



Oregon

John A. Kitzhaber, MD. Governor

Public Utility Commission

550 Capitol St NE, Suite 215

Mailing Address: PO Box 2148

Salem, OR 97308-2148

Consumer Services

1-800-522-2404

Local: (503) 378-6600

Administrative Services

(503) 373-7394

June 20, 2012

Via Electronic Filing

OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
PO BOX 2148
SALEM OR 97308-2148

**RE: Docket No. UE 233 – 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 Testimony re: Bridger Power Plant (Unit 3).

/s/ Kay Barnes

Kay Barnes

Filing on Behalf of Public Utility Commission Staff

(503) 378-5763

Email: kay.barnes@state.or.us

c: UE 233 Service List (parties)

CERTIFICATE OF SERVICE

UE 233

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 20th day of June, 2012 at Salem, Oregon



Kay Barnes

Public Utility Commission
550 Capitol St NE Ste 215
Salem, Oregon 97301-2551
Telephone: (503) 378-5763

UE 233
SERVICE LIST (PARTIES)

DON READING (C) (HC) (W)	6070 HILL ROAD BOISE ID 83703 dreading@mindspring.com
ATTORNEY AT LAW	
JOSHUA D JOHNSON (C) (HC) (W)	101 S. CAPITOL BLVD., STE 300 BOISE ID 83702 jdj@racinelaw.net
ERIC L OLSEN (C) (HC) (W)	201 E CENTER ST POCATELLAO ID 83201 elo@racinelaw.net
CITIZENS' UTILITY BOARD OF OREGON	
GORDON FEIGHNER (C) (HC) (W) ENERGY ANALYST	610 SW BROADWAY, STE 400 PORTLAND OR 97205 gordon@oregoncub.org
ROBERT JENKS (C) (HC) (W) EXECUTIVE DIRECTOR	610 SW BROADWAY, STE 400 PORTLAND OR 97205 bob@oregoncub.org
G. CATRIONA MCCRACKEN (C) (HC) (W) LEGAL COUNSEL/STAFF ATTY	610 SW BROADWAY, STE 400 PORTLAND OR 97205 catriona@oregoncub.org
DAVISON VAN CLEVE	
IRION A SANGER (W) ASSOCIATE ATTORNEY	333 SW TAYLOR - STE 400 PORTLAND OR 97204 ias@dvclaw.com
DAVISON VAN CLEVE PC	
MELINDA J DAVISON(W)	333 SW TAYLOR - STE 400 PORTLAND OR 97204 mjd@dvclaw.com; mail@dvclaw.com
ESLER STEPHENS & BUCKLEY	
JOHN W STEPHENS(W)	888 SW FIFTH AVE STE 700 PORTLAND OR 97204-2021 stephens@eslerstephens.com; mec@eslerstephens.com
IDAHO POWER COMPANY	
CHRISTA BEARRY (C) (HC) (W)	PO BOX 70 BOISE ID 83707-0070 cbearry@idahopower.com
LISA D NORDSTROM (C) (HC) (W) ATTORNEY	PO BOX 70 BOISE ID 83707-0070 lnordstrom@idahopower.com

MCDOWELL RACKNER & GIBSON PC	
LISA F RACKNER (C) (HC) (W) ATTORNEY	419 SW 11TH AVE., SUITE 400 PORTLAND OR 97205 dockets@mcd-law.com
NW ENERGY COALITION	
WENDY GERLITZ (W) SENIOR POLICY ASSOCIATE	1205 SE FLAVEL PORTLAND OR 97202 wendy@nwenergy.org
PACIFIC POWER	
R. BRYCE DALLEY (W) DIRECTOR, REGULATORY AFFAIRS AND REVENUE	825 NE MULTNOMAH ST., STE 2000 PORTLAND OR 97232 bryce.dalley@pacificcorp.com
SARAH WALLACE (W) SENIOR COUNSEL	825 NE MULTNOMAH ST STE 1800 PORTLAND OR 97232 sarah.wallace@pacificcorp.com
PACIFICORP, DBA PACIFIC POWER	
OREGON DOCKETS (W)	825 NE MULTNOMAH ST, STE 2000 PORTLAND OR 97232 oregondockets@pacificorp.com
PORTLAND GENERAL ELECTRIC	
RANDY DAHLGREN (W)	121 SW SALMON ST - 1WTC0702 PORTLAND OR 97204 pge.opuc.filings@pgn.com
DOUGLAS C TINGEY (W)	121 SW SALMON 1WTC13 PORTLAND OR 97204 doug.tingey@pgn.com
PUBLIC UTILITY COMMISSION	
ERIK COLVILLE (C) (HC) (W)	PO BOX 2148 SALEM OR 97308-2148 erik.colville@state.or.us
JUDY JOHNSON (C) (HC) (W)	PO BOX 2148 SALEM OR 97308-2148 judy.johnson@state.or.us
PUC STAFF--DEPARTMENT OF JUSTICE	
STEPHANIE S ANDRUS (C) (HC) (W)	BUSINESS ACTIVITIES SECTION 1162 COURT ST NE SALEM OR 97301-4096 stephanie.andrus@state.or.us
REGULATORY & COGENERATION SERVICES INC	
DONALD W SCHOENBECK (W)	900 WASHINGTON ST STE 780 VANCOUVER WA 98660-3455 dws@r-c-s-inc.com

RENEWABLE NORTHWEST PROJECT	
MEGAN WALSETH DECKER (W)	421 SW 6TH AVE #1125 PORTLAND OR 97204-1629 megan@rnp.org
RICHARDSON & O'LEARY	
GREGORY M. ADAMS (C) (HC) (W)	PO BOX 7218 BOISE ID 83702 greg@richardsonandoleary.com
RICHARDSON & O'LEARY PLLC	
PETER J RICHARDSON (C) (HC) (W)	PO BOX 7218 BOISE ID 83707 peter@richardsonandoleary.com
UTILITY NET.INC	
ANTHONY J YANKEL (C) (HC) (W)	29814 LAKE RD BAY VILLIAGE OH 44140 tony@yankel.net



**PUBLIC UTILITY COMMISSION
OF OREGON**

UE 233 - Phase II

**STAFF TESTIMONY
OF**

ERIK COLVILLE

**RE: BRIDGER POWER PLANT
(UNIT 3)**

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

June 20, 2012

CASE: UE 233
WITNESS: Erik Colville

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 1100

Rebuttal Testimony

June 20, 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. Yes.

