

1 **Introduction**

2 **Q. Please state your name and business address and position.**

3 A. My name is Cathy S. Woollums. My business address is 106 East Second Street,
4 Davenport, Iowa. My position is senior vice president of environmental services
5 and chief environmental counsel for MidAmerican Energy Holdings Company
6 (MEHC). PacifiCorp is a subsidiary of MEHC.

7 **Qualifications**

8 **Q. Please describe your education and business experience.**

9 A. I received a Bachelor of Arts Degree in Political Science from Winona State
10 University and a Juris Doctorate from Drake University Law School. I was
11 admitted by examination to practice law in Iowa and Illinois and maintain my
12 licensure in both states. Following law school, I served a one-year appointment as
13 a law clerk in the 7th Judicial District in Iowa and then entered the private practice
14 of law where I was engaged in general and litigation for approximately three
15 years. I joined Iowa-Illinois Gas and Electric Company, a predecessor of
16 MidAmerican Energy Company and MEHC, in 1991 where I served in the
17 capacity of an attorney within the general counsel's office and handled
18 environmental matters, among others. I became the manager of environmental
19 services in 1995 and have held increasing positions of responsibility for
20 environmental issues within MEHC. In my current role as the senior vice
21 president of environmental services, I have responsibility for the development and
22 implementation of MEHC's worldwide corporate environmental policy, strategy
23 and programs, including the development of comments on proposed state and

1 federal laws and regulations, integrating environmental assessments of existing
2 and anticipated environmental regulations into planning and operating decisions
3 of business units, and advising management of the impact of proposed regulations
4 and developing potential compliance strategies. In addition, I oversee the
5 organization's environmental compliance assurance management program,
6 environmental permitting and reporting, and environmental litigation.

7 I have served on the Iowa State Bar Association's Environmental and
8 Natural Resources Section Council, the Edison Electric Institute's Environment
9 Executive Advisory Committee, the Iowa Climate Change Advisory Council, the
10 Midwestern Governors' Association Power Sector Working Group, the
11 Midwestern Governors' Renewable Electricity Advanced Coal with Carbon
12 Capture Advisory Group, and The Climate Registry Advisory Committee. I was
13 appointed to serve two terms as the Iowa governor's appointee to the Clean Air
14 Act Compliance Advisory Panel, chaired the Iowa Association of Business and
15 Industry's Environmental Committee for four years, and was recently invited to
16 serve on the GHG Reporting and Mitigation Advisory Committee, a partnership
17 of The Climate Registry and the Greenhouse Gas Management Institute.

18 **Q. Have you previously provided testimony before regulatory bodies?**

19 A. Yes. While I have not had the opportunity to testify before the Idaho Public
20 Utilities Commission, I am a Company witness on environmental matters pending
21 before the Wyoming Public Service Commission and I have testified in hearings
22 before the Environmental Protection Agency ("EPA") and various state
23 environmental proceedings. I have also provided testimony before various

1 legislative bodies.

2 **Purpose of Testimony**

3 **Q. What is the purpose of your testimony?**

4 A. The purpose of my testimony is to provide the Commission and parties with
5 information supporting the prudence of the Company's pollution control
6 expenditures for coal-fired power generation plants and the Company's processes
7 to identify environmental policy and compliance drivers that influenced the
8 installation of the emissions controls that are subject to review in this case.

9 **Q. Does your testimony discuss the complexity in balancing stakeholder**
10 **interests that the Company faces in making prudent pollution control capital**
11 **investment decisions?**

12 A. Yes. There are many different viewpoints regarding whether the Company should
13 make investments in its coal-fueled facilities. Some stakeholders take the position
14 that it is imprudent to make those investments prior to the time they are absolutely
15 required; some believe that the environmental regulations are too uncertain to
16 make such investments. Others believe no controls should be installed because the
17 units should be shut down. Compliance with current environmental requirements
18 is necessary to ensure the availability of a reliable source of electricity at a
19 reasonable cost, now and into the future.

