

1 **Q. Are you the same Chad A. Teply who submitted direct testimony in this**
2 **proceeding?**

3 A. Yes.

4 **Purpose of Testimony**

5 **Q. What is the purpose of this testimony?**

6 A. The purpose of this testimony is to respond to the direct testimony Mr.
7 Matthew Croft, Mr. George W. Evans, and Mr. Mark W. Crisp filed on behalf of
8 the Division of Public Utilities (“DPU”), Ms. Cheryl Murray and Mr. Randall J.
9 Falkenberg on behalf of the Office of Consumer Services (“OCS”), Ms. Nancy L.
10 Kelly and Ms. Stacy F. Tellinghuisen on behalf of Western Resource Advocates
11 (“WRA”), and Dr. Jeremy Fisher on behalf of Sierra Club.

12 This testimony will specifically respond to Parties’ concerns regarding:

- 13 1) the statutory intent, applicability, filing requirements, and timely
14 administration of Utah’s voluntary request for pre-approval to construct
15 the Jim Bridger Units 3 and 4 selective catalytic reduction project (“SCR
16 Project” or the “Project”) as allowed under Utah Code Ann. §54-17-402;
- 17 2) the current status of the engineering, procurement, and construction
18 (“EPC”) contract for the Jim Bridger Units 3 and 4 SCR Project as it may
19 impact the Commission’s review and Order in this proceeding;
- 20 3) increased water usage (or the lack thereof) from the implementation of the
21 Jim Bridger Units 3 and 4 SCR Project;
- 22 4) the effects of the SCR Project on planning assumptions for potential future
23 transmission projects, such as the Company’s currently proposed Energy

1 Gateway project; and
2 5) claimed uncertainties regarding potential outcomes of future
3 environmental regulations.

4 Other Company witnesses will provide rebuttal testimony specifically responding
5 to Parties' concerns regarding:

- 6 1) updates to the Company's System Optimizer Model analysis supporting
7 this case (see rebuttal testimony of Mr. Rick Link); and
- 8 2) Bridger Mine coal cost and mine reclamation cost assumption updates (see
9 rebuttal testimony of Ms. Cindy Crane).

10 **Q. Please summarize your testimony regarding the items listed above.**

11 A. Since the time of its initial application, the Company has continued its evaluation
12 and analysis in light of the best available information and with the intent of
13 addressing Parties' concerns raised in this docket. My rebuttal testimony and the
14 rebuttal testimony filed by the other Company witnesses referenced above provide
15 responses to Parties' concerns and continue to support installation of the Jim
16 Bridger Units 3 and 4 SCR Project. More specifically, my rebuttal testimony can
17 be summarized as follows:

- 18 1) the Company's voluntary application for pre-approval to construct the Jim
19 Bridger Units 3 and 4 SCR Project as allowed under Utah Code Ann. §54-
20 17-402 was completed in accordance with established filing requirements
21 and statutory intent, and as such provides the necessary basis to support
22 thorough and timely review by Parties and the Commission. In its rebuttal
23 testimony and accompanying exhibits, the Company responds to Parties'

1 concerns and addresses items that require thoughtful review, but that
2 should not be construed as preventing the Parties or the Commission from
3 taking a definitive position on the Company's pre-approval request. The
4 information available to the Company as it evaluates this investment
5 decision has been incorporated into the Company's application and
6 subsequent filings. While decisions such as this are complex, it is the
7 Company's belief that deferring a decision on the SCR Project, as
8 suggested by some interveners, undermines the intent and process of Utah
9 Code Ann. §54-17-402. Doing so places the Company in an untenable
10 position of planning for significant investments to comply with
11 environmental requirements, and providing Parties with an avenue to
12 evaluate the project in good faith, only to be left with the possibility of
13 significant risk and uncertainty regarding future recovery of costs
14 associated with this major investment decision;

15 2) the Company has aligned the timing of its application in this docket with
16 significant ongoing parallel path activities to provide its customers,
17 governing agencies, and regulators with the best real-time information
18 available, while maintaining an implementation timeline that supports
19 current environmental compliance obligations and its planned major
20 maintenance outage cycle for the unit. The Company is keenly aware that
21 the timing of the competitive procurement and planned execution of the
22 EPC contract for this SCR Project falls close after the planned receipt of
23 approvals to implement the SCR Project. This timing was established to

1 ensure that firm fixed pricing and terms could be competitively established
2 while minimizing the risk of price increases for any additional project
3 requirements or changing conditions, as well as the risk of potential
4 indexing proposals that could otherwise be required by the competitive
5 marketplace under earlier-than-required final EPC contract negotiations;

6 3) the Jim Bridger Units 3 and 4 SCR Projects require **no** additional water
7 rights to be procured for the Jim Bridger facility, and thus the arguments
8 presented by WRA with respect to general water constraints in the
9 Western U.S. and hypothetical market value of the Company's currently
10 held water rights have no bearing on the review and decision at hand, and
11 furthermore, are not a significant opportunity to bring additional value to
12 the Company's customers; and

13 4) while a significant transmission project, with segments currently in the
14 planning, development, permitting, construction and regulatory review
15 processes, the Company's Energy Gateway transmission project is being
16 completed in segments with the timing, need, and benefit analyses of each
17 individual segment highly dependent upon customer needs, future market
18 conditions, legislative and regulatory outcomes, permitting, and
19 stakeholder review processes. The Company included the Energy Gateway
20 transmission project as an underlying modeling assumption in its System
21 Optimizer models supporting the application in this docket. However, the
22 Jim Bridger Units 3 and 4 SCR Project decision-making process at hand is
23 not dictated by the future configuration possibilities of the Energy

1 Gateway transmission project, nor is the Energy Gateway project decision-
2 making dictated by the outcome of the Jim Bridger Units 3 and 4 SCR
3 Project. The future need and timing of the Energy Gateway project will be
4 driven by then-current information and vetted with stakeholders through
5 the appropriate planning and regulatory processes; and

6 5) the Company has incorporated reasonably anticipated proxy compliance
7 costs for future environmental regulations into its analyses supporting the
8 application. The Company regularly updates its environmental compliance
9 planning assumptions to align with updated agency actions and emerging
10 industry information. Parties' references to generalized concerns regarding
11 potential future environmental compliance costs without considering the
12 specific facility infrastructure and operation of the Company's Jim Bridger
13 facility is immaterial.