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

9 A. As the Commission's witness related to prudence of coal plant
10 investments my testimony provides a discussion explaining the Public
11 Utility Commission of Oregon Staff's determination that Idaho Power's
12 2007-2008 action was prudent. That action being to upgrade the existing
13 scrubbers for the Jim Bridger Unit 3 to improve the removal of sulfur
14 dioxide (SO₂) from the plant emissions to comply with environmental
15 regulations (Scrubber Upgrade Project). Because I have identified some
16 infirmities in Idaho Power's decision process, I also provide testimony
17 recommending that the Commission clarify its expectations regarding
18 utilities' analyses prior to environmental compliance investments at coal
19 plants.

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

21 A. Yes. I prepared Staff/1101 consisting of one page.

22 **Q. PLEASE SUMMARIZE YOUR CONCLUSION.**

1 A. Prudence is determined by the reasonableness of the actions based on
2 information that was available (or could reasonably have been available)
3 at the time. I examined the reasonableness of Idaho Power's decision to
4 invest in the Scrubber Upgrade Project and conclude the action was
5 prudent. Even though Idaho Power's action to invest in the Scrubber
6 Upgrade Project was reasonable, I conclude that Idaho Power's decision
7 process had some infirmities. To help ensure an improved process going
8 forward, I recommend that the Commission clarify in this docket its
9 expectations regarding analyses prior to environmental compliance
10 investments at coal plants.

11 **Q. HOW DOES THE COMMISSION DETERMINE PRUDENCE?**

12 A. "Prudence is determined by the reasonableness of the actions 'based on
13 information that was available (or could reasonably have been available)
14 at the time.'" (*In re PGE*, UE 102, Order No. 99-033 at 36-37.)¹

15 **Q. IS IT POSSIBLE TO CONCLUDE THAT INVESTMENT IN THE**
16 **SCRUBBER UPGRADE PROJECT WAS PRUDENT**
17 **NOTWITHSTANDING THE DECISION INFIRMITIES?**

18 A. Yes. Prudence is determined by the reasonableness of the actions based
19 on information that was available (or could reasonably have been
20 available) at the time. The Commission has clarified that "if the record
21 demonstrates that a challenged business decision was reasonable, taking

¹ See also *In re Northwest Natural Gas*, UG 132, Order No. 99-697 at 52:
("In this review, therefore, we must determine whether the NW Natural's actions and decisions,
based on what it knew or should have known at the time, were prudent in light of existing
circumstances.")

1 into account established historical facts and circumstances, the utility's
2 decision must be upheld as prudent even if the record lacks detail on the
3 utility's actual subjective decision making process." (See Order No. 02-
4 469 p. 5; *In re PacifiCorp* (Commission adopting PacifiCorp's description
5 of the legal standard for determining prudence.)) Under this standard, a
6 utility's action can be prudent even if the process leading up to the
7 decision has infirmities. A utility's decision process is probative on
8 whether the action itself is prudent, but under the Commission's prudence
9 standard, the primary focus of the inquiry is on the objective
10 reasonableness of the action, not on the process leading to it.

11 **Q. WHAT WAS THE COMPANY'S ACTION?**

12 A. In 2008, Idaho Power, along with the plant co-owner PacifiCorp, decided
13 to upgrade the existing scrubbers for the Jim Bridger Unit 3 to improve the
14 removal of SO₂ from the plant emissions. In 2008, PacifiCorp issued a
15 Request for Proposals to complete the project and in December 2008,
16 entered into an engineering, procurement and construction (EPC) contract
17 for the upgrade. The work was completed in the spring of 2011, during a
18 planned outage. Idaho Power's share of the capital investment in the
19 project is claimed to be \$8.2 million.

20 **Q. WAS IDAHO POWER'S ACTION TO INVEST IN THE SCRUBBER**
21 **UPGRADE PROJECT REASONABLE GIVEN WHAT IDAHO POWER**
22 **KNEW, OR SHOULD HAVE KNOWN?**

- 1 A. Yes. In the period leading to the decision to proceed with the Scrubber
2 Upgrade Project (2007- 2008), the plant owners knew with certainty that
3 to keep Jim Bridger Unit 3 operational, the coal plant unit would be
4 required to comply with existing regulations including:
- 5 • Regional Haze Rules related to nitrogen oxides (NOx) and
6 particulate matter (PM):
 - 7 • National Ambient Air Quality Standards;
 - 8 • Regional SO2 Milestone and Backstop Trading Program developed
9 in alignment with existing federal regulations and administered in
10 Utah and Wyoming;
 - 11 • State-issued construction and operating permits, and
 - 12 • State implementation plans (Idaho Power/1300 Carstensen/2).

13

14 Also, the owners knew with certainty a consensus had been reached
15 between PacifiCorp (the majority owner of the coal plant unit) and the
16 State of Wyoming to develop a plan that, in addition to achieving the SO2
17 milestones, would:

- 18 • Meet the expected requirements of upcoming environmental
19 regulations, such as Regional Haze Best Available Retrofit
20 Technology (RH BART), National Ambient Air Quality Standards
21 (which includes the 1 Hour SO2 Standards); and

- 1 • The surrogate level for compliance with the Mercury and Air Toxics
2 Standards (MATS) Acid Gas requirement (Idaho Power/1300
3 Carstensen/3)

4 In addition, the Company should have known of an EPA proposed rule for
5 coal combustion residuals (CCR), and initial work on an effluent guideline
6 rule and a cooling water intake rule (316b). Lastly, the Company should
7 have known of the future possibility for some form of carbon dioxide (CO₂)
8 emission regulation. What Idaho Power knew and should have known is
9 depicted in Staff/1101.

