Response Testimony**

April 13, 2012

UE 233 - Jim Bridger 3 NPV Comparison with a Replacement Resource

Erik Colville, PE
7-Mar-12

- 353 Nameplate Capability (MW)
- 33.30% Idaho Power's Share
- 8760 Hours per Year
- 85.0% Capacity Factor Assumed
- \$51.77 Exist Coal Plants Avg Gen Cost From 2011 IRP Commission Presentation (Lvl \$/MWhr)
- \$107.69 Combined Cycle Combustion Turbine Gen Cost from 2011 IRP (Lvl \$/MWhr) ----->
- 7.00% Discount Rate from 2011 IRP
- 3.00% O&M Inflation Rate from 2011 IRP
- \$17 Coal Dispatch Cost, From 2010 FERC Form 1 - fuel cost/MWhr
- \$56 CCCT Dispatch Cost, From Idaho Power and PacifiCorp 2010 FERC Form 1s - avg of \$37-\$75 fuel cost/MWhr

PacifiCorp 2011 IRP Table 6.3 lists CCCT at \$65-70/MWhr Lvl
EIA 2011 Annual Energy Outlook lists CCCT at \$70/MWhr Lvl
(\$66/MWhr in 2009 \$)

	2011	2012	2013	2014	2015	2016	2017	2018	NPV
Generation Cost Basis									
JB3	\$45,312,720	\$45,312,720	\$45,312,720	\$45,312,720	\$45,312,720	\$45,312,720	\$45,312,720	\$45,312,720	\$270,575,779
CCCT	\$94,257,811	\$94,257,811	\$94,257,811	\$94,257,811	\$94,257,811	\$94,257,811	\$94,257,811	\$94,257,811	\$562,841,523
									\$292,265,744
Dispatch Cost Basis									
JB3	\$14,879,588	\$15,325,975	\$15,785,754	\$16,259,327	\$16,747,107	\$17,249,520	\$17,767,006	\$18,300,016	\$97,732,211
CCCT	\$49,015,112	\$50,485,565	\$52,000,132	\$53,560,136	\$55,166,940	\$56,821,948	\$58,526,607	\$60,282,405	\$321,941,400
									\$224,209,189

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Idaho Power
would have to
spend more than
this on plant
additions before
2018 to justify
replacing the
plant

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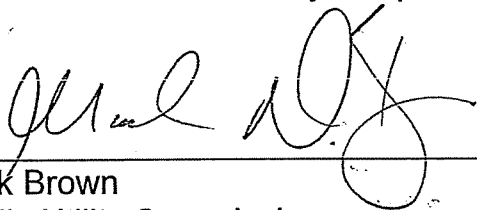
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CERTIFICATE OF SERVICE

UE 233 - Phase II

I certify that I have this day served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180, to the following parties or attorneys of parties.

Dated this 13th day of April, 2012 at Salem, Oregon.

A handwritten signature in black ink, appearing to read 'Mark Brown', written over a horizontal line.

Mark Brown
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