14 The rebuttal testimony of Mr. Rick Link and Ms. Cindy Crane will respond to
15 System Optimizer Model analyses concerns, as well as the Bridger Mine coal cost
16 and mine reclamation cost items raised by Parties.

17 **Q. How is your testimony organized?**

18 A. My testimony is organized as follows:

- 19 1) Introduction and Purpose of Testimony;
- 20 2) Pre-approval Under Utah Code Ann. §54-17-402;
- 21 3) EPC Contract Status and Docket Procedural Schedule;
- 22 4) Jim Bridger Water Rights;
- 23 5) Transmission Planning Considerations;

- 1 6) Future Environmental Compliance Considerations; and
2 7) Conclusion.

3 **Pre-approval Under Utah Code Ann. §54-17-402**

4 **Q. What is the primary purpose of Utah Code Ann. §54-17-402?**

5 A. Utah Code Ann. §54-17-402 allows an energy utility to voluntarily request that
6 the Utah Public Service Commission approve a utility's major investment
7 decision prior to implementing that decision. Approval of any portion of the
8 request, with certain exceptions, also allows for cost recovery of the approved
9 portion.

10 **Q. Does the Company believe that this docket will result in the opportunity for**
11 **stakeholders to meaningfully review and form definitive positions regarding**
12 **the proposed environmental compliance projects prior to major investment**
13 **being made?**

14 A. Yes. In accordance with Utah Code Ann. §54-17-402, the Company believes that
15 the Jim Bridger Units 3 and 4 SCR Project pre-approval docket allows Parties and
16 the Commission an opportunity to meaningfully review and conclude whether the
17 proposed capital expenditures for Jim Bridger Units 3 and 4 are reasonable,
18 prudent and in the public interest.

19 **Q. Does the Company believe that the evidence submitted with its application**
20 **and in subsequent filings in this docket will provide stakeholders with the**
21 **best information available upon which to review this major investment**
22 **decision?**

23 A. Yes. The Company has submitted a complete application including the required

1 analyses and support, has provided additional information through discovery, and
2 will continue to provide appropriate information in response to Parties' arguments
3 and Commission requests. The Company's understanding of the intent of Utah
4 Code Ann. §54-17-402 is to transparently and thoroughly assess the best
5 information available to the Company at the time it is required to make a major
6 investment decision. Due to mandated compliance obligations, the Company must
7 effectively analyze and implement multi-year, highly complex projects with
8 prudence for the benefit of ratepayers and for the Company's fleet. While the
9 tendency of some stakeholders is to defer decision-making until such time as
10 investments are placed into service, the very intent of Utah Code Ann. §54-17-
11 402 is to allow stakeholders the opportunity to participate in decision-making
12 prior to the Company proceeding with major expenditures. Simply deferring a
13 decision ignores the intent of the statute and places the Company in an untenable
14 position of financial risk.

15 **Q. Please summarize Parties' positions and/or recommendations for**
16 **Commission action on the Company's pre-approval request under Utah**
17 **Code Ann. §54-17-402.**

18 A. Parties have taken the following positions in direct testimony regarding the
19 Company's pre-approval request under Utah Code Ann. §54-17-402:

20 1) The DPU recommends that the Commission conditionally approve the
21 Company's choice of the SCRs with final approval contingent upon final
22 approval of an EPC contract, provided the Company satisfactorily
23 addresses modeling issues raised by Mr. Evans and Bridger Mine

1 reclamation cost issues raised by Mr. Croft.

2 2) The OCS recommends that the Commission deny the Company's request
3 on the basis that the Company's application does not clearly demonstrate
4 the benefits of the proposed Project. OCS's position is that if pre-approval
5 is denied by the Commission, the Company can proceed with the Project
6 and present adequate evidence in a rate proceeding to justify cost recovery
7 for the Project, further stating that the denied pre-approval would not
8 necessarily mean that the resource is imprudent, rather that the evidence
9 presented in the pre-approval docket did not adequately demonstrate clear
10 benefit to customers.

11 3) WRA recommends that the Commission deny the Company's request,
12 noting that if the Company nevertheless proceeds with the Project, it
13 should be at risk for cost recovery in the appropriate rate proceeding.

14 4) Sierra Club does not provide a specific recommendation to the
15 Commission but does provide their opinion that the retrofit of Jim Bridger
16 Units 3 and 4 is not in the best interest of ratepayers. Sierra Club's
17 position is that their analysis shows a marginal, at best, outcome for
18 ratepayers.

19 **Q. Does the Company agree with DPU's position?**

20 **A.** Largely. The Company has worked to satisfy reasonable modeling and coal mine
21 reclamation cost concerns. The Company's updated information, modeling and
22 analyses provided in rebuttal testimony should satisfactorily address the concerns
23 DPU has raised. Recognizing that an EPC contract for the Jim Bridger Units 3

1 and 4 SCR Project has not been executed, it is reasonable for the Commission to
2 conditionally approve the Jim Bridger Units 3 and 4 SCR Project investment
3 subject to confirmation that the final executed EPC contract terms and conditions
4 support the representations made in the Company's application.