20 **Justification of Pollution Control Investment**

21 **Q. Why has the Company invested in pollution control equipment?**

22 A. Because it is legally required to do so. Through the 1977 amendments to the
23 Clean Air Act, Congress set a national goal for visibility to remedy impairment

1 from manmade emissions in designated national parks and wilderness areas; this
2 goal resulted in development of the Regional Haze Rules, adopted in 2005 by the
3 EPA. The first phase of these rules trigger Best Available Retrofit Technology
4 (“BART”) reviews for all coal-fired generation facilities built between 1962 and
5 1977 that emit at least 250 tons of visibility-impairing pollution per year.
6 Visibility-impairing pollutants include sulfur dioxide SO₂, nitrogen oxides NO_x
7 and particulate matter (“PM”). The Company has 14 units that meet the
8 construction and emissions threshold criteria and are, therefore, “BART-eligible
9 units.” Pursuant to federal regulations at 40 CFR 51.308(e)(1)(ii), each state is
10 required to determine which BART-eligible sources are also “subject to BART.”
11 BART-eligible sources are subject to BART if they emit any air pollutant that
12 may reasonably be anticipated to cause or contribute to impairment of visibility in
13 any designated national park or wilderness area. The investments in pollution
14 control equipment are at the Company’s BART-eligible units that have been
15 determined by the state environmental regulators to be necessary after considering
16 available technology; costs of compliance; energy and non-air quality
17 environmental impacts; existing control equipment and the remaining useful life
18 of the facility; and the degree of improvement in visibility reasonably anticipated
19 to result from the use of such technology.

20 **Q. Have the state environmental agencies in Wyoming and Utah completed their**
21 **BART determinations?**

22 Yes. After considering these five factors, the respective state departments of
23 environmental quality for the units made their BART determinations and

1 incorporated the results of the above mentioned BART analyses into the operating
2 permits, construction permits and Approval Orders (defined below) for the
3 pollution control equipment included in this case.

4 With respect to the Naughton Unit 2 low NO_x burners and Wyodak low
5 NO_x burners and bag house projects, the Wyoming Department of Environmental
6 Quality (“WY DEQ”) issued BART permits for those units on December 31,
7 2009, incorporating the equipment and installation schedules recommended via
8 the BART reviews. The conditions of the BART permits have been incorporated
9 into the Wyoming State Implementation Plan (“SIP”) for Regional Haze in
10 support of its goals to reduce visibility impairing emissions. The Wyoming SIP is
11 subject to EPA review and approval. The WY DEQ has also issued construction
12 permits for the Naughton, Wyodak, and Jim Bridger pollution control projects
13 included in this case.

14 With respect to the Hunter Unit 2 and Huntington Unit 1 projects, the Utah
15 Department of Environmental Quality (“UT DEQ”) has incorporated the results of
16 BART reviews completed for those facilities into the Utah SIP. The Utah SIP is
17 also subject to EPA review and approval. The State of Utah has also issued
18 Approval Orders (*i.e.*, permits to construct) for each of the Hunter and Huntington
19 pollution control projects included in this case.

20 **Q. Are the Regional Haze regulations final?**

21 A. Yes. The Regional Haze regulations were initially adopted in 1999 but were
22 appealed and revised, with amended regulations being issued in 2005. Both Utah
23 and Wyoming submitted their initial Regional Haze state implementation plans in

1 2003, in 2008, and again in 2011, focusing on meeting emission reduction goals
2 to improve visibility. The attached Exhibit No. 18 demonstrates the EPA's
3 timeline for states to implement the Regional Haze rule; however, the timeline
4 does not include the time for EPA to take final action on the proposed regional
5 haze state implementation plans. The 2011 state implementation plan submittals
6 are final insofar as state action is considered; these submittals have not yet been
7 approved by the EPA but, nonetheless, do result in substantive requirements being
8 imposed on the Company's facilities. These requirements are confirmed in the
9 WY DEQ's Decision Document on the Company's BART permit applications
10 dated December 31, 2009, noting:

11 The entire submittal is currently undergoing EPA review and the
12 State has no control over how long the EPA takes to review the
13 SIP. The State, however, does not wait for EPA to complete its
14 review before implementing a SIP. . .The SO₂ levels have shown
15 compliance with the milestones and continue to demonstrate
16 declining SO₂ emissions levels.

17 **Q. Do the pollution control investments included in this case also support**
18 **compliance with other environmental regulations?**

19 A. Yes. In addition to the BART requirements under the Regional Haze Rules,
20 increasingly more stringent National Ambient Air Quality Standards have been
21 and are being adopted for criteria pollutants, including SO₂, NO₂, ozone, and PM.
22 Implementation of the pollution control projects described herein assists in
23 meeting these more stringent standards, avoiding the negative consequences of an
24 area being declared to be a nonattainment area. Further, while the Clean Air
25 Mercury Rule, which would have required a reduction of mercury emissions of
26 approximately 70 percent by 2018, was overturned by the United States Court of

1 Appeals for the District of Columbia Circuit in February 2008, the EPA has
2 proposed a new rule that will require coal-fired generating facilities to reduce
3 mercury, and other emissions of hazardous air pollutants, through a Maximum
4 Achievable Control Technology (MACT) standard. Under a consent decree, the
5 EPA issued a proposed rule to regulate hazardous air pollutant emissions in
6 March 2011 and must issue a final rule no later than November 2011. Compliance
7 with the final standards is expected to be required by November 2014. The bag
8 house and scrubber projects described herein will assist in meeting the
9 forthcoming MACT requirements.

