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**Jim Ruby, Executive Secretary
Environmental Quality Council**

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**BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING**

In the Matter of the Appeal)
And Petition for Review of:)
BART Permit No. MD-6040) Docket No. 10-2801
(Jim Bridger Power Plant); and)
BART Permit No. MD-6042)
(Naughton Power Plant).)

**AFFIDAVIT OF CHAD SCHLICHTEMEIER IN RESPONSE TO
PACIFICORP'S MOTION FOR PARTIAL SUMMARY JUDGMENT**

STATE OF WYOMING)
) ss.
County of Laramie)

I, Chad E. Schlichtemeier, being first duly sworn, deposes and says as follows:

1. I am over the age of 21 and am competent to make this affidavit.
2. The facts and matters stated herein are within my personal knowledge, and are true and correct.
3. I have a Bachelor of Science degree in Chemical Engineering, with a Minor in Mathematics, which I received from the Colorado School of Mines in 1988.

4. In 1989, I began working for the Wyoming Department of Environmental Quality, Air Quality Division (DEQ/AQD) as an Environmental Specialist. I was promoted to the position of Environmental Project Analyst in 1990; Environmental Analyst in 1991; and Senior Environmental Analyst in 1992. My job responsibilities during that time period included inspecting various air pollution sources and determining compliance status; reviewing ambient monitoring network and continuous emission monitoring data; reviewing performance tests; and conducting technical analyses for air quality permit applications. I also reviewed Best Available Control Technology (BACT) analyses for minor and major (Prevention of Significant Deterioration (PSD)) emitting facilities under the direction of the District Engineer.

5. In 1994, I was promoted to the position of Environmental Program Principal. I held that position until 1998. My job responsibilities during that time period included performing higher level air quality inspections at a level which required knowledge of industrial processes, control equipment and operational practices; compiling detailed inspection reports and reviewing monitoring reports; and supervisory duties including performance evaluations and district wide work schedule management. My job responsibilities also included air quality permitting within Districts 1 and 2. I conducted technical analyses for all New Source Review (NSR) permit applications within the districts, which included minor and major (PSD) emitting facilities. Part of the technical analysis included reviewing BACT analyses.

6. In 1998, I was promoted to the position of Environmental Program Supervisor. I held that position until January, 2007. My job responsibilities during that time period included day-to-day management of the PSD and minor source construction and modification permitting programs which is also referred to as New Source Review (NSR); assisting the program manager in directing the operational, personnel and planning functions of the NSR program; reviewing permit analyses for technical accuracy and ensuring that all applicable requirements, rules and regulations have been addressed; monitoring and delegating work related to processing applications within the regulatory time frame; meeting with applicants to discuss DEQ/AQD's interpretation of applicable regulations, policy and guidance; supervise and train staff; and provide day-to-day staff assistance regarding technical issues and regulatory interpretations.

7. On February 1, 2007, I was promoted to the position I currently have of NSR Program Manager. My current job responsibilities include overall management of the NSR permitting program; directing the operational, personnel and planning functions of the NSR program; regulation development activities; policy development activities; managing a staff of about 14; conducting final review of all PSD and Best Available Retrofit Technology (BART) permit applications; and making recommendations to the DEQ/AQD Administrator.

8. I participated in numerous meetings and telephone conferences regarding PacifiCorp's BART Permit Application AP-6040 for the Jim Bridger Units 1-4. I also reviewed PacifiCorp's BART Application, the technical analysis initially completed by

Cole Anderson and Josh Nall, public comments, the DEQ/AQD decision documents, correspondence and other documents before I made a final recommendation to the DEQ/AQD Administrator that the permit should be issued.

9. As part of my current and/or former job responsibilities, I have routinely applied and interpreted the Wyoming Air Quality Standards and Regulations (WAQSR), and other air quality policy and guidance documents. I am familiar with the WAQSR, federal air quality statutes and guidance documents because I have used these documents to perform my former and/or current job responsibilities.

10. Since 1996, the DEQ/AQD has issued over 15,100 construction or modification permits and waivers. Of those construction or modification permits, over 50 were PSD new source and modification permits for major sources such as refineries, large compressor stations, and coal-fired power plants.