5 **Q. Does the Company agree with OCS, WRA, and Sierra Club assertions that**
6 **the Company's analyses are insufficient to determine whether this resource**
7 **decision is prudent?**

8 A. No. As is further described in the rebuttal testimony and exhibits of Mr. Rick
9 Link, the Company's updated analyses continue to support investment in the Jim
10 Bridger Units 3 and 4 SCR Project. While the Company has made updates and
11 adjustments to its originally submitted analyses in response to the stakeholder
12 concerns, the Company disagrees that the analyses are insufficient and/or lacking
13 of critical information to allow Parties to thoroughly review the proposed SCR
14 Project.

15 **Q. Does the Company agree with OCS, WRA, and Sierra Club assertions that**
16 **several major system planning scenarios have not been adequately studied as**
17 **part of the analyses supporting the Company's application?**

18 A. No. The Company has incorporated appropriate underlying assumptions for
19 transmission system configuration and the amount and placement of future
20 generation resources. My testimony will further discuss the Company's
21 underlying transmission planning considerations, particularly certain interveners'
22 concerns regarding the Energy Gateway project, in later sections. Mr. Rick Link
23 further discusses additional sensitivity analyses regarding the Energy Gateway

1 transmission project and future generation resources in his rebuttal testimony.

2 In addition, my testimony will further discuss water use impacts
3 associated with the Jim Bridger Units 3 and 4 SCR Project.

4 **Q. What action does the Company request the Commission take regarding the**
5 **Company's application?**

6 A. The Company requests that the Commission approve the application based on the
7 information and analyses presented in the case, recognizing that the Company's
8 proposed course of action meets its compliance obligations in a timely and
9 effective manner based upon the best information available to the Company. If
10 the Company's compliance obligations change going forward, the Company
11 remains obligated to reassess its compliance alternatives in the face of then-
12 current information.

13 **EPC Contract Status and Docket Procedural Schedule**

14 **Q. What is the DPU's position with respect to the EPC contract for the Jim**
15 **Bridger Units 3 and 4 SCR Project?**

16 A. The DPU recommends that the Commission conditionally approve the
17 Company's application with final approval contingent upon final approval of an
18 EPC contract.

19 **Q. What is the current status of the bidding process and negotiations related to**
20 **the EPC contract for the Jim Bridger Units 3 and 4 SCR Project?**

21 A. The Company's competitive bidding process for the EPC contract for the Jim
22 Bridger Units 3 and 4 SCR systems is underway. The Company is currently
23 finalizing its technical and commercial evaluations of short-listed EPC contract

1 proposals received.

2 **Q. What is the current schedule for completion of negotiations with EPC**
3 **contractors and the scheduled contract execution date?**

4 A. Negotiations with short-listed EPC contractors to establish final terms and
5 conditions and select the preferred EPC contractor are expected to be complete by
6 a target date of approximately March 31, 2013, or as otherwise required to
7 effectively support the ongoing regulatory processes reviewing the SCR Project.
8 The Company has negotiated bid validity periods with the short-listed EPC
9 contract bidders which allow contract execution no later than May 15, 2013. This
10 timeframe is intended to align with the anticipated worst-case procedural schedule
11 outcomes in the ongoing regulatory proceedings in the states of Utah and
12 Wyoming reviewing the proposed SCR Project, while still supporting the SCR
13 Project critical path implementation timeline in the most cost effective manner.

14 **Q. Does the current schedule for execution of the EPC contract for the SCR**
15 **Project appropriately support the Company's compliance obligations for Jim**
16 **Bridger Units 3 and 4?**

17 A. Yes. The current competitive market proposals and the established critical path
18 timeline for tie-in of the Jim Bridger SCR Project are aligned with the compliance
19 deadlines established by the Wyoming Department of Environmental Quality and
20 the planned major maintenance outages for the units. However, should the
21 currently scheduled contract execution date be delayed beyond May 15, 2013, the
22 SCR Project will be at risk for increased costs and delayed tie-in, and depending
23 upon its duration, a delay may ultimately render the Project critical path schedule

1 unachievable.

2 **Q. Was it appropriate for the Company to commence the competitive**
3 **procurement process for the Jim Bridger Units 3 and 4 SCR Project when it**
4 **did?**

5 A. Yes. Competitive procurement and solicitation of EPC bids for a major multi-year
6 retrofit project such as the Jim Bridger Units 3 and 4 SCR Project requires
7 significant effort, planning, and deployment of resources by the Company, its
8 owner's engineer, and market participants to fully assess, incorporate, and align
9 design requirements, market risks, resource availability, bid validity periods,
10 project specific constraints, concurrent permitting and regulatory review
11 timelines, construction requirements, and compliance deadlines into a thorough
12 and binding project proposal. Evaluation and negotiation of those proposals is
13 then incrementally executed with the intent of ultimately concluding the effort in
14 alignment with the conclusion of regulatory reviews and permitting efforts. The
15 efforts underway in support of the Jim Bridger Units 3 and 4 SCR Project remain
16 appropriately aligned to support the Company's existing obligations.

17 **Q. What is the current schedule for the start of construction and for initial**
18 **startup of the SCR's?**

19 A. Site activities are currently expected to start in the second quarter of 2013 with
20 confirmation of underground utilities being the initial focus. Foundation
21 construction is currently expected to begin in the third quarter of 2013 with piling
22 installation. The planned completion of unit SCR tie-in is June 6, 2015, for Unit 3
23 and June 7, 2016, for Unit 4.