10 Utah also has specific state regulations (State Rule 307-424-4) that require
11 electric generating units to meet specific mercury emission rates or control
12 efficiencies, notwithstanding any federal rules. The bag house and scrubber
13 projects at the Hunter and Huntington facilities will assist in meeting the
14 requirements of that regulation as well.

15 In short, the pollution control investments contemplated in this case are
16 required to maintain compliance with the environmental requirements described
17 above.

18 **Q. Please clarify the definition of a “presumptive BART emission limit” as it**
19 **pertains to established federal pollution control standards.**

20 A. The use of the term “presumptive BART emission limit” in the instance cited
21 does not mean that BART emission limits are uncertain future requirements.
22 Instead, the use of the term refers to emission rates identified in the Regional
23 Haze Rule, Code of Federal Regulations (CFR), Title 40, Sections 51.300 through

1 51.309, and Appendix Y. Electronic copies of the referenced CFRs can be found
2 at the following link:

3 http://www.access.gpo.gov/nara/cfr/waisidx_09/40cfr51_09.html

4 Presumptive BART emission limits come from Appendix Y cited above, and are
5 rates defined by the EPA. States use the rates defined by the EPA to assist in
6 determining whether a BART-eligible facility is presumed to meet the
7 requirement to install best available retrofit technology. For example, if the
8 installation of low-NO_x burners on a BART-eligible facility with cell-burners
9 firing sub-bituminous coal achieves an emission rate of 0.28 lb/MMBtu, which is
10 below the EPA presumptive BART rate of 0.45 lb/mmBtu (the presumptive rate
11 for a cell-burner unit burning sub-bituminous coal), it can be presumed that the
12 installation of low-NO_x burners on this unit meets federal BART requirements
13 with respect to NO_x control, and no additional controls would be likely to be
14 required. With respect to SO₂ control, the states of Utah and Wyoming, along
15 with New Mexico, are participating in a market-trading program identified in the
16 Regional Haze Rule, CFR, Title 40, Section 51.309. Under this program the states
17 have set SO₂ emission reduction milestones that must be achieved. These
18 milestones have been developed assuming that each coal-fired generating unit
19 meets the lower of its historic emission rate or the presumptive SO₂ rate. The EPA
20 has defined the presumptive SO₂ emissions rate as 0.15 lb/mmBtu or 90 percent
21 removal. Here again, if the installation of pollution control equipment on a
22 BART-eligible facility achieves an emission rate less than that presumptive limit
23 and overall emission reduction goals are being met, it can be presumed that the

1 installation meets federal BART requirements and no additional controls will be
2 required.

3 **Q. Please describe the process the Company engages in to determine whether to**
4 **make investments in environmental controls.**

5 A. First and foremost in the decision to invest in environmental controls are the
6 Company's compliance obligations. If a permit or regulation requires the
7 Company's plants to reduce emissions or achieve emission limits that cannot be
8 met with existing equipment, compliance options are examined to ascertain what
9 equipment can be installed to achieve the emission requirements. The Company
10 also monitors state and federal rulemaking activities and legislative proposals that
11 would have an impact on the facilities' operations. Monitoring these future
12 requirements allows the Company to ensure it is taking a longer term view of the
13 potential investments that may be required to lawfully continue operation of the
14 facilities.

15 **Q. How does the Company plan for existing and future environmental**
16 **requirements?**

17 A. Existing environmental permit and regulatory requirements, such as operating
18 within a permitted emission limit or complying with the regulatory requirements
19 of waste management activities, are implemented through operating practices,
20 procedures, and plans on a daily basis within the Company's operating facilities.
21 New compliance obligations may be imposed when operating permits are
22 renewed or applied for to reflect changes in regulatory requirements. To assess
23 the potential impacts of new environmental regulatory initiatives, the Company

1 employs environmental professionals in the business units who coordinate with
2 dedicated staff in the environmental policy and strategy group; we review
3 proposed and final regulatory requirements and are actively engaged in the
4 regulatory processes at both the state and at the federal level. We seek feedback
5 from our environmental regulators to assess their concerns, read and analyze
6 legislation and regulations proposed at the state and federal levels, provide
7 feedback on legislation, and review and comment on proposed regulations. The
8 Company submits written comments in regulatory proceedings and participates in
9 public hearings on the proposals, ensuring that the Company's concerns or
10 support, as appropriate, are considered in these public forums. We are both well
11 informed and engaged on these issues.