11. There are eighteen (18) BART eligible sources (13 EGUs and 5 non-EGUs) in the State. Seven (7) permits have been issued establishing BART requirements for NOx and particulate matter (PM) for these sources. The Division worked with each company very closely through this permitting process to develop a control strategy that meets the requirements of 40 CFR 51 Appendix Y and meets the company's objectives. Prior to public notice, there was mutual agreement with the proposed conditions with all companies. The only exception was whether installation of SCR on the PacifiCorp's Naughton Unit 3 represented BART or LTS. PacifiCorp had committed to the DEQ/AQD to install SCR, but wanted the requirement to be LTS, not BART.

12. As part of my current and/or former job responsibilities, I routinely review BACT analyses submitted by permit applicants and regulatory BACT analyses conducted by DEQ/AQD staff. I have also personally prepared, reviewed or read regulatory BACT analyses addressing nitrogen oxide (NO_x) emissions prepared for minor and major air pollution sources such as electric power generating units combusting coal in a boiler.

13. In June, 2006, the DEQ/AQD notified PacifiCorp that the JB Power Plant had been identified as a BART Eligible Source determined to be "Subject to BART" because they contributed to visibility impairment in at least one Class I area (Bridger WA, Fitzpatrick WA, and Mount Zirkel WA (Colorado)). Therefore, the DEQ/AQD requested PacifiCorp conduct and submit a BART application addressing emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter (PM) from Jim Bridger Units 1-4. True and correct copies of DEQ/AQD's letter with enclosures 2 and 3 are attached hereto as Ex. 1.

14. On January 16, 2007, the DEQ/AQD received PacifiCorp's BART applications dated January 12, 2007 for the Jim Bridger Units 1-4. True and correct copies of PacifiCorp's initial BART applications for Jim Bridger Units 1-4 are attached hereto as Ex. 2.

15. On March 30, 2007, the DEQ/AQD notified PacifiCorp that it had received PacifiCorp's BART applications for Jim Bridger Units 1-4 (AP-6040). A true and correct copy of DEQ/AQD's Receipt Letter is attached hereto as Ex. 3.

16. On October 16, 2007, the DEQ/AQD received revised BART Applications from PacifiCorp for Jim Bridger Units 1-4. Ex. 4.

17. On December 5, 2007, the DEQ/AQD received further revised BART Applications from PacifiCorp for Jim Bridger Units 1-4. Ex. 5.

18. On March 31, 2008, the DEQ/AQD received Addendums to PacifiCorp's BART Applications for Jim Bridger Units 1-4. Ex. 6.

19. On May 23, 2008, the DEQ/AQD received EPA comments on PacifiCorp's BART permit applications, including the Jim Bridger Plant. In part, the EPA encouraged DEQ/AQD: "to make BART determinations and to do a Reasonable Progress analysis requiring LNB/OFA/SCR and 0.07 lbs/mmBtu or lower NOx limits at as many sources as is cost effective. Based on information provided by the sources, it appears that for many units SCR could be considered. With the visibility benefits from SCR, Wyoming's RH SIP would be much stronger and Wyoming would be closer to achieving the Uniform Rate of Progress (URP)." A true and correct copy of EPA's comment letter is attached hereto as Ex. 7.

20. On September 22, 2008, the DEQ/AQD notified PacifiCorp that its BART application to modify operations at the Jim Bridger Plant was complete and DEQ/AQD would proceed with a technical analysis. A true and correct copy of DEQ/AQD's letter is attached hereto as Ex. 8.

21. On February 2, 2009, the DEQ/AQD received additional information from PacifiCorp. A true and correct copy of PacifiCorp's letter is attached hereto as Ex. 9.

22. On May 28, 2009, the DEQ/AQD notified PacifiCorp that it had completed its initial evaluation of PacifiCorp's Jim Bridger BART permit application. A true and correct copy of DEQ/AQD's Application Analysis dated May 28, 2009 is attached hereto as Ex. 10.

23. On June 3, 2009, the DEQ/AQD advertised its proposed decision and provided public comment through August 4, 2009. A true and correct copy of the publisher's affidavit and public notice is attached hereto as Ex. 11.

24. At the end of the public comment, on August 4, 2009, the DEQ/AQD held a public hearing on its proposed decision. I conducted the public hearing. A true and correct copy of the public hearing record is attached hereto as Ex. 12.