1 **Q. What is the commercial operations date relative to compliance deadline?**

2 A. The established environmental compliance deadlines for the Jim Bridger Units 3
3 and 4 SCR Project are December 31, 2015, for Unit 3 and December 31, 2016, for
4 Unit 4. The Company has scheduled tie-in of the individual unit SCRs within the
5 planned major maintenance outages for each unit. As currently planned (subject to
6 change due to a variety of factors including the final commercial negotiations with
7 short-listed EPC contractors as well as system needs at the time of tie-in), the
8 tentative major maintenance outage period for Unit 3 is from March 28, 2015 through
9 June 6, 2015, and for Unit 4 from March 12, 2016, through June 7, 2016.
10 Accordingly, the Company would currently forecast commercial operations dates of
11 June 6, 2015, for Unit 3 and June 7, 2016, for Unit 4. Following the commencement
12 of commercial operations, a time interval is required to establish boiler full-load
13 operation, tune the system, complete performance testing, demonstrate performance
14 compliance, and remedy any identified performance deficiencies.

15 **Q. Assuming that the Jim Bridger 3 and 4 SCR Project is not completed, what is**
16 **the latest date each unit is expected to be able to operate under current**
17 **regulations?**

18 A. The state of Wyoming's Regional Haze 309(g) State Implementation Plan
19 ("Wyoming SIP") and the November 3, 2010 BART Settlement Agreement and
20 associated Wyoming Environmental Quality Commission Order require that SCR,
21 or equivalent NO_x reducing equipment, be installed on Jim Bridger Units 3 and 4
22 by December 31, 2015, and December 31, 2016, respectively. As such, under a
23 scenario where SCR Project is not installed, Unit 3 will not be able to operate in

1 compliance beyond December 31, 2015, and Unit 4 will not be able to operate in
2 compliance beyond December 31, 2016.

3 **Q. What action has the U.S. EPA taken in regard to the Wyoming SIP requiring**
4 **NOx reducing equipment to be installed on Jim Bridger Units 3 and 4?**

5 A. The U.S. EPA originally proposed to approve the SIP requirements described
6 above with final EPA action expected to be taken by December 15, 2012.
7 However, EPA has since delayed its action on the Wyoming SIP to March 29,
8 2013, for proposed action and September 27, 2013, for final action.

9 **Q How does delayed EPA action on the Wyoming SIP affect the Company's**
10 **compliance obligations for Jim Bridger Units 3 and 4?**

11 A. The Company remains under an independent legally enforceable obligation to
12 complete the SCR Project or otherwise meet the associated unit-specific emission
13 limits on Jim Bridger Units 3 and 4 as described above if the Company is going to
14 continue to operate these units. Specifically, pursuant to the Wyoming SIP, the
15 BART Settlement Agreement between the state of Wyoming and the Company,
16 and the associated Wyoming Environmental Quality Commission Order, the state
17 of Wyoming has imposed upon the Company an obligation to complete the SCR
18 Project by December 31, 2015, for Unit 3 and December 31, 2016, for Unit 4 (the
19 "Deadlines"). Wyoming has not given any indication that it will amend the
20 Deadlines to accommodate EPA's delayed action, nor that it is willing to forgo
21 compliance with the Deadlines. Indeed, the Wyoming Public Service Commission
22 rejected the Sierra Club's request that Wyoming delay that State's hearing on a

1 Certificate of Public Convenience and Necessity based on the EPA's new
2 timeline. In their order, the Wyoming Public Service Commission stated:

3 We find and conclude that RMP has a legal obligation under the
4 BART Settlement Agreement with WDEQ to complete the work
5 on Jim Bridger Units 3 and 4 by December 31, 2015, and
6 December 31, 2016, respectively. This obligation is independent of
7 EPA actions. We are concerned that, if RMP is not in compliance
8 with the SIP by the December 31, 2015, deadline, it would have to
9 shut down Jim Bridger Unit 3. Loss of this low cost resource could
10 drive up the cost of electricity for ratepayers. This problem would
11 be similarly exacerbated if RMP failed to meet the December 31,
12 2016, deadline for Jim Bridger Unit 4. The only way to avert this
13 expensive problem is to proceed with the public hearing in March
14 2013. Because the project is in its design and planning phase and
15 construction has not begun, if the EPA were to alter emission
16 requirements, RMP would still be able to implement any necessary
17 changes. RMP has included room for adjustment to emission limits
18 in its bid process, requiring contractor guarantees that their
19 technology can meet a range of levels of emission limits. The
20 hearing in this matter will proceed but must be rescheduled to
21 allow the parties time to adequately prepare for the hearing. (*Order*
22 *issued February 4, 2013, Paragraph 14, Page 4, Record No.*
23 *13314, Docket No. 20000-418-EA-12*)
24

25 Thus, the Company must consider itself under an independent obligation to the
26 state of Wyoming to meet the Deadlines despite any lack of ruling by the EPA.

27 **Q. If the state of Wyoming were to amend its compliance Deadlines for Jim**
28 **Bridger Units 3 and 4, would the Company take the appropriate actions to**
29 **comply with an amended compliance schedule?**

30 A. Yes. The Company recognizes the planning and review complexity that has been
31 created by the EPA's delayed action on the Wyoming SIP and remains committed
32 to timely and appropriately updating its assessments of Project risks and
33 opportunities associated with our existing state of Wyoming compliance
34 obligations, future actions by the state of Wyoming, future EPA actions, and the

1 competitive EPC market. The Company's primary objective in analyzing and
2 implementing emissions control projects is to determine the most economic
3 means of meeting mandated compliance obligations. The Company will continue
4 to pursue that objective.