10

11 PacifiCorp commissioned a BART analysis by CH2M HILL that contained
12 a number of engineering and economic analyses related to Jim Bridger
13 Unit 3 (Idaho Power/1301 Carstensen and Idaho Power/1302
14 Carstensen). The analyses were performed in compliance with Regional
15 Haze regulations and guidelines (Idaho Power/1301 Carstensen/16). The
16 engineering and economic analyses modeled technology alternatives and
17 evaluated the potential reductions in NO_x, SO₂, and PM emissions rates
18 associated with the respective scenarios. A comparison was completed
19 on the basis of costs, design control efficiencies, and tons of pollutant
20 removed (Idaho Power/1300, Carstensen/6-7). The analyses recommend
21 the Scrubber Upgrade Project as BART for SO₂ reduction.

22

1 Idaho Power states that at the time the Company made its decision, it was
2 generally aware of the costs to build and run other types of generating
3 units—such as a combined cycle combustion turbine (CCCT) resource—
4 and based upon that knowledge, the Company had reason to believe that
5 it would not be cheaper to shut Jim Bridger Unit 3 down and purchase a
6 different resource (Idaho Power/1400 Carstensen/4).

7
8 Finally, a PacifiCorp analysis done in December 2008, which is the time
9 frame when Idaho Power made its business decision to proceed with the
10 Scrubber Upgrade Project, shows a significant benefit to customers for
11 making all the known environmental compliance investments and
12 continuing to operate the coal plant unit (Idaho Power/1403 Carstensen,
13 “CAI Capital Projects Study for Jim Bridger Unit 3 – Dec. 2008”).

14
15 I conclude a company, relying on this knowable information, (as well as
16 the other information discussed above), would have been reasonable to
17 decide to proceed with the Scrubber Upgrade Project.

18 **Q. WHAT IS YOUR CONCLUSION REGARDING THE PRUDENCE OF**
19 **IDAHO POWER’S INVESTMENT IN THE JIM BRIDGER UNIT 3**
20 **SCRUBBER UPGRADE PROJECT?**

21 A. As described above, the Company’s action to proceed with the
22 incremental investment in the Scrubber Upgrade Project was reasonable.

1 In accordance with the prudence standard, since the action was
2 reasonable it was prudent.

3 **Q. IDAHO POWER STATES THAT IT DID NOT RELY ON THE “CAI**
4 **CAPITAL PROJECTS STUDY FOR JIM BRIDGER U3” WHEN MAKING**
5 **ITS DECISION TO PROCEED WITH THE SCRUBBER UPGRADE**
6 **PROJECT. WHY IS THIS STUDY EVIDENCE THAT IDAHO POWER’S**
7 **DECISION WAS PRUDENT?**

8 A. Whether an action was prudent turns on whether the action was
9 reasonable. As the Commission has previously held, it is not necessary to
10 show how the utility arrived at a business decision to determine whether
11 the utility’s action satisfies this prudence standard (Order No. 02-459 at 5,
12 Order No. 11-435 at 4). Also, under this standard, it is not necessary to
13 confine the review of reasonableness to the information the utility actually
14 relied on. Instead, the review focuses on information that was known to
15 the utility, or knowable, at the time of the action. The Capital Projects
16 Study performed by PacifiCorp in December 2008 showed a significant
17 net present value benefit. I conclude a company, relying on this knowable
18 information, (as well as the other information discussed above) would
19 have been reasonable to decide to proceed with the Scrubber Upgrade
20 Project.

21 **Q. DID THE COMPANY REASONABLY IMPLEMENT ITS BUSINESS**
22 **DECISION TO PROCEED WITH THE SCRUBBER UPGRADE**
23 **PROJECT?**

1 A. Yes. Under the terms of its ownership agreement with PacifiCorp,
2 PacifiCorp is the only party with authority to carry out capital additions at
3 Jim Bridger Unit 3 (Idaho Power/1401 Carstensen/21). After receiving
4 Idaho Power's consent to proceed with the Scrubber Upgrade Project,
5 PacifiCorp (on behalf of Idaho Power) initiated competitive bidding
6 processes for various long lead time major components as well as EPC
7 services. PacifiCorp executed these contracts in 2008. Idaho Power's
8 effort, through PacifiCorp, to balance cost/risk in its implementation of the
9 Scrubber Upgrade Project was primarily through lump-sum, turnkey, EPC
10 contracts, with performance guarantees, resulting from competitive
11 bidding processes.

12
13 As the plant operator and majority owner, PacifiCorp management
14 provided oversight of the project and closely managed any project
15 execution plan changes or potential contract scope changes.

16
17 PacifiCorp and Idaho Power shared the belief that this project and its
18 timing appropriately balanced the need for emission reductions over time
19 with the costs and other concerns of their customers, their state utility
20 regulatory commissions, and other stakeholders (Idaho Power/1300
21 Carstensen/8 and 9).

