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Jim Ruby, Executive Secretary
Environmental Quality Council

BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING

In the Matter of:)
Basin Electric Power Cooperative) Docket No. 10-2802
Air Quality Permit No. MD-6047)
BART Permit: Laramie River Station)

DEQ'S RESPONSE TO BASIN ELECTRIC'S ANNEX

The Wyoming Department of Environmental Quality, Air Quality Division (DEQ/AQD), through the Office of the Attorney General of the State of Wyoming and pursuant to WYO. R. CIV. P. Rule 56.1 and the DEQ/EQC Rules of Practice and Procedure, Chapter II, sections 3 and 14, hereby submits the following corrections and clarifications to Basin Electric's Annex of Undisputed Facts, as well as contentions of genuine issues to be tried:

1. **Response to Basin Annex ¶ 1.** On March 5, 2007, the DEQ/AQD received a letter from Basin Electric regarding presumptive Best Available Retrofit Technology (BART) for the Laramie River Station (LRS). Schlichtemeier Aff. at ¶ 14; Ex. 2. On September 28, 2007, the DEQ/AQD received a BART application from Basin Electric for the LRS. Schlichtemeier Aff. at ¶ 17; Nall Aff. at ¶ 15; Ex. 5. In addition to written submittals, Basin Electric also provided additional information regarding its

BART application during several meetings with the DEQ/AQD. Schlichtemeier Aff. at ¶¶ 8, 14-28, 41-45; Potter Aff. at ¶¶ 11-19; Cole Anderson Aff. at ¶¶ 8-9.

2. **Response to Basin Annex ¶ 2.** DEQ's conclusion was based, in part, on consideration of the five statutory factors and, in part, upon Basin Electric's commitment to install SCR as part of the long term NOx control strategy (LTS). Schlichtemeier Aff. at ¶¶ 22-25; Potter Aff. at ¶¶ 12 – 19; Cole Anderson Aff. at ¶¶ 10 – 11; Ex. 13. In addition to lb/MMBtu (30-day rolling average), the DEQ/AQD's proposed unit-by-unit NOx BART determinations also included lb/hr (30-day rolling average) and ton per year (TPY) (12-month rolling) emission limits. Schlichtemeier Aff. at ¶ 36; Ex. 13 at 000454. DEQ/AQD determined that LNB with OFA and SCR was not BART for NOx control for Units 1-3 based, in part, on the listed conclusions; the five year time limitation imposed by the Regional Haze Rule (RHR) to install BART-determined controls, and the logistical challenge of managing multiple pollution control installations within the regulatory timeframe allotted for BART installations by the RHR; and, in part, on Basin Electric's commitment to install further NOx controls as part of the LTS. Schlichtemeier Aff. at ¶¶ 24-25, 38; Potter Aff. at ¶¶ 14-19; Ex. 13 at 000453 – 54, 000457. Based on costs, time limits, logistical considerations and visibility improvements presented by Basin Electric in its BART applications and meetings with the DEQ/AQD, including Basin Electric's commitment to install additional NOx controls, the DEQ/AQD also proposed Condition 16, requiring Basin Electric submit a permit application to install add-on NOx controls that achieve an emission rate, on an individual unit basis, at or

below 0.07 lb/MMBtu on a 30-day rolling average for one of the LRS units by December 31, 2018, and on a second unit by December 31, 2023. Schlichtemeier Aff. at ¶¶ 20-25, 27-28, 30-38; Potter Aff. at ¶¶ 12-19; Cole Anderson Aff. at ¶¶ 9-11; Ex. 13 at 000457. DEQ/AQD's proposed permit conditions were also based on its understanding that Basin Electric had committed to installing additional NOx controls as part of LTS. Schlichtemeier Aff. at ¶¶ 22-25, 38; Potter Aff. at ¶¶ 11, 14-19.

3. **Response to Basin Annex ¶ 3.** On December 31, 2009, DEQ/AQD granted BART Air Quality Permit MD-6047 to Basin Electric for three existing coal-fired boilers at the LRS. Ex. 21. The DEQ/AQD has no knowledge of when Basin Electric received the permit.

4. **Response to Basin Annex ¶ 4.** Condition 16 of Permit MD-6047 states:

Basin Electric shall submit permit applications for the installation of additional add-on NOx control on two units at the Laramie River Station to the Division no later than two (2) years prior to installation, under the Long-Term Strategy of the Wyoming § 308 Regional Haze State Implementation Plan. It shall include an analysis of the four statutory factors and the associated visibility impacts from the application of each proposed NOx control and resulting emission levels. This application shall address each add-on NOx control as a system of continuous emissions reduction achieving the lowest viable NOx emission, not to exceed a maximum of 0.07 lb/MMBtu on a 30-day rolling average as measured by a certified CEM. Additional add-on NOx control shall be installed and operation on one (1) unit by December 31, 2018 and on a second unit by December 31, 2023.