25. During the public comment period, the DEQ/AQD received comments from several individuals and entities, including the EPA. I read the written comments, including EPA's comments. A true and correct copy of EPA's comments is attached hereto as Ex. 13.

26. PacifiCorp also submitted comments during the public comment period. A true and correct copy of PacifiCorp's comment letter is attached hereto as Ex. 14.

27. On August 27, 2009, the DEQ/AQD requested PacifiCorp provide additional information related to NOx controls. A true and correct copy of DEQ/AQD's letter is attached hereto as Ex. 15.

28. On September 18, 2009, the DEQ/AQD received PacifiCorp's response. A true and correct copy of PacifiCorp's response is attached hereto as Ex. 16.

29. On July 23, 2008, the DEQ/AQD met with PacifiCorp to discuss our preliminary BART determinations. Mr. Bill Lawson represented PacifiCorp at this meeting. In preparation for the meeting, the Division had developed a comparison of the cost to install NOx control equipment as BART versus recent BACT determinations and charts showing the visibility improvement for BART control technologies based on information provided in the BART applications. The comparison showed the average cost effectiveness (\$/ton) and incremental cost effectiveness (\$/ton) for installing low NOx burners (LNB), over-fire air (OFA) and selective catalytic reduction (SCR) on the PacifiCorp BART eligible sources and recent BACT determinations, which required LNB/OFA/SCR as BACT, for new electric generating units (EGU). The Division also put together charts showing the visibility improvement on the affected Class I areas due to the installation of NOx controls. It should be noted that PacifiCorp represented in their applications LNB/OFA for all BART eligible units as BART for NOx. I recall distributing the comparison and charts and reviewing the DEQ/AQD's preliminary analysis of the information PacifiCorp had submitted. True and correct copies of the charts I distributed and discussed at the meeting are attached hereto as Ex. 17.

30. During the July 23, 2008 meeting, the Division informed Mr. Lawson that the preliminary BART determination for the PacifiCorp units was as follows:

Jim Bridger Units 1-4:	LNB/OFA/SCR for all units
Naughton Units 1-3:	LNB/OFA/SCR for all units
Dave Johnston Units 3 – 4:	LNB/OFA for both units

Our preliminary determination was established, on a case-by-case basis, taking into consideration (1) the costs of compliance, (2) the energy and non-air quality environmental impacts of compliance, (3) any pollution equipment in use or in existence at the source, (4) the remaining useful life of the source, and (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology as required by 40 CFR 51 Appendix Y.

31. In a subsequent meeting, Mr. Lawson provided the Division with [REDACTED]. Mr. Lawson did not let us keep this document, but my recollection is that the [REDACTED]

[REDACTED]

[REDACTED]

32. During this July 23, 2008 meeting, I recall PacifiCorp discussing why it was not possible for them to install SCR during the BART period (5 years after EPA approval of SIP). The reasons given were costs, pollution control projects and not enough time to install controls. Given these issues and one of the factors in determining BART is cost of compliance, the Division discussed with Mr. Lawson the possibility of PacifiCorp committing to install SCR as part of the long term strategy (LTS) instead of as BART at Jim Bridger Units 1 – 4.

33. PacifiCorp submitted a letter dated January 29, 2009, [REDACTED]

[REDACTED]

The

letter provided [REDACTED]

[REDACTED] PacifiCorp asserted this letter contained confidential commercial and trade secret information. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. The

DEQ/AQD and PacifiCorp had discussed and negotiated a mutually agreed control strategy which the DEQ/AQD relied upon for the installation schedules in Conditions 17 and 18. After receiving this letter, I recall a phone conversation with Mr. Lawson and

asking him if PacifiCorp would consider removing the confidential label [REDACTED]

[REDACTED] PacifiCorp did not oblige.

A true and correct copy of PacifiCorp's letter dated January 29, 2009, is attached hereto as Ex. 18.

34. There were several meetings and telephone calls discussing BART and LTS. From the first meeting, the Division always took the position that this was a package deal. Meaning, the Division accepted the LNB/OFA for the Jim Bridger Units as representing BART based on the fact that further NOx controls were going to be installed on all units as part of LTS. It should also be noted that LTS for the other PacifiCorp units was not included in the BART permits because the installation dates fall outside the

second regional haze planning period (2023). These units will be addressed in future regional haze planning periods.