22

1 I conclude this was a commonly used approach to implement capital
2 projects, and therefore was reasonable.

3 **Q. CITIZENS' UTILITY BOARD OF OREGON (CUB) ARGUES THAT**
4 **IDAHO POWER ACTED IMPRUDENTLY IN INVESTING IN THE**
5 **SCRUBBER UPGRADE PROJECT BECAUSE THE COMPANY DID**
6 **NOT DETERMINE WHETHER THE INVESTMENT, IN THE CONTEXT**
7 **OF ALL THE INVESTMENT NEEDED IN THE PLANT, WAS**
8 **REASONABLE OR WHETHER IT WOULD BE MORE REASONABLE**
9 **TO INVEST IN ALTERNATIVE RESOURCES. (CUB/200,**
10 **FEIGNER/JENKS/14.) IS CUB'S ARGUMENT CONSISTENT WITH THE**
11 **REVIEW THE COMMISSION HAS HISTORICALLY DONE TO**
12 **DETERMINE PRUDENCE?**

13 A. It does not appear so. The Commission's statements from Order No. 02-
14 269 excerpted above reflect that the appropriate question for a prudence
15 review is whether the challenged business decision (the action of
16 proceeding with the Scrubber Upgrade Project) was reasonable based on
17 information that was known, or knowable, at the time of the action. The
18 process a utility uses to arrive at the business decision is not necessarily
19 the primary focus of a prudence review, although it may be probative of
20 whether the utility's ultimate action was prudent.

21
22 In any event, the 2008 Capital Projects Study for Jim Bridger Unit 3 shows
23 that the magnitude of the benefit associated with the Scrubber Upgrade

1 Project is such that had Idaho Power performed the analysis as described
2 by CUB, its decision to go forward with the Scrubber Upgrade Project
3 would not have been different.

4 **Q. WHAT PROCESS WOULD A COMPANY FOLLOW TO INFORM A**
5 **REASONABLE DECISION?**

6 A. In the case of an environmental compliance investment, a company
7 would: identify all currently known regulatory requirements; identify as best
8 possible what regulatory requirements may be enacted in the future;
9 identify and evaluate alternatives for compliance; identify alternatives to
10 compliance; perform life-cycle economic analyses, including sensitivity
11 cases; make a decision based on the aforementioned information; re-
12 evaluate the decision as significant milestones are reached; balance
13 cost/risk in implementation method; and actively manage implementation
14 to assure budget, schedule and performance compliance.

15 **Q. HOW DID YOU EVALUATE THE COMPANY'S DECISION MAKING**
16 **PROCESS?**

17 A. I examined the following four areas, and the flow of the decision making
18 process as follows: Step 1 – what the Company knew, or should have
19 known, at the time of decision making; Step 2 - what the Company did to
20 evaluate what it knew; Step 3 - what process the Company used to make
21 a decision; and Step 4 - how the Company managed implementation of its
22 decision. After completion of these steps, I examined the Company's

1 process in comparison to the process I set forth above that would lead to a
2 reasonable decision.

3 **Q. WHAT DID YOU IDENTIFY IN THESE STEPS?**

4 A. In each of the four steps I identified the following:

5 Step 1 - at the time the decision was reached to proceed with the
6 Scrubber Upgrade Project (2007- 2008) and acting on that decision (2008
7 - early 2011), Idaho Power knew with certainty that it was required to
8 comply with existing regulations including Regional Haze Rules related to
9 NOx and PM, National Ambient Air Quality Standards, the Regional SO2
10 Milestone and Backstop Trading Program developed in alignment with
11 existing federal regulations and administered in Utah and Wyoming, state-
12 issued construction and operating permits, and state implementation plans
13 (Idaho Power/1300 Carstensen/2). Also, the Company knew with
14 certainty a consensus had been reached between PacifiCorp (the majority
15 owner of the coal plant unit) and the State of Wyoming to develop a plan
16 what would achieve the SO2 milestones, and would also meet the
17 expected requirements of upcoming environmental regulations, such as
18 RH BART, National Ambient Air Quality Standards (which includes the 1
19 Hour SO2 Standards), along with meeting the surrogate level for
20 compliance with the MATS Acid Gas requirement (Idaho Power/1300
21 Carstensen/3). In addition, the Company should have known of an EPA
22 proposed rule for CCR, and initial work on an effluent guideline rule and a

1 cooling water intake rule (316b). What Idaho Power knew and should have
2 known is depicted on Staff/1101.

3
4 Step 2 – to evaluate what it knew, the Company commissioned (through
5 PacifiCorp) a BART analysis by CH2M HILL that contained a number of
6 engineering and economic analyses related to Jim Bridger Unit 3. The
7 study was performed in compliance with Regional Haze regulations and
8 guidelines (Idaho Power/1301 Carstensen/16). The engineering and
9 economic analysis modeled technology alternatives and evaluated the
10 potential reductions in NOx, SO2, and PM10 emissions rates associated
11 with the respective scenarios. A comparison was completed on the basis
12 of costs, design control efficiencies, and tons of pollutant removed (Idaho
13 Power/1300 Carstensen/6 and 7). In addition, based on its general
14 awareness of the costs to build and run other types of generating units—
15 such as a CCCT resource—and based upon that knowledge, the
16 Company had reason to believe that it would not be cheaper to shut Jim
17 Bridger Unit 3 down and purchase a different resource (Idaho Power/1400
18 Carstensen/4). Lastly, though Idaho Power/1400 states the Company
19 only recently became aware of the analysis, through PacifiCorp's analysis,
20 entitled "CAI Capital Projects Study for Jim Bridger U3 — Dec. 2008," that
21 it performed in December of 2008, there was a significant present value of
22 revenue requirement benefit to customers for making all the known

1 environmental compliance investments and continuing to operate the coal
2 plant unit.

3
4 Step 3 – the process used by the Company to make a decision was to
5 conduct thorough analyses, and then the owners concluded that
6 upgrading the scrubbers presented a cost-effective method to bring the
7 Jim Bridger Unit 3 into compliance with current, proposed and probable
8 environmental regulations (Idaho Power/1300 Carstensen/4). The
9 Company believed this investment allowed for the continued operation of
10 a low-cost coal-fired generation facility, while achieving significant
11 environmental improvements (Idaho Power/1300 Carstensen/9).