Ex. 21 at 000471. DEQ/AQD's Decision Document sets forth the bases for DEQ/AQD's action. Ex. 19. Condition 16 also incorporates Basin Electric's commitment to install

additional NOx controls. Schlichtemeier Aff. at ¶¶ 21-25, 38, 46; Potter Aff. at ¶¶ 14, 16-19; Cole Anderson Aff. at ¶¶ 10-11.

5. **Response to Basin Annex ¶ 5.** Adoption of a State Implementation Plan (SIP) for Regional Haze (RH) is not a pre-requisite for granting permits addressing BART or NOx emission controls. *See* WAQSR, Ch. 6. The SIP process and required SIP elements are different from the permitting process. Tina Anderson Aff. at ¶ 10 (BART determination pursuant to WAQSR; RH SIP pursuant to RHR). The RHR requires RH SIPs include BART determinations for BART sources. *Id.* Wyoming's DRAFT RH SIP dated August 25, 2009, included provisions for the LRS similar to Condition 16 as proposed by the DEQ/AQD in its application Analysis. *Id.* at ¶ 13. Basin Electric was in agreement with the BART and LTS approach. *Id.* at ¶ 12. The DEQ/AQD is currently reviewing public comments and making revisions to the DRAFT RH SIP based on those comments. *Id.* at ¶ 9.

6. **Response to Basin Annex ¶ 6.** DEQ/AQD has legal authority to issue construction and modification permits for major and minor sources. WYO. STAT. ANN. § 35-11-801; WAQSR, Ch. 6, §§ 2 and 4. A permit issued pursuant to those provisions may include a requirement to install NOx controls. *See* WAQSR Ch. 6, §§ 2, 4 and 9. Sections 2 and 4, of Chapter 6 of the WAQSR have been incorporated by reference into Wyoming's SIP. 40 C.F.R. § 52.2620(c)(30)(i)(A).

7. **Response to Basin Annex ¶ 7.** WAQSR Ch. 6 authorizes DEQ/AQD to issue permits containing emission limits. In establishing the NOx emission limits and

associated requirements of Permit MD-6047, including Conditions 7, 15 and 16, the DEQ/AQD considered the costs and visibility improvements presented by Basin Electric in its BART applications, required time limits for control installation, logistical considerations, and Basin Electric's commitment to install add-on NOx controls. Schlichtemeier Aff. at ¶¶ 11, 21-25, 27-46; Potter Aff. at ¶¶ 14-19; Cole Anderson Aff. at ¶¶ 7, 9-11; Exs. 13, 20.

8. In June 2006, the DEQ/AQD notified Basin Electric that the LRS was "Subject to BART" because the LRS contributed to visibility impairment in at least one Class I area (Wind Cave National park and Badlands National Park. Therefore, the DEQ/AQD required Basin Electric conduct and submit a BART analysis addressing emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter (PM) from each of the LRS Boilers #1, #2, and #3. Schlichtemeier Aff. at ¶ 13, Ex. 1.

9. On March 5, 2007, the DEQ/AQD received Basin Electric's BART review and analysis dated February 28, 2007. At that time, Basin Electric committed to meeting the presumptive level of 0.23 lb/MMBtu NO_x on a plant-wide 30-day rolling average based on a 4,471 lb/hr limit by potentially installing Over Fired Air (OFA) systems no later than five years after EPA's approval of the Wyoming Regional Haze State Implementation Plan (RH SIP). Schlichtemeier Aff. at ¶ 14; Ex. 2.

10. On March 30, 2007, the DEQ/AQD notified Basin Electric that it had received Basin Electric's BART application for the LRS (AP-6047). Schlichtemeier Aff. at ¶ 15; Ex. 3.

11. On May 3, 2007, the DEQ/AQD informed Basin Electric that despite Basin Electric's commitment to implement presumptive levels of control, Basin Electric needed to submit additional information and analysis. Schlichtemeier Aff. at ¶ 16; Ex. 4.

12. On September 28, 2007, the DEQ/AQD received Basin Electric's BART analysis. Basin Electric identified OFA, New Low NO_x Burners (LNB) with OFA and Selective Catalytic Reduction (SCR) as possible BART controls. Schlichtemeier Aff. at ¶ 17; Ex. 5.

13. On or about January 15, 2008, the DEQ/AQD had a teleconference with Basin Electric and Basin Electric's BART consultant regarding CALMET windfield errors. The DEQ/AQD directed Basin Electric to correct the errors and re-submit the modeling. Nall Aff. at ¶ 16.

14. On February 15, 2008, the DEQ/AQD received Basin Electric's revised modeling. Nall Aff. at ¶ 17; Ex. 22.

15. On or about April 3, 2008, the DEQ/AQD requested additional modeling from Basin Electric, including individual unit modeling for baseline and unit specific analysis of SCR/NO_x control technologies. Nall Aff. at ¶ 18.

16. On May 23, 2008, the DEQ/AQD received EPA comments on Basin Electric's BART analysis for the LRS. 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 NO_x 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.” Schlichtemeier Aff. at ¶ 18; Ex. 6.

17. On July 28, 2008, the DEQ/AQD received additional BART modeling refinements from Basin Electric. Basin Electric continued to recommend OFA as the BART NO_x control for all three units at the LRS. Nall Aff. at ¶ 19; Ex. 7.