5 **Q. What other key contracting and/or permitting activities remain to be**
6 **completed to allow the SCR Project to be constructed?**

7 A. The Company filed an air quality permit application on April 3, 2012 (see Chad
8 Teply Direct Testimony Exhibit CAT2-3). The application submitted by the
9 Company to the Wyoming Air Quality Division on April 3, 2012, is required to
10 obtain a permit authorizing the construction of the Unit 3 and Unit 4 SCR Project.
11 Although the November 3, 2010 BART Appeal Settlement Agreement requires
12 the installation of emissions reduction equipment on the two units, the Company
13 is required to obtain a permit from the Wyoming Air Quality Division, New
14 Source Review, prior to the commencement of construction.

15 **Q. What is the status of the Wyoming Air Quality Division review of the air**
16 **permit application described above?**

17 A. The Wyoming Air Quality Division has deemed the Company's air permit
18 application complete, and the Company is currently in the process of responding
19 to agency questions regarding application of Best Available Control Technology
20 ("BACT") for particulate matter emissions 2.5 microns and smaller ("PM_{2.5}")
21 control.

22 **Jim Bridger Water Rights**

23 **Q. What is WRA's position with respect to Jim Bridger water rights as it**

1 **pertains to this case?**

2 A. WRA’s position with respect to Jim Bridger water rights is that there is potential
3 monetary and environmental value in reducing water use at the Jim Bridger plant
4 and that alternate compliance strategies could result in different water needs at
5 Jim Bridger.

6 **Q. Please describe the volume of water rights held by the Company associated**
7 **with operation of the Jim Bridger facility.**

8 A. The volume of water rights associated with operation of the Jim Bridger facility
9 are listed below.

10

State No. /Other	Water Source	Flow	Priority Date	Period of Use	Average Year	Drought Year
Permit 32112	Green River	62.8 (CFS) ⁽¹⁾	1968	Year round	39,000	36,000
Permit 191565	Jim Bridger Mine Ground Water(2)	3,800 (GPM) ⁽³⁾	2009	Year round	1,800	n/a
Permit 191566	Jim Bridger Mine Ground Water(2)	2,500 (GPM)	2009	Year round	1,200	n/a
Permit 191567	Jim Bridger Mine Ground Water(2)	500 (GPM)	2009	Year round	250	n/a
Wyoming Water Development Commission Storage/Use Contract	Fontenelle Reservoir	n/a	2008	Year round	35,000	35,000

11

12 (1) cubic feet per second

13

14 (2) Mine water used for cooling tower make-up water only. Permits are valid through
15 December 31, 2039

16

17 (3) gallons per minute

18

19 **Q. Please describe the minimum, average and maximum intake flows from the**
20 **Green River diversion supplying water to the Jim Bridger plant.**

1 A. The minimum intake flow at the Jim Bridger plant's Green River pump station,
2 based on an annual average, occurred in 1986 and was 17,800,000 gallons per
3 day. The average intake flow from 1977 through 2011, based on annual averages,
4 was 25,400,000 gallons per day. The maximum intake flow at the Jim Bridger
5 plant's Green River pump station, based on an annual average, occurred in 1992
6 and was 32,100,000 gallons per day. Since 2010, the plant has integrated use of
7 water from the Jim Bridger mine into its processes, which has generally reduced
8 water delivered from the Green River diversion.

9 **Q. Will installation of the SCR systems under review in this docket materially**
10 **impact the annual average water consumption requirements at the Jim**
11 **Bridger facility?**

12 A. Installation of the SCR systems is not expected to change the annual average
13 water consumption requirements at the Jim Bridger facility.

14 **Q. Are the water rights on the Green River fully appropriated?**

15 A. No. Unappropriated water remains available in the Green River.

16 **Q. Is there likely an available market in which to sell PacifiCorp's existing**
17 **water rights?**

18 A. No. Until such time as the Green River becomes a fully appropriated basin, a
19 market to sell PacifiCorp's water rights is not readily available.

20 **Q. If a market for water rights were available, please describe the market and**
21 **the potential value of the Company's water rights on the Green River.**

22 A. The market for water rights and the potential value of the Company's rights on the
23 Green River will vary significantly depending on several factors. These factors
24 include:

- 1 1) Type of right (i.e. irrigation, municipal, industrial (beneficial use));
- 2 2) Type of diversion (i.e. surface or groundwater);
- 3 3) Whether or not there is unappropriated water in the basin, which is
- 4 determined by the Wyoming State Engineer's office.¹

5 Ultimately, the value of water rights is unknown and difficult to predict; in other
6 words entirely speculative. In the case of PacifiCorp's surface water rights, permit
7 #32112 with a priority of 1968 was acquired by filing an application to appropriate
8 with the state engineer. The application was approved in 1968 and proof of beneficial
9 use was filed in 1999. Certificate of Appropriation was issued March 3, 2001. Also
10 the groundwater rights (priority 2009) were permitted in an effort to permit the use of
11 mine water that would otherwise be "wasted" and put it to beneficial use. No market
12 driven expenses were incurred.

13 Wyoming Water Development Commission (WWDC) has the exclusive and
14 perpetual right to contract up to 120,000 acre feet of water from the Bureau of
15 Reclamation's Fontenelle reservoir. With PacifiCorp's 35,000 acre feet contracted
16 and an additional 11,500 acre feet under contract with another party, over 60% of the
17 storage water remains available for future contracts.

18 PacifiCorp's agreement is structured such that the Company would pay
19 \$61.00 per acre foot for any water used under the agreement. PacifiCorp pays an
20 annual readiness to serve fee of \$10.00 per acre foot annually for the 35,000 acre feet
21 under its contract.