12
13 Step 4 – how the Company managed implementation of its decision was
14 to contract for the scrubber upgrade project under lump-sum, turnkey,
15 EPC contract terms which resulted from competitive bidding processes.
16 As the plant operator and majority owner, PacifiCorp management
17 provided oversight of the project and closely managed any project
18 execution plan changes or potential contract scope changes. PacifiCorp
19 and Idaho Power shared the belief that this project and its timing
20 appropriately balanced the need for emission reductions over time with the
21 costs and other concerns of their customers, their state utility regulatory
22 commissions, and other stakeholders (Idaho Power/1300 Carstensen/8
23 and 9).

1 **Q. HOW DOES IDAHO POWER’S DECISION PROCESS COMPARE**
2 **WITH THE PROCESS A COMPANY WOULD FOLLOW TO INFORM A**
3 **REASONABLE DECISION?**

4 A. I describe below my evaluation of how Idaho Power’s decision making
5 process compares with the process I set forth above that a company
6 would follow to inform a reasonable decision.

7
8 *Identify All Currently Known Regulatory Requirements and Identify As*
9 *Best Practicable What Future Regulatory Requirements May Exist*

10 Idaho Power contends the Scrubber Upgrade Project was required to
11 comply with existing regulations, specifically, the Regional SO2 Milestone
12 and Backstop Trading Program developed in alignment with existing
13 federal regulations and administered in Utah and Wyoming, state-issued
14 construction and operating permits, and state implementation plans. The
15 Company also contends the Scrubber Upgrade Project will support
16 compliance with the post-2018 Regional Haze Rule (RHR) requirements,
17 the National Ambient Air Quality Standards, and MATS. After review of
18 Idaho Power/1300 Carstensen and Idaho Power/1400 Carstensen, and
19 the suite of environmental regulatory requirements depicted on Staff/1101,
20 I conclude Idaho Power was aware of all the environmental regulatory
21 requirements it should have been, and therefore acted reasonably. I also
22 conclude that Idaho Power (through PacifiCorp) identified and considered,
23 as best practicable, what future environmental regulatory requirements

1 were likely, with the exception of the future possibility for CO2 emission
2 regulation. I conclude Idaho Power's decision making process was largely
3 reasonable, but did not meet the standard of a process to inform a
4 reasonable decision because of failure to consider CO2 emission
5 regulation at the time of its decision.

6
7 *Identify And Evaluate Alternatives For Compliance*

8 There were both engineering and economic analyses completed.
9 PacifiCorp, as the plant operator and majority owner, completed
10 engineering analyses (including engineering economic analyses) of the
11 appropriate technology to be applied to this BART-eligible facility to
12 achieve established emissions control objectives. The engineering
13 analyses are presented in the January 2007 BART Analysis for Jim
14 Bridger Unit 3 by CH2M Hill, and its March 2008 Addendum, provided as
15 Idaho Power/1301 Carstensen. I reviewed the 2007 analysis and 2008
16 analysis addendum commissioned by PacifiCorp whereby CH2M Hill
17 analyzed alternative compliance approaches, and I conclude that based
18 on these analyses the Company acted reasonably.

19
20 *Identify Alternatives To Compliance*

21 The Company discusses in Idaho Power/1403 Carstensen that there was
22 one alternative to compliance considered at the time this investment
23 decision was made – idling the coal plant unit and replacing it with market

1 power purchases. Idaho Power/1400 Carstensen states that in 2007 and
2 2008, when the Company gave its approval to invest in the Scrubber
3 Upgrade Project, the decision was based on an implicit assumption that it
4 would be more cost effective to make the required upgrades than to idle
5 the plant and procure a replacement resource. Idaho Power's implicit
6 assumption was based on its general awareness of the costs to build and
7 run other types of generating units—such as a CCCT resource—and
8 based upon that knowledge, it had no reason to believe that it would be
9 cheaper to shut Jim Bridger Unit 3 down and purchase a different
10 resource. I considered the Company's implicit assumption. After
11 reviewing the resource costs presented in Figure 5.2 of the Idaho Power
12 2006 Integrated Resource Plan (IRP) and Figure 6.2 of the Idaho Power
13 2009 IRP, I conclude that in 2008 the cost of the most likely replacement
14 resource (a CCCT) was documented as being larger than the cost for
15 continuing operation of an existing coal fired resource, and as a result
16 Idaho Power's implicit assumption was reasonable.

17
18 *Perform Life-Cycle Economic Analyses, Including Sensitivity Cases*

19 Idaho Power/1403 Carstensen presents a PacifiCorp analysis, entitled
20 "CAI Capital Projects Study for Jim Bridger U3 — Dec. 2008," that was
21 performed in December of 2008, and compared the costs of idling Jim
22 Bridger Unit 3 and replacing its production with market purchases to the
23 costs of continued operation of the plant, including the planned Scrubber

1 Upgrade Project. This life-cycle economic analysis used the present value
2 revenue requirement differential (PVRR(d)) method. The analysis
3 conclusion presented a significant present value of revenue requirement
4 benefit to customers for making all the known investments and continuing
5 to operate the coal plant unit. This PVRR(d) analysis included estimates
6 for environmental compliance investment capital costs through at least
7 2018 related to all but the potential CCR, effluent limit, and 316b
8 requirements.² The specific CCR, effluent limit, and 316b requirements
9 were largely unknown at the time of decision making and were not
10 included, even in proxy form. In addition, Idaho Power's (through
11 PacifiCorp) PVRR(d) analysis did not include CO2 regulatory cost – in
12 either proxy form or sensitivity case form.

13
14 An update to the analysis of compliance with environmental requirements
15 was performed during the Idaho Power 2011 IRP acknowledgement
16 process. The Company states on Idaho Power/1400 Carstensen/5 that
17 the 2011 IRP Analysis presented as Idaho Power/1402 Carstensen
18 demonstrates clearly and unambiguously that Idaho Power was correct
19 when it assumed that investing in alternative resources was not a
20 reasonable alternative to the pollution control investments made at Jim
21 Bridger Unit 3 – including estimated costs for compliance with NOx,
22 MATS, CCR, and CO2 regulation compliance. Idaho Power/1404

² Based on the Company's confidential response to Staff Data Request 413.