35. There is nothing in the public file from PacifiCorp committing to install SCR on Units 3 and 4 and additional add-on NOx control on Units 1 and 2 as part of LTS. In hindsight, I should have requested PacifiCorp to put their commitment in writing. Given my dealings to date with PacifiCorp, I had no reason not to believe their verbal commitment. We worked with PacifiCorp very closely through this permitting process to develop a control strategy that meets the requirements of 40 CFR 51 Appendix Y and meets PacifiCorp's long-term emissions reduction plan. I believe this control strategy was mutually agreed upon.

36. Condition 17 was developed identifying the NOx control technology and the emission level based on the agreed upon installation dates for Unit 3 in 2015 and Unit 4 in 2016. My understanding is that engineering will start approximately five (5) to six (6) years in advance of the compliance date. Given this timeline, SCR was specified as the control technology. In developing the control level, the Division takes the position that if controls are installed they should be operated as designed. Meaning, if a control technology is designed to meet 90 percent control efficiency, the Division expects the control equipment to be operated and maintained to meet that level. Based on my experience with BACT determinations, I believe the 0.07 lb/MMBtu emission rate represents a well maintained system for a SCR retrofit application. The 0.07 lb/MMBtu was submitted by PacifiCorp as the control level for LNB/OFA/SCR. This is also

consistent with New Mexico's BART determination for Public Service Company of New Mexico San Juan Generating Station, Units 1-4, which SCR plus sorbent injection and an emission rate between 0.03 and 0.07 lb/MMBtu. State of Oregon DAQ BART Report for the Boardman Power Plant recommended a NOx emission rate of 0.07 lb/MMBtu 30-day average for the 2017 SCR installation. The Division worked closely with PacifiCorp in developing this condition. I believe Condition 17 in Air Quality Permit MD-6040 was mutually agreed upon.

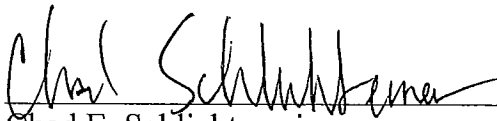
37. Condition 18 was developed without mandating a specific NOx control technology based on the agreed upon installation dates for Units 1 and 2 in 2023. New control technologies or regulations may dictate the type of controls that will be installed on these units. As written, the condition allows for the control technology to be determined during the permitting process, which will occur six (6) years prior to the compliance dates. The maximum emission rate of 0.07 lb/MMBtu was added to the condition reflecting the capabilities of SCR today. The condition also requires evaluation of the lowest viable NOx emission rate considering the LTS four (4) statutory factors plus visibility impacts. As stated for Condition 17, the Division takes the position that if controls are installed they should be operated as designed. In PacifiCorp's January 29, letter, [REDACTED] Based on my experience, a NOx emission rate established through a BACT review will result in a more stringent than the four factor analysis plus visibility. The Division worked closely

with PacifiCorp in developing this condition. I believe Condition 18 in Air Quality Permit MD-6040 was mutually agreed upon.

38. On December 31, 2009, the DEQ/AQD issued its decision and response to comments. A true and correct copy of DEQ/AQD's decision and response to comments document is attached hereto as Ex. 19.

39. Also on December 31, 2009, the DEQ/AQD issued BART Permit MD-6040 to PacifiCorp for Jim Bridger Units 1-4. A true and correct copy of Permit MD-6040 is attached hereto as Ex. 20.

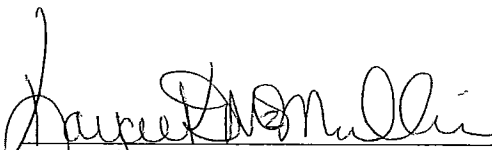
DATED this 27th day of July, 2010.

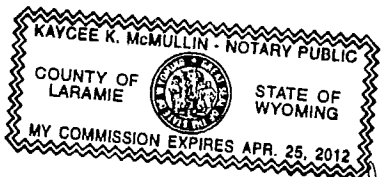

Chad E. Schlichtemeier
NSR Program Manager – DEQ/AQD

State of Wyoming)
) ss.
County of Laramie)

Subscribed and sworn before me by Chad E. Schlichtemeier on this 27th day of July, 2010.

Witness my hand and official seal.


Notary Public



My commission expires on: April 25, 2012