22 **Q. What, if any, revenue is generated by the state of Wyoming under the water**
23 **rights agreement supporting Jim Bridger facility needs?**

¹In the Green River basin, it is believed that there is unappropriated surface and ground water available. In this case any applicant can file an application to appropriate with the state engineer and potentially receive an allocation of water and pay the administrative expenses to secure the required water right permit.

1 A. The Wyoming Water Development Commission receives revenues from the
2 aforementioned agreement. The amount is \$350,000 paid annually.

3 **Q. Is the Company aware of water shortage conditions on the Green River that**
4 **have triggered curtailment measures to be taken by the state of Wyoming?**

5 A. No. The Company is not aware of this scenario having occurred; however, if a
6 water emergency occurred due to drought or other extenuating circumstances, early
7 priority water (i.e. senior rights) would have a higher value than later priority (i.e.
8 junior rights). This is based on Wyoming water law - first in time first in right.

9 **Q. If curtailment measures were to be taken, please describe the water rights**
10 **that are senior to the Company's "junior right" on the Green River.**

11 A. There are 291 individual direct flow water rights that are senior to PacifiCorp's
12 Permit 20 2/136 (original temporary filing number, now is Permit 32112) on the
13 Green River. These rights represent approximately 710 cubic feet per second of
14 flow. There are 64 more individual rights that are ahead of PacifiCorp Permit
15 7479, totaling approximately 175 additional cubic feet per second of flow.

16 The most senior water right in the system has a priority date of 1871. The
17 majority of the senior rights are for irrigation purposes. There are also rights
18 ahead of PacifiCorp that are used for stock watering, domestic, municipal and
19 industrial purposes. There are only 6 individual rights that are senior to
20 PacifiCorp's that are used for industrial purposes (totaling approximately 37 cubic
21 feet per second of flow). The most senior industrial use right has a priority date
22 of 1946.

23 **Q. Please confirm that in the scenario where Bridger Units 3 or 4 or both are**
24 **retired and replaced by alternative generation such as CCCT unit(s) located**

1 **in close proximity to load centers, the Company could monetize the water**
2 **rights on the Green River.**

3 A. It is unknown what the Company could or would do with surplus water rights if it
4 were to retire Jim Bridger Units 3 and 4. Given current water resource conditions,
5 PacifiCorp would anticipate the following potential alternatives being available
6 (reported in no order of priority):

7 1) Seek an administrative action, through filing and approval processes with
8 the state of Wyoming, to hold the excess water rights in a “no-use status”
9 for an extended period of time while keeping the water rights valid;

10 2) Sell the excess water rights on the open market, if possible, under the
11 constraints discussed above;

12 3) Make the excess water rights available for beneficial use through a third
13 party, temporary lease agreement; and/or

14 4) Allow the excess water rights to become invalid through non-use and
15 expose them to the water right forfeiture process – basically lose the right
16 to the surplus water by not using it.

17 **Q. Considering the Company’s water rights are allocated in an underallocated**
18 **watershed, does the Company agree with Parties’ positions that the**
19 **assessment of potential water rights value would materially impact the**
20 **Company’s analyses or change its recommended course of action with**
21 **respect to the Jim Bridger Units 3 and 4 SCR Project?**

22 A. No.

23 **Transmission Planning Considerations**

1 **Q. Please summarize the Parties' concerns with respect to the Company's**
2 **transmission planning considerations incorporated into the Jim Bridger**
3 **Units 3 and 4 SCR Project analyses.**

4 A. Parties have expressed the following concerns with the Company's transmission
5 planning assumptions incorporated into the Jim Bridger Units 3 and 4 SCR
6 Project analyses:

7 1) The OCS asserts that planning uncertainties associated with transmission
8 impacts of the Jim Bridger Units 3 and 4 SCR Project decision have not
9 been adequately examined and tested. OCS requests that transmission
10 system impacts should be studied in additional scenario analyses to
11 demonstrate that the installation of the Jim Bridger SCR Project in
12 conjunction with the currently planned Energy Gateway transmission
13 project segments is the least cost alternative.

14 2) WRA asserts that the potential retirement of Jim Bridger Units 3 and 4
15 would likely release enough transmission capacity to delay or avoid the
16 need for additional transmission, and that such scenarios require additional
17 analysis.

18 3) Sierra Club asserts that the retirement and replacement of Jim Bridger
19 Units 3 and 4 with capacity closer to PacifiCorp's load centers would
20 likely allow avoided or deferred transmission system expenditures.

21 **Q. Are the Company's current plans for future Energy Gateway transmission**
22 **project segments at issue in this case?**

23 A. No.

1 Q. **Is the Jim Bridger Units 3 and 4 SCR Project decision-making process under**
2 **review in this docket dictated by the future segments of the Energy Gateway**
3 **transmission project?**

4 A. No.

5 Q. **Has the Company incorporated reasonable assumptions regarding the**
6 **Energy Gateway segment scenarios into its System Optimizer analyses**
7 **supporting this docket?**

8 A. Yes. The System Optimizer Model analyses used to support this docket assume the
9 Energy Gateway project is implemented and includes Energy Gateway West
10 transmission investments (Windstar to Populus and Populus to Hemmingway).