1 Carstensen also presents an updated coal study prepared by PacifiCorp
2 for its 2011 IRP Update. In that Coal Study Update, PacifiCorp presents
3 results that support continued operation of the Jim Bridger Unit 3 fueled
4 with coal, even considering the costs for compliance with future
5 environmental regulation requirements.

6
7 Given that Idaho Power/1400 Carstensen states the Company only
8 recently became aware of the analysis entitled "CAI Capital Projects Study
9 for Jim Bridger U3 — Dec. 2008," I conclude that, on this point, Idaho
10 Power did not meet the standard of what a company would do to inform a
11 reasonable decision because of the failure to be aware of the key life-
12 cycle economic study justifying its decision.

13
14 *Make A Decision Based On The Aforementioned Information*

15 The Company contends in Idaho Power/1400 Carstensen that prior to
16 embarking on a course of action, starting in 2006 and continuing through
17 2008, Idaho Power and PacifiCorp had a series of meetings at which
18 PacifiCorp presented the results of its analyses, including the CH2M HILL
19 BART analysis, discussed environmental regulations that would impact
20 the Bridger plant, and evaluated the options for compliance with those
21 regulations. During discussions that occurred during the late 2007 to 2008
22 time period, Idaho Power provided PacifiCorp with its consent to invest in

1 the Scrubber Upgrade Project. I conclude this decision making process
2 was a reasonable action.

3
4 *Re-Evaluate The Decision As Significant Milestones Are Reached*

5 The first documented update to the analysis of compliance with
6 environmental requirements was performed during the Idaho Power 2011
7 IRP acknowledgement process. Given that this analysis was not
8 performed until the Scrubber Upgrade Project was nearly complete, I
9 conclude that Idaho Power did not meet the standard of what a company
10 would do inform a reasonable decision because of failure re-evaluate its
11 decision as significant milestones were reached.

12
13 *Balance Cost/Risk In Implementation Method*

14 After receiving Idaho Power's consent to the Scrubber Upgrade Project,
15 PacifiCorp (on behalf of Idaho Power) initiated competitive bidding
16 processes for various long lead time major components as well as EPC
17 services. PacifiCorp executed these contracts in 2008. Idaho Power's
18 effort, through PacifiCorp, to balance cost/risk in its implementation of the
19 environmental compliance investments was primarily through lump-sum,
20 turnkey, EPC contracts, with performance guarantees, resulting from
21 competitive bidding processes. I conclude this was a commonly used
22 approach to balance cost/risk, and therefore this was a reasonable action.

23

1 *Actively Manage The Implementation To Assure Budget, Schedule And*
2 *Performance Compliance*

3 Construction work on the Scrubber Upgrade Project was completed during
4 a planned outage in 2011. Idaho Power, through PacifiCorp, actively
5 managed the implementation to assure budget, schedule and
6 performance compliance through management oversight of the projects
7 and closely managing any project execution plan changes or potential
8 contract scope changes. I conclude this action was reasonable.

9

10 In my discussion above I note several areas where Idaho Power did not
11 meet the standard of what a company would do to inform a reasonable
12 decision. The areas include: failure to consider CO2 emission regulation
13 at the time of its decision; failure to include, at the time of its decision,
14 sensitivity cases for variations in fuel, electricity and CO2 regulatory cost;
15 failure to be aware of the PacifiCorp life-cycle economic analysis; and
16 failure to re-evaluate its decision as significant milestones were reached.

17

18 There needs to be an understanding that the Commission looks to the
19 objective reasonableness of the utility's action, taking into account facts
20 and circumstances existing at the time of the decision. The Commission
21 has clarified that "if the record demonstrates that a challenged business
22 decision was reasonable, taking into account established historical facts
23 and circumstances, the utility's decision must be upheld as prudent even if
 the record lacks detail on the utility's actual subjective decision making

1 process” (See Order No. 02-469 p. 5; *In re PacifiCorp* (Commission
2 adopting PacifiCorp’s description of legal standard for determining
3 prudence)). Under this standard, a utility’s action can be prudent even if
4 the process for making that decision has infirmities. A utility’s decision
5 process is probative on whether the action itself is prudent, but under the
6 Commission’s prudence standard, the primary focus of the inquiry is on
7 reasonableness of the action, not on the process leading to it. Because
8 the update to the analyses performed for Idaho Power’s 2011 IRP, and the
9 Coal Study Update prepared for PacifiCorp’s 2011 IRP Update (Idaho
10 Power/1404 Carstensen), continue to show a benefit to customers for
11 making all the known and foreseeable environmental compliance
12 investments and continuing to operate each coal plant unit, I conclude the
13 Company acted reasonably.

14 **Q: DO THE COMMISSION’S IRP GUIDELINES, SET FORTH IN ORDER**
15 **07-002 AND ORDER 08-339, CONTEMPLATE ANALYSIS OF**
16 **INVESTMENTS AT EXISTING PLANTS TO COMPLY WITH**
17 **ENVIRONMENTAL REGULATIONS?**

18 A: Yes. Guideline 8, adopted in Order 08-339, indicates that the utilities
19 should develop compliance scenarios for meeting requirements that
20 would limit future emissions of carbon dioxide, nitrogen oxides, sulfur
21 oxides, and mercury. This guideline indicates that the utility should
22 modify the projected lifetimes of resources in accordance with the
23 various compliance scenarios. In addition, utilities have historically

1 evaluated investments to extend the economic or physical lives of
2 resources as part of developing alternative resource portfolios pursuant
3 to Guidelines 4(h) and 4(c) adopted in Order 07-002.