12 In addition, when significant environmental rulemaking or legislative
13 proposals are released, we assess those proposals and advise Company
14 management of the potential impacts of the proposals. If the preliminary or final
15 form of a proposal would alter the Company's business plan, those plans may be
16 amended to reflect the likely impact on the Company to achieve compliance with
17 the requirements within the relevant compliance period after considering our
18 compliance options.

19 **Q. When you consider the Company's compliance options, what factors are**
20 **considered?**

21 A. There are a multitude of factors, depending on the specific regulation. If a
22 regulation prescribes a specific emissions limit, the Company reviews what types
23 of controls may be available to achieve the requisite emissions limit, given the

1 specific characteristics of each unit. System impacts, reliability, capital costs,
2 operating and maintenance costs, the life of the controls, the life of the unit itself,
3 cost of replacement generation, and other factors are all considered. If an
4 emissions trading mechanism is available to achieve compliance, the costs of
5 obtaining the emissions allowances is compared to the costs to install and operate
6 controls, considering the factors noted above.

7 **Timing of Investments**

8 **Q. How are future environmental requirements factored into the Company's**
9 **analysis of its environmental compliance options?**

10 A. The Company develops a base set of environmental assumptions that reflects the
11 most likely scenarios to comply with air, water and waste regulations for
12 inclusion in the development of its annual business planning process. These
13 environmental assumptions reflect both existing and expected requirements under
14 the most likely scenario and are utilized as the basis for the Company's integrated
15 resource planning as well as for the Company's 10-year business plan. We also
16 examine the actual and potential compliance timeframes and how those
17 timeframes may be coordinated with planned plant outage schedules.
18 Coordinating major environmental control projects with existing outage schedules
19 allows the Company to avoid additional outage time, reducing the need for
20 replacement power, minimizes costs, and maintains system reliability.

21 **Q. Why is PacifiCorp installing pollution control equipment at this time?**

22 A. The Company is installing pollution control equipment at this time to comply with
23 the Regional Haze Rules, as well as in response to more stringent National

1 Ambient Air Quality Standards, the impending mercury requirements, and a
2 number of existing and emerging emission reduction requirements. Final
3 installation activities and tie-in of the pollution control equipment described
4 above can only be accomplished when the units are off-line. Meeting the timing
5 requirements of construction permits and Approval Orders and reducing plant
6 outage time necessitated completion of final installation activities and tie-in of the
7 pollution control equipment during the scheduled overhauls within this test
8 period. Installation of the pollution control equipment and associated systems
9 included in this case represent a significant step for PacifiCorp's coal-fueled
10 power plant fleet toward meeting the SO₂ and NO_x reductions required by the
11 Regional Haze Rules and established by the respective states' emissions reduction
12 milestones.

13 **Q. Has the Company installed the pollution control investments presented in**
14 **this case prematurely?**

15 A. No. The Company has been engaged in Regional Haze Rule compliance planning
16 with the respective state departments of environmental control since the initial
17 development of the western states' regional program. During the initial 2003 to
18 2008 planning period, the Company was required by the Wyoming Division of
19 Air Quality ("WDAQ") to conduct detailed BART reviews. It was the initial
20 expectation of the western states' regional haze program that individual states
21 would establish BART emission limits for BART eligible units and would require
22 installation of appropriate controls by 2013. PacifiCorp originally submitted these
23 evaluations of its BART eligible facilities in Wyoming in January 2007, with

1 revisions submitted in October 2007. Addendums to individual facility BART
2 reviews were developed in March 2008. WDAQ completed its final reviews of
3 the BART evaluations and the Company's associated permit applications and
4 issued Air Quality Permits (construction permits) for the projects presented in this
5 case in May 2009. WDAQ followed up by issuing BART permits for the pollution
6 control projects presented in this case in December 2009. The pollution control
7 projects presented in this case meet the Company's obligations in this regard.

8 **Q. Did the Company follow a similar process for its Utah coal fueled plants?**

9 A. Yes. For the Hunter and Huntington scrubber projects the Company completed
10 detailed scrubber technology screening studies in 2007 and submitted its Notice
11 of Intent (construction permit) applications to the Utah Division of Air Quality
12 ("UDAQ") for the Hunter project in November 2007, with supplements submitted
13 in December 2007, and its Notice of Intent application for the Huntington project
14 in April 2008, with a supplement submitted in January 2009. UDAQ completed
15 its final reviews of the Company's permit applications for the pollution control
16 projects and issued Approval Orders (construction permits) in March 2008 for the
17 Hunter projects and January 2010 for the Huntington projects. UDAQ also
18 included these projects in its regional haze SIP in 2008. The pollution control
19 projects presented in this case meet the Company's obligations in this regard.