11 Q. **Did OCA witness Mr. Falkenberg's analyses of the impacts of potential**
12 **future Energy Gateway transmission project segments identify any material**
13 **impacts on the Jim Bridger Units 3 and 4 SCR Project investment decision?**

14 A. No. Mr. Falkenberg's testimony surmises:

15 ...the Gateway project does not, by itself, enhance the value of
16 continued coal operation of Bridger Units 3 and 4, nor does it
17 appear that completion of Gateway is necessary to enable
18 continued efficient operation of Bridger Units 3 and 4.²

19
20 Nonetheless, Mr. Falkenberg spends considerable time and testimony providing
21 his evaluation of the cost effectiveness of the Company's currently planned
22 Energy Gateway transmission project segments against various Jim Bridger plant
23 dispatch scenarios and compliance options. However, this information would not
24 affect the Company's recommendation in this docket.

25 Q. **Mr. Falkenberg takes issue with several of the Company's responses to data**

² OCS/Falkenberg testimony page 34 of 44, lines 845-847

1 **requests provided in discovery, including the question as to whether early**
2 **retirement of Bridger Units 3 and 4 would enable the deferral or avoidance**
3 **of any of the Energy Gateway transmission segments. Does the Company's**
4 **response to this question remain the same?**

5 A. Yes. While the question does not affect the decision at hand, the Company's
6 response remains that retirement of Jim Bridger Units 3 and 4 would reduce the
7 need to transport that thermal resource westward between the proposed Anticline
8 substation and existing Populus substation from Wyoming to the Company's load
9 centers, but it would not avoid the need for more transmission capacity out of
10 Wyoming, and hence the need for various Energy Gateway segments in that
11 regard.

12 Additionally, it is not practical to determine with any certainty the change
13 in need, modifications or delays in various Energy Gateway segments due to
14 Bridger Units 3 and 4 retirements without that scenario having been demonstrated
15 as the preferred compliance alternative for customers; the timing, location, type
16 and size of replacement resources would be the determining factor for such an
17 analysis.

18 **Q. Would the answer to the preceding question be the same if it were assumed**
19 **that the retired Jim Bridger Units were replaced by combined cycle plants**
20 **located closer to load centers?**

21 A. Yes. Company witness Mr. Rick Link describes a sensitivity analysis in his
22 rebuttal testimony showing the SCR Project investment is favorable to an early
23 retirement alternative that replaces Jim Bridger Unit 3 and Unit 4 with a new

1 combined cycle facility located in southern Utah.

2 **Q. Did WRA or Sierra Club provide any detailed analyses of the Company’s**
3 **transmission system and associated constraints to support their testimony?**

4 A. No. WRA’s assertions regarding potential future savings on transmission system
5 expenditures are based on a simple comparison of Jim Bridger rated capacity and
6 potential ratings of future transmission system segments. Sierra Club bases its
7 assertions on a similar simplistic evaluation of generation resource capacities as
8 compared to potential rating of future transmission system segments. Neither of
9 these analyses provides the necessary level of detailed technical review upon
10 which to base future transmission system investment decisions, and as discussed
11 above, the Company’s current plans for Energy Gateway transmission segments
12 are not at issue in this case.

13 **Future Environmental Compliance Considerations**

14 **Q. What is WRA’s position with respect to the Company’s analyses of**
15 **uncertainties related to future environmental compliance associated with the**
16 **Jim Bridger Units 3 and 4 SCR Project at issue in this case?**

17 A. WRA’s position with respect to the Company’s analyses of uncertainties related
18 to future environmental compliance associated with the Jim Bridger Units 3 and 4
19 SCR Project is that the Company did not model costs associated with all potential
20 rulemaking outcomes, such as Subtitle C regulation of coal combustion residuals
21 (“CCR”), updated Clean Water Act effluent guidelines, or the costs of complying
22 with increasingly stringent National Ambient Air Quality Standards (“NAAQS”).

23 **Q. Has the Company appropriately analyzed proxy compliance costs associated**

1 **with future environmental costs?**

2 A. Yes. The Company's analyses include reasonably foreseeable proxy compliance
3 costs associated with future environmental regulations based upon the best
4 information available at the time of analysis. I will explain the Company's current
5 assessment of emerging environmental regulations and the associated cost
6 assumptions further below.

7 Coal Combustion Residuals ("CCR") Regulations

8 **Q. What is the Company's current assessment of emerging CCR rulemaking?**

9 A. The EPA's proposed coal combustion residuals rulemaking is currently
10 anticipated to be finalized in late 2014 at the earliest, with case specific
11 compliance deadlines five to seven years thereafter, or by late 2019 at the earliest,
12 according to EPA's current forecasts. To assess this proposed EPA rule, the
13 Company has incorporated the EPA's proposed RCRA Subtitle D compliance
14 scenario as a proxy into its analyses of the Jim Bridger investment decisions. The
15 Company does not believe that the EPA's proposed RCRA Subtitle C rules
16 represent a reasonable outcome for the power generation industry and is not aware
17 of the EPA promulgating guidance on their assessment of the breadth of a Subtitle
18 C impact on the industry and the economy as a whole. It is, however, expected
19 that much of the cost associated with a Subtitle C compliance scenario would be
20 incurred because of past operations at the facility and would not be avoidable. The
21 Company will be faced with certain CCR storage, handling, and long-term
22 management costs at its Jim Bridger facility whether individual units at the
23 facility continue to operate with coal as the fuel supply or not. These CCR closure

1 costs would be accounted for as an Asset Retirement Obligation (“ARO”)
2 expense.