4 **Q: SHOULD THE COMMISSION CLARIFY THAT IRP GUIDELINES 8**
5 **AND 4 CONTEMPLATE COMPREHENSIVE ANALYSIS OF**
6 **INVESTMENTS TO EXTEND THE PHYSICAL AND ECONOMIC LIVES**
7 **OF EXISTING RESOURCES, INCLUDING COAL PLANTS?**

8 A: Yes. I see the on-going need to analyze significant environmental
9 compliance investments in the Company's IRP so that those
10 investments will be fully disclosed, understood and evaluated in a
11 public process, just as are other significant energy related investments.
12 To help ensure an improved process going forward, I recommend that
13 the Commission clarify in its order in this docket that existing IRP
14 Guidelines 4 and 8 direct the utilities to consider and analyze all
15 investments that would extend the economic and physical lives of
16 existing plants. The Commission should clarify that Guidelines 4 and 8
17 direct the utilities to evaluate investments that would extend the
18 economic and physical life of existing resources, including evaluation of
19 alternatives that would result in shorter life extensions, no extension of
20 the resource life, or shorten the assumed resource life. The
21 Commission should clarify that the IRP Guidelines also direct the
22 utilities to conduct risk analysis, including analysis of the risk of future
23 environmental regulation, to test whether the investment to extend the

1 life of an existing resource is part of an overall resource strategy with
2 the best combination of expected costs and associated risks for the
3 utility and its customers.

4 **Q. DO THE ENVIRONMENTAL COMPLIANCE INVESTMENTS**
5 **SUPPORT COMPLIANCE WITH FUTURE ENVIRONMENTAL**
6 **REGULATIONS?**

7 A. Yes. Based on my understanding of the Scrubber Upgrade Project
8 presented for compliance with the Regional SO₂ Milestone and Backstop
9 Trading Program, state-issued construction and operating permits, and
10 state implementation plans, I agree with the Company's claim that the
11 Scrubber Upgrade Project will support compliance with the post-2018
12 RHR requirements, and with MATS compliance.

13 **Q. DID THE COMPANY'S ECONOMIC ANALYSIS CONSIDER THE**
14 **COST OF COMPLIANCE WITH ALL FUTURE ENVIRONMENTAL**
15 **REGULATION REQUIREMENTS?**

16 A. No. At the time of decision making the PVRR(d) analysis included
17 estimates for environmental compliance investment capital costs through
18 at least 2018 related to all but the potential CCR, effluent limit, and 316b
19 requirements.³ The specific CCR, effluent limit, and 316b requirements
20 were largely unknown at the time of decision making and were not
21 included, even in proxy form. In addition, Idaho Power's (through
22 PacifiCorp) PVRR(d) analysis did not include CO₂ regulatory cost – in

³ Based on the Company's confidential response to Staff Data Request 413.

1 either proxy form or sensitivity case form. However, an update to the
2 analysis of compliance with environmental requires was performed during
3 the Idaho Power 2011 IRP acknowledgement process. The Company
4 states that this analysis update (Idaho Power/1402 Carstensen)
5 demonstrates clearly and unambiguously that Idaho Power was correct
6 when it assumed that investing in alternative resources was not a
7 reasonable alternative to the pollution control investments made at Jim
8 Bridger Unit 3 – including estimated costs for compliance with NOx,
9 MATS, CCR, and CO2 regulation compliance. In addition, Idaho
10 Power/1404 Carstensen presents an updated coal study prepared by
11 PacifiCorp for its 2011 IRP Update. In that Coal Study Update, PacifiCorp
12 presents results that support continued operation of the Jim Bridger Unit 3
13 fueled with coal, even considering costs for compliance with future
14 environmental regulation requirements.

15 **Q. WHAT ARE THE REQUIRED STEPS IN A BART ANALYSIS?**

16 A. Code of Federal Regulations (CFR) at 40 CFR 51 Appendix Y, Section IV
17 requires the following BART analysis steps:

- 18 1. The identification of available, technically feasible, retrofit control
19 options;
- 20 2. Consideration of any pollution control equipment in use at the source
21 (which affects the availability of options and their impacts);
- 22 3. The costs of compliance with the control options;
- 23 4. The remaining useful life of the facility;

1 5. The energy and non-air quality environmental impacts of compliance;

2 and

3 6. The degree of visibility improvement which may reasonably be

4 anticipated from the use of BART.

5 **Q. DID THE JIM BRIDGER UNIT 3 BART ANALYSIS STEP 4 CONSIDER**
6 **EARLY RETIREMENT OF THE COAL PLANT UNITS?**

7 A. No.

8 **Q. WHY WASN'T EARLY RETIREMENT CONSIDERED IN STEP 4?**

9 A. The Company's BART analyses considered the remaining useful life as
10 fixed, in the traditional manner related to remaining depreciable life or
11 remaining physical life, rather than as a variable as was done in the BART
12 analyses for the Boardman Coal Plant in 2010. As the basis for describing
13 the remaining useful life as fixed, I considered that the BART
14 determination guidelines for Step 4⁴ state that, "for purposes of these
15 guidelines, the remaining useful life is the difference between: (1) The
16 date that controls will be put in place, or you are conducting the BART
17 analysis; and (2) The date the facility permanently stops operations.
18 Where this affects the BART determination, this date should be assured
19 by a federally- or State-enforceable restriction preventing further
20 operation." The BART guidelines go on to discuss the case where an
21 operator may intend to shut down a source by a given date but retains

⁴ 40 C.F.R. § 51 Appendix Y Section IV. D. 4. K. 2.

1 flexibility to continue operating beyond that date if conditions dictate.⁵

2 There is no indication in the guidelines that the date is considered to be
3 variable. However, there also is no restriction on considering it to be
4 variable. I conclude that prior to the advancement in thinking brought
5 about by the 2010 Boardman Coal Plant BART analyses, considering the
6 remaining useful life as fixed was a reasonable action.