20 **Q. Do the timelines discussed above provide a reasonable progression of**
21 **evaluation, agency coordination, and decision-making for the respective**
22 **pollution control projects?**

23 A. Yes. The pollution control projects presented in this case are extremely complex

1 and require a significant amount of evaluation and planning to bring to fruition.
2 The permitting processes described above are required to define the technical
3 requirements the Company needs to move forward with establishing competitive
4 pricing for the work and ultimately executing the projects. The timeline for
5 securing contracts for this type of work through project completion often has a
6 multi-year duration.

7 **Q. Did other regional emissions control regulations impact planning of the**
8 **Company's scrubber projects?**

9 A. Yes. The states of Utah and Wyoming also participate in a Regional SO₂
10 Milestones and Backstop Trading Program. These pollution control investments
11 support the milestones established in these states as part of this program.

12 **Q. Did the Company consider future environmental requirements when**
13 **undertaking the emission reduction projects proposed for cost recovery in**
14 **this case?**

15 A. Yes. While the projects proposed in this case were implemented as a result of
16 current environmental requirements, the Company also considered the need for
17 the emission reductions and the type of controls that could be required in the
18 future when it planned for these projects. There are a multitude of environmental
19 requirements the electric industry faces over the next several years. Exhibit No.
20 19, referenced colloquially as the so-called "EPA train wreck" slide, identifies
21 some of the requirements that are currently underway or in development. There is
22 a great deal of uncertainty associated with future environmental requirements;
23 however, the Company must comply with the requirements that exist today and

1 prepare for the regulations that will be adopted in the future.

2 **Q. Is there emission reduction equipment that is being installed to comply with**
3 **the requirements that exist today that would not be required in the future?**

4 A. No. The controls are required to comply with existing requirements. Further, the
5 addition of scrubbers, low-NO_x burners and baghouses will position the Company
6 well to meet impending environmental requirements, including the Utility
7 Hazardous Air Pollutant Maximum Achievable Control Technology standards
8 that were proposed on March 16, 2011, and will be final in November 2011.

9 **Q. Did the Company need to make the investments included in this case if it**
10 **expects to continue operating the plants?**

11 A. Yes. In order to comply with the requirements that are set forth in the facilities'
12 air quality permits, it is necessary to install and operate the controls in question.
13 The Company has an obligation to operate its facilities in compliance with its
14 permit requirements and the applicable laws and regulations. There have been
15 many electric utilities around the country that have made announcements that they
16 plan to retire plants rather than make investments in emissions control equipment.
17 These planned retirements are not limited to coal-fueled plants, as evidenced by
18 Exelon's December 8, 2010, announcement that it would shut its Oyster Creek
19 nuclear plant ten years early to avoid having to comply with a requirement to
20 install cooling towers, because doing so would cost more than the value of the
21 plant.¹ The Company does not have plans to shut down the facilities in which the
22 proposed investments have been made.

¹ See: http://www.nytimes.com/2010/12/09/nyregion/09nuke.html?_r=1&partner=rss&emc=rss

1 **Q. Shouldn't the uncertainty associated with future environmental regulations**
2 **weigh in favor of waiting until the regulations are final to install any**
3 **controls?**

4 A. No. The full and final scope of environmental regulations is not easily
5 determined, particularly when rulemakings are often lengthy in their own right
6 and just as often followed by extensive and lengthy litigation before the rule is
7 finalized. Perfect foresight is not possible; the EPA has recently begun to
8 acknowledge that its approach to regulation makes it difficult for companies with
9 compliance obligations to make long-term decisions on compliance. In EPA
10 Administrator Lisa Jackson's remarks prepared on the release of the Utility
11 Hazardous Air Pollutants Maximum Achievable Control Technology standards
12 (HAPs MACT) on March 16, 2011, she stated:

13 The proposal and implementation of these standards will also have
14 benefits for American utilities. For the first time in twenty years,
15 they will have certainty about the standards they must meet. And
16 setting national standards for mercury and air toxics will level the
17 competitive playing field and close loopholes for big polluters.
18 Utilities that have already put pollution control technology in place
19 will no longer have to compete with those who have delayed those
20 investments – a group that includes almost half of the nation's
21 coal-fired plants, which lack advanced pollution control
22 equipment. In fact, facilities that have already taken responsible
23 steps to reduce the release of toxins into our air will be at a
24 competitive advantage over their heavy-polluting counterparts.
25 And to ensure cost-effectiveness, we have proposed flexibility in
26 meeting the standards. The technologies being required already
27 exist in abundance, and under the proposal, power providers have
28 four years to comply.²