3 **Q. Please discuss the specific actions in the Company’s current proxy CCR**
4 **compliance plan that would not contribute to compliance with proposed**
5 **Subtitle C compliance obligations, should they be promulgated.**

6 A. In a general sense, Subtitle C compliance as proposed would require all CCR
7 material to be treated as a “special waste” (i.e. hazardous waste) from the “point
8 of their generation to the point of final disposition, including during and after
9 closure of any disposal unit” (75 Fed. Reg. 35133). Three general expectations
10 exist for Subtitle C compliance: 1) the processing, handling, and treatment of all
11 CCR material as hazardous waste from the point of generation through the point
12 of final disposition; 2) the conversion of all CCR processing, transport, and
13 storage infrastructure and processes from wet to dry; and 3) the closure of all
14 CCR surface impoundments (i.e. ponds) within seven years of the promulgation
15 of the rule.

16 The specific actions in the Company’s proxy compliance plan that would
17 not be expected to contribute to compliance with the proposed Subtitle C
18 regulations would be continued management and construction of on-site
19 impoundments, which would be generally expected to be replaced with alternate
20 means of dry disposal of CCR designated as a hazardous waste.

21 **Q. What efforts is the Company taking to plan for and assess potential CCR**
22 **rulemaking outcomes at the Jim Bridger facility?**

1 A. There are three primary CCR-related efforts underway at the Jim Bridger facility
2 that will ultimately position the Company to comply with and/or further assess
3 potential CCR rulemaking outcomes. First, FGD Pond 1 is being dewatered,
4 contoured, capped, and re-vegetated with an expected final reclamation
5 completion date in the 2016-2018 timeframe. Second, FGD Pond 2 is being
6 evaluated for segmenting options from a single large impoundment into what
7 would eventually be 2 to 3 compliant, lined cells by the 2018 timeframe. Finally,
8 new bottom ash and dry ash landfill cells within the existing CCR landfill
9 footprint are being sited, developed, and permitted on an as-needed basis pursuant
10 to Wyoming Department of Environmental Quality requirements.

11 **Q. Will the installation of the Jim Bridger Units 3 and 4 SCR Project exacerbate**
12 **anticipated CCR compliance project obligations due to increased waste**
13 **streams or other detrimental effects of operation?**

14 A. No.

15 Clean Water Act Effluent Guidelines Update

16 **Q. What is the Company's current assessment of the ability of Jim Bridger**
17 **Units 3 and 4 to comply with proposed effluent rulemaking?**

18 A. The EPA's announced intention to undertake effluent rulemaking has not yet
19 materialized into a proposed rule to regulate effluent limits for wastewater
20 discharges from steam electric plants.

21 **Q. What effluents (e.g. waste water) are discharged off-site from the Jim**
22 **Bridger facility?**

1 A. No waste water is discharged off-site from the Jim Bridger facility. Waste water
2 generated at the Jim Bridger plant is collected and stored in a flue gas
3 desulfurization pond and an evaporation pond.

4 **Q. Considering no waste water is discharged off-site from the Jim Bridger**
5 **facility, would the Company expect material compliance cost impacts from**
6 **the future rulemaking?**

7 A. While specific impacts of future rulemaking are not possible to predict at this
8 time, the Company would expect to be able to achieve the objectives of the EPA's
9 updated effluent guidelines when proposed with relatively minor compliance
10 project investments.

11 National Ambient Air Quality Standards

12 **Q. How will installation of the Jim Bridger Units 3 and 4 SCR Project impact**
13 **the state of Wyoming's ability to maintain compliance with NAAQS?**

14 A. Increasingly more stringent NAAQS have been and are being adopted for criteria
15 pollutants, including SO₂, NO₂, ozone, and PM_{2.5}. Installation of the Jim Bridger
16 Units 3 and 4 SCR Project will directly benefit NO₂ and ozone attainment, and
17 the units are currently equipped with wet scrubbers that directly benefit SO₂
18 emissions performance. As part of the permitting process for the SCR Project, the
19 units are also undergoing Best Available Control Technology ("BACT") review
20 as it pertains to PM_{2.5} emissions. The Company is not aware of future incremental
21 NAAQS compliance obligations that have been overlooked in its analyses as
22 purported by WRA witness Ms. Kelly. In aggregate, installation of the SCR
23 Project and the associated permitting requirements are helping to avoid the

1 negative consequences of the Jim Bridger plant area being declared a
2 nonattainment area.

3 Proposed Clean Water Act 316(b) Regulations

4 **Q. What is the Company's current assessment of the ability of Jim Bridger**
5 **Units 3 and 4 to comply with proposed Clean Water Act 316(b) water intake**
6 **regulations?**

7 A. Due to the preliminary status of the 316(b) rulemaking process, the Company has
8 not completed specific detailed studies to fully ascertain and verify that intake
9 structure retrofits or new technologies will be necessary to comply with the
10 currently proposed 316(b) water intake regulations, particularly since a key
11 element of the proposed rule is to conduct plant-specific studies and assessments.
12 The Jim Bridger plant utilizes cooling towers and closed cycle cooling,
13 significantly reducing potential 316(b) rulemaking exposure. Nonetheless,
14 modifications may be needed at the Jim Bridger cooling water intake structure,
15 located at the Green River diversion, to comply with the proposed impingement
16 mortality standards. Installation of the Jim Bridger Units 3 and 4 SCR Project is
17 not expected to negatively impact any such compliance costs.

18 **Conclusion**

19 **Q. Do you have any final comments?**

20 A. Yes. As summarized at the start of my testimony as well as thoroughly explained
21 in my detailed answers, I believe the Company has provided sufficient
22 information for the Commission to enter a finding in this docket to support the
23 pre-approval of the Jim Bridger Units 3 and 4 SCR Project. I request that the

1 Commission approve the application based on the information and analyses
2 presented in the case, recognizing that the Company's proposed course of action
3 meets its compliance obligations in a timely and effective manner based upon the
4 best information available to the Company.

5 **Q. Does this conclude your rebuttal testimony?**

6 A. Yes.