7 **Q. DID THE COMPANY'S BART ANALYSES CONCLUDE SELECTIVE**
8 **CATALYTIC REDUCTION (SCR) IS THE "BEST" ALTERNATIVE FOR**
9 **NO_x REDUCTION?**

10 A. No. The BART analysis prepared for Jim Bridger Unit 3 did not
11 recommend SCR installation as the best alternative (Idaho Power/1301
12 Carstensen and Idaho Power/1302 Carstensen).

13 **Q. WHY THEN IS SCR SCHEDULED TO BE INSTALLED AT JIM**
14 **BRIDGER UNIT 3?⁶**

15 A. Before answering this question, I want to note that SCR environmental
16 compliance investments are not included in this rate case. Also, no
17 decision related to proceeding with SCR at Jim Bridger Unit 3 has yet to
18 be made.⁷

19
20 In answer to the question, although the BART analyses did not conclude
21 SCR installation was the best alternative, the November 2010 BART

⁵ 40 C.F.R. § 51 Appendix Y Section IV. D. 4. K. 3.

⁶ UE 233/CUB/200 Feighner-Jenks/5

⁷ UE 233/CUB/200 Feighner-Jenks/5

1 Settlement Agreement between PacifiCorp and the Wyoming Department
2 of Environmental Quality (WDEQ) required said installation.⁸ The WDEQ
3 required SCR installation based on its Long-Term Strategy of the
4 Wyoming §308 Regional Haze State Implementation Plan.⁹ Because
5 PacifiCorp was required by the WDEQ settlement agreement to install
6 SCR at the Jim Bridger Unit 3 coal plant unit, I conclude Idaho Power was
7 reasonable to anticipate doing so.

8 **Q. WHAT IMPACT ON THIS PRUDENCE DETERMINATION IS THERE**
9 **FROM EPA'S MAY 15, 2012 REJECTION OF THE WYOMING AND**
10 **UTAH STATE IMPLEMENTATION PLANS RELATED TO NOx?**

11 A. None. EPA's decision was made after Idaho Power had completed the
12 Scrubber Upgrade Project. However, there may be an impact on future
13 prudence determinations.

14 **Q. WHAT IS YOUR CONCLUSION REGARDING THE PRUDENCE OF**
15 **IDAHO POWER'S INVESTMENT IN THE JIM BRIDGER UNIT 3**
16 **SCRUBBER UPGRADE PROJECT?**

17 A. As described above, the Company's action to make the incremental
18 investment in the Scrubber Upgrade Project was reasonable. In
19 accordance with the prudence standard, since the action was reasonable
20 it was prudent.

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

⁸ BART Settlement Agreement provided in response to Staff Data Request 414.

⁹ BART Application Analysis, AP-6040, Department of Environmental Quality, Air Quality Division, May 28, 2009, page 56.

1 | A. Yes.

CASE: UE 233
WITNESS: Erik Colville

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF EXHIBIT 1101

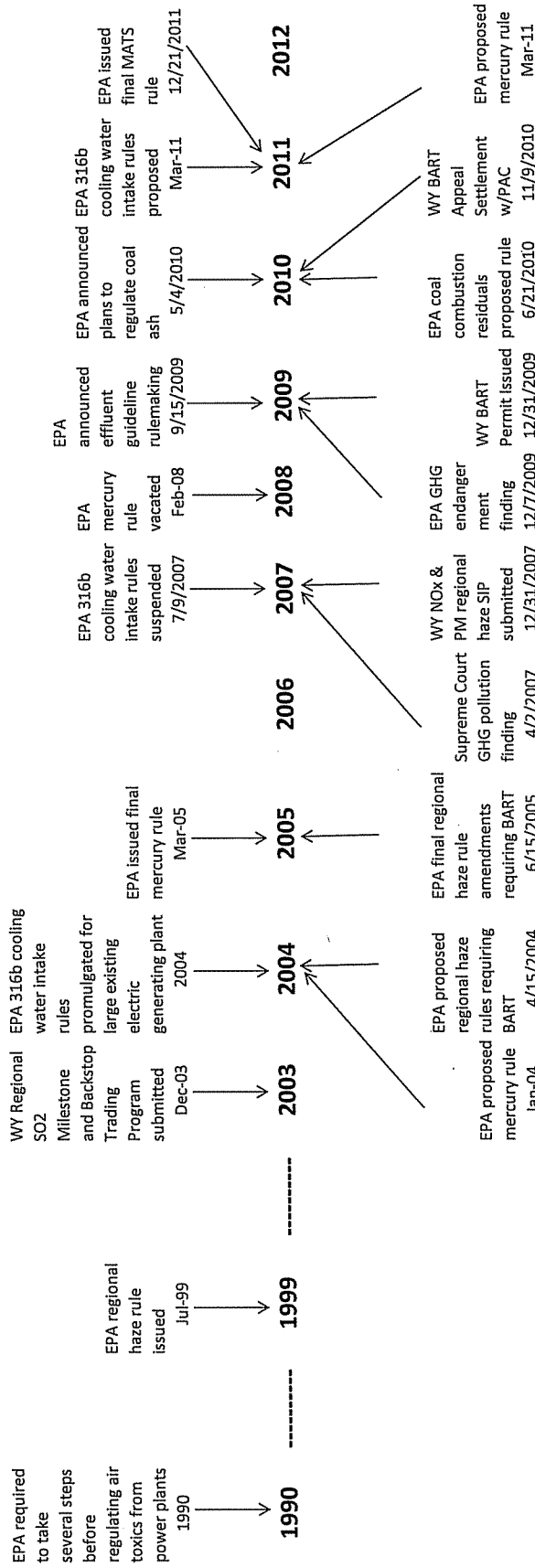
**Exhibits in Support
Of Testimony**

June 20, 2012

Jim Bridger Unit 3 Wyoming

Wet Scrubber Upgrade Req'd
June 2011 (MD-1552A)

Wet Scrubber Upgrade NTP
Dec-2008



Wet Scrubber Upgrade

Per 1/7/11 SIP by 3/31/10

Per 11/10 Settlement in 2011

Staff/1101
Colville/1