29 The lack of certainty in environmental regulation is well recognized, but

² Remarks available at:
<http://yosemite.epa.gov/opa/admpress.nsf/12a744ff56dbff8585257590004750b6/b7e570d651cad03852578550057011c!OpenDocument>

1 does not obviate existing compliance obligations. The uncertainty of future
2 environmental regulations is also acknowledged by state utility regulators. On
3 February 16, 2011, the National Association of Regulatory Utility Commissioners
4 Board of Directors adopted a resolution, included as Exhibit No. 20, urging the
5 EPA to ensure, as the agency develops public health and environmental programs,
6 that reliability, cost, compounded economic impacts of multiple environmental
7 rulemakings, and flexibility of timeframes for compliance be considered.

8 **Q. Does the Company believe that any of the emissions control equipment**
9 **subject to review in this proceeding will not be necessary as a result of future**
10 **environmental requirements?**

11 A. No. The Company does not anticipate that environmental regulations will become
12 less stringent and history demonstrates that regulations become more stringent
13 over time. The controls subject to review in this proceeding are necessary to allow
14 the Company to continue operating these facilities given that increasing
15 stringency. Further, the Company's analysis suggests that these controls place the
16 facilities in a position to continue to generate reasonably priced electricity under
17 contemplated environmental regulations, even if greenhouse gas legislation is
18 adopted. The Company's analysis suggests that the cost of carbon under a
19 regulatory regime for greenhouse gas emissions would have to approach \$40 per
20 ton with gas prices sustained below the \$7 - \$9/mmBtu range to begin to make
21 replacement of coal-fueled resources cost effective prior to 2030. Utilizing
22 greenhouse gas reduction requirements as a basis for current investment decisions
23 is highly speculative given that the current Congressional activity is focused on

1 delay or repeal of the EPA's authority to regulate greenhouse gases, and not on a
2 comprehensive legislative effort to reduce greenhouse gas emissions.

3 Additionally, in the course of applying environmental requirements to the
4 Company's facilities, the respective state Department of Environmental Quality or
5 the EPA consider what constitutes cost-effective emission reductions, taking the
6 position that all cost-effective reductions are required. As discussed earlier in my
7 testimony, in the context of the Regional Haze program's Best Available Retrofit
8 Technology determinations, the reviewing environmental agency must consider:

- 9 (a) the costs of compliance;
- 10 (b) the energy and non-air quality environmental impacts of compliance;
- 11 (c) any existing pollution control technology in use at the source;
- 12 (d) the remaining useful life of the source; and,
- 13 (e) the degree of visibility improvement which may reasonably be anticipated
14 from the use of BART.

15 Within the foregoing mandatory BART factors are considerations such as
16 greenhouse gas regulation and other environmental regulatory drivers that may
17 have an impact on the remaining useful life of the source are considered.

18 **Q. Should the Company wait until all the regulations are considered, finalized,**
19 **and quantified to install controls?**

20 A. No. Doing so would put the facilities at substantial risk of noncompliance and
21 does not reflect the reality of the multistate operations and planning process for a
22 utility the size of PacifiCorp. Moreover, it would be imprudent for a utility the
23 size of PacifiCorp to assume it can install all required controls under a "just-in-

1 time” plan. This approach to compliance poses a significant risk to the Company
2 and its stakeholders; as a practical matter, it cannot be economically achieved on a
3 system the size of the Company’s. Emission reduction projects are complex,
4 multi-year projects. Trying to install multiple controls within the same short time
5 frames poses a significant risk of noncompliance with penalties that can be
6 substantial. Even if a regulatory agency did not impose penalties for failing to
7 achieve emission reduction deadlines, third parties have not hesitated to bring
8 lawsuits against the operators of those facilities that miss deadlines or are
9 otherwise not in compliance with permit and emission limits. Indeed, the federal
10 clean air act specifically allows for private citizen enforcement of air quality
11 requirements.

12 Considering future environmental regulatory requirements such as the
13 HAPs MACT when planning compliance projects for existing regulations avoids
14 the concern many companies are expressing about the short three-year compliance
15 period. Because the HAPs MACT had its genesis in the Clean Air Mercury Rule,
16 which was issued by the EPA in 2005 but vacated by the court in 2008, the
17 Company was able to, and did, consider the potential impacts of a mercury rule on
18 its equipment decisions.

19 If a company waits for a rule to become final to begin to develop its
20 compliance strategy, it may find itself in a situation similar to facilities in
21 Oklahoma where the EPA recently rejected the state’s implementation plan for
22 Regional Haze and has required that companies install scrubbers on three plants
23 or switch to natural gas within three years at a cost of approximately \$1 billion.

1 The permitting, procurement and installation of such equipment in such a short
2 time frame is challenging, if not impossible, and creates significant inefficiencies
3 and cost increases.

4 **Q. Do you believe that the Company may need to change the controls that are**
5 **subject to review in this case if the EPA does not approve the State**
6 **Implementation Plans?**

7 A. No. The controls at issue, including scrubbers, low NO_x burners, and baghouses
8 are important controls to meet both existing and future environmental regulations.
9 Emission reduction projects completed under the Regional Haze regulations for
10 SO₂, NO_x, and particulate matter will also serve to reduce mercury and other non-
11 mercury hazardous air pollutants, consistent with the Utility HAPs MACT that
12 will be finalized later this year. Likewise, these controls will assist in achieving
13 attainment with the National Ambient Air Quality Standards, including the fine
14 particulate standard, and the one-hour SO₂ standard as well as the impending
15 revised ozone standard. Even if additional controls for NO_x, such as selective
16 catalytic reduction (SCR) are required, the installation of combustion controls
17 such as low-NO_x burners is an important step in achieving lower-cost NO_x
18 reductions so that post-combustion controls are more efficient and operating costs
19 are lower.

20 **Q. Why doesn't the Company wait until it knows the outcome of all air quality,**
21 **waste and water rules to implement its environmental projects?**

22 A. The structure of the EPA and the nature of its rulemaking process are not
23 conducive to the agency producing coordinated air quality, waste and water rules

1 for the electricity sector; these media-based rules address different issues through
2 varying methods with different compliance timeframes. Nonetheless, the
3 Company undertakes efforts to ensure that the potential compliance requirements
4 for all these rulemaking activities are understood and reflected in its plans,
5 making decisions based on the best available information at the time the decisions
6 are made and updating that information as additional details on requirements
7 become available.

8 Environmental regulations and the cost of implementation are only one
9 factor that influences whether or not to make investments in environmental
10 projects; the Company also must consider the cost of alternative generation.
11 Future natural gas prices, construction costs for renewable generation, and
12 associated transmission availability and costs are also among the factors that are
13 contemplated in a determination of whether it is economic to install controls at
14 coal-fueled plants.

15 **Q. Would the Company's decision to make these incremental investments in**
16 **environmental controls at these units change if additional limitations were**
17 **placed on carbon dioxide emissions?**

18 A. No. The Company is engaged in assessing its existing generation resources, its
19 planned supply and demand-side resources and its 10-year capital budget with
20 respect to the impact of potential carbon dioxide emissions restrictions. While
21 other planned investments may change, the Company's plans regarding the
22 emission control investments included in this case would not change as a result of
23 carbon-emission restrictions. The current controls are required under existing

1 regulations and the units have depreciation lives for ratemaking purposes that
2 provide sufficient remaining time to depreciate the investments in the
3 environmental controls. While carbon restrictions may ultimately affect the cost
4 of generating electricity at these units, they are still anticipated to be utilized as
5 part of the Company's overall generating fleet that will be necessary to provide
6 base load electricity at a reasonable cost to customers.

7 **Q. What efforts are being taken by the Company to understand and evaluate**
8 **impacts of potential future environmental regulations on the Company's**
9 **business?**

10 A. PacifiCorp and its parent, MidAmerican Energy Holdings Company, are active in
11 the current state and federal legislative and agency activities regarding
12 environmental controls affecting virtually all emissions from coal and natural gas
13 generating units, and other environmental issues. The Company is cognizant that
14 some potential restrictions on greenhouse gas emissions ("GHGs") could require
15 coal (and potentially natural gas) units to adjust the depreciation lives for
16 ratemaking purposes. The Company considers this possibility when determining
17 whether to precede with pollution control investments.

18 **Q. Is the Company undertaking reasonable efforts to ensure that environmental**
19 **regulators consider the uncertainty created by requiring investments in**
20 **certain emissions controls prior to knowing the nature and extent of controls**
21 **on other emissions?**

22 A. Yes. The Company filed an appeal of certain BART permits in Wyoming for this
23 exact reason. Wyoming was the first state to make the determination that BART

1 required the installation of SCR controls for nitrogen oxides at Naughton Unit 3,
2 and also to impose long-term strategy requirements for SCR in a BART permit
3 for all four units at the Jim Bridger plant. The Company disagreed with the
4 determination that SCR was BART and asserted that Appendix Y of 40 CFR Part
5 51 did not contemplate the installation of post-combustion controls. The
6 Company further disagreed that a long-term strategy requirement could be
7 included in a BART permit. Additionally, the Company was concerned that other
8 environmental laws and/or regulations could impact the Company's facilities
9 affected by Wyoming's BART determinations in a way that impacted the
10 economic analysis associated with the installation of the contemplated controls.
11 These requirements not only include greenhouse gas reduction requirements, but
12 also a host of regulatory initiatives underway by the EPA, including the outcome
13 of pending coal combustion waste disposal regulations and MACT standards for
14 mercury and non-mercury HAPs. Due to the uncertainty associated with the
15 potential impact of these rules on the Company's facilities, the Company appealed
16 the BART permits to ensure that these and other issues were considered in the
17 agency's decision and, to the extent these issues had an impact on long-term
18 viability of the facilities, the economic analysis of adding emission reduction
19 equipment was properly reflected.

20 **Q. Has this appeal been resolved?**

21 A. Yes. In November 2010, PacifiCorp settled the Wyoming BART appeal to resolve
22 the matter in a way that did not require more controls and impose additional costs
23 earlier than originally proposed in the Department of Environmental Quality's

1 BART permits. To provide maximum flexibility in the event that other
2 environmental requirements or uncertainties arose, PacifiCorp and the WY DEQ
3 included terms in the settlement agreement to address a modification if future
4 changes in either federal or state requirements or technology would materially
5 alter the emissions controls and rates that would otherwise be required.

6 **Q. Has the Company undertaken additional efforts to eliminate some of the**
7 **uncertainty associated with future environmental regulations?**

8 A. Yes. Given the so-called “EPA train wreck” facing the electric industry, the
9 Company worked on a comprehensive approach to addressing the ever-changing
10 and looming environmental requirements. Called REPLACES (The Retirement
11 Plan Act for Coal-Fueled Electricity Sources), the Company undertook an effort
12 to develop a comprehensive plan intended to harmonize environmental
13 requirements with the nation’s desire to shift to cleaner energy sources in a way
14 that allows for a smoother transition and minimizes costs and risks by clearly
15 identifying the requirements and timeframes that must be met, rather than being
16 faced with constantly changing environmental requirements that make long-term
17 investment decisions difficult.

18 **Q. Would the proposed MidAmerican Energy Holdings Company REPLACES**
19 **program result in the Company requesting accelerated depreciation**
20 **treatment of pollution control investments contemplated in this case?**

21 A. No. The goal of REPLACES (attached as Exhibit No. 21) is to address the current
22 patchwork of existing and projected emission reduction requirements and define a
23 clear long-term regulatory path to allow owners of coal-fueled power plants to

1 economically plan for the viability of electrical generating units by phasing in unit
2 retirements beginning with older, smaller units to allow for a smoother transition
3 while replacement generation is brought online and newer technologies are
4 developed. The REPLACES proposal reflects the Company's view that it does not
5 make economic sense to install significant emission control on units that are likely
6 to retire because of the creation of stranded cost for limited environmental benefit.
7 Under REPLACES, all existing coal-fueled electric generating units would be
8 retired, controlled or retrofitted over a period of time and near-term environmental
9 regulatory relief would be granted for facilities that retire by 2020. Similar
10 proposals have been advanced by other organizations seeking near-term
11 regulatory relief but to date none have been adopted.

12 **Q. Please summarize your testimony.**

13 A. As previously discussed, the Company has undertaken significant efforts with
14 permitting agencies to ensure that its environmental control investments are
15 timely to ensure compliance with existing environmental requirements, that they
16 proceed in a reasoned fashion, and that they are coordinated with existing outage
17 schedules to avoid additional outage time associated with equipment tie-in. These
18 coordinated efforts reduce costs associated with replacement power and maintain
19 system reliability.

20 Due to the number of PacifiCorp's generating units impacted by
21 environmental regulation, deferring installation of compliance-related projects is
22 often not feasible or cost-effective and places the Company and its customers at
23 risk of not having access to necessary capital, material, and labor while attempting

1 to perform major equipment installations in a compressed timeframe concurrent
2 with other utilities. For example, in the eastern United States, utilities are required
3 to install controls under the Clean Air Transport Rule during the same 2012-2014
4 time frame within which compliance with the Utility HAPs MACT is required.

5 We have already seen a rise in project costs in anticipation of the
6 increased demand for labor and equipment. PacifiCorp's sister company,
7 MidAmerican Energy Company, has just negotiated a contract for the installation
8 of scrubbers and baghouses at two of its facilities in 2013 and 2014 and the costs
9 are approximately 20 percent higher than anticipated. The timing of the
10 investments is also important for ensuring that the Company is in compliance and
11 is not subject to penalties for noncompliance or third party lawsuits.

12 **Q. Does this conclude your testimony?**

13 **A. Yes.**