18. On August 20, 2008, the DEQ/AQD had internal discussions regarding DEQ/AQD’s preliminary BART determination for the LRS Units 1-3. The DEQ/AQD’s preliminary determination was that BART for LRS Units 1-3 was LNB/OFA/SCR. Schlichtemeier Aff. at ¶ 20.

19. On September 8, 2008, the DEQ/AQD met with Basin Electric to review DEQ/AQD’s preliminary analysis of the information Basin Electric submitted, and informing Basin Electric that based on the preliminary analysis, DEQ/AQD anticipated it was likely that SCR would be required for LRS Units 1, 2, and 3. The DEQ/AQD also mentioned EPA’s preliminary comments on Basin Electric’s BART analysis. Schlichtemeier Aff. at ¶¶ 21; Potter Aff. at ¶¶ 12-14; Exs. 6 and 8.

20. Between September 2008 and April 2009, DEQ/AQD pushed Basin Electric for SCR on LRS Units 1, 2, and 3. DEQ/AQD was willing to consider other NO_x controls during the BART time frame and postponing SCR until the 2018 planning period based on cost and engineering considerations. Schlichtemeier Aff. at ¶¶ 21 – 29; Potter Aff. at ¶¶ 12-19.

21. Basin Electric requested the DEQ/AQD specify the NO_x emission control level, but not the type of control technology required because Basin Electric wanted flexibility to possibly select NO_x control technology that may also control other pollutants. Schlichtemeier Aff. at ¶ 23; Potter Aff. at ¶¶ 15-19.

22. Although Basin Electric expressed concerns about meeting the 0.07 lb/MMBtu NO_x emission level in the future with add-on NO_x control, Basin Electric never expressed that they refused or would refuse to fold the future 0.07 lb/MMBtu NO_x emission level into the BART permit as DEQ/AQD had proposed in the Application Analysis. Schlichtemeier Aff. at ¶ 25; Potter Aff. at ¶ 18.

23. On September 22, 2008, the DEQ/AQD notified Basin Electric that its BART application to modify operations at the LRS was complete and DEQ/AQD would proceed with a technical analysis. Schlichtemeier Aff. at ¶ 26; Ex. 9.

24. On March 2, 2009, the DEQ/AQD met with Basin Electric and received additional information on NO_x emission rates from Basin Electric, including a memorandum related to LNB and OFA control effectiveness. Basin Electric proposed a NO_x BART emission limit of 4,082 pounds per hour on a plant-wide 30-day rolling average. Basin Electric represented that after implementing LNB and OFA, it predicted NO_x emissions would likely be 0.18 lb/mmBtu plus or minus 0.02. Schlichtemeier Aff. at ¶ 27; Ex. 10.

25. On March 16, 2009, the DEQ/AQD received Basin Electric's proposal that the BART NO_x emission limit on a 30-day rolling average of 1,348 lb/hour for Unit 1;

1,348 lb/hour for Unit 2; and 1,386 lb/hour for Unit 3 as calculated from emissions of 0.21 lb/MMBtu. Basin also agreed to an annual mass emission limitation of 5,343 tons per year (TPY) for Unit 1; 5,343 TPY for Unit 2; and 5,493 TPY for Unit 3 as calculated from emissions of 0.19 lb/MMBtu. Schlichtemeier Aff. at ¶ 28; Ex. 11.

26. On May 27, 2009, the DEQ/AQD notified Basin Electric that the DEQ/AQD had completed its initial evaluation of Basin Electric's BART permit application. Schlichtemeier Aff. at ¶ 29; Exs. 12, 13.

27. The DEQ/AQD reviewed and analyzed Basin Electric's LRS visibility control options presented in its BART application for NO_x, PM and SO₂ emissions from each of the three coal-fired boilers using the methodology prescribed in 40 C.F.R. part 51, subpart Y, as required by WAQSR Ch. 6, Sect. 9(c)(i). The prescribed methodology, followed by DEQ/AQD, consisted of five steps: 1) identifying all available retrofit technologies; 2) eliminating technically infeasible options; 3) evaluating the control effectiveness of the remaining control technologies; 4) evaluating impacts and documenting results; and 5) evaluating visibility impacts. Schlichtemeier Aff. at ¶ 30; Ex. 13.

28. The DEQ/AQD proposed requiring Basin Electric to install New LNB with OFA by no later than December 31, 2012 for Unit 1; December 31, 2013 for Unit 2; and December 31, 2014 for Unit 3. This requirement was carried forward into Condition 15 of Permit MD-6047. Schlichtemeier Aff. at ¶ 37; Exs. 13, 21.

29. Based on the costs and visibility improvements presented by Basin Electric in its LRS BART application, and considering the logistical challenge to Basin Electric of managing multiple pollution control installations within EPA's required 5-year regulatory timeframe, and as part of the proposed BART permit, the DEQ/AQD also proposed Basin Electric submit a permit application to install additional add-on NO_x control that could achieve an emission rate at or below 0.07 lb/MMBtu on a 30-day rolling average for one of the LRS units by December 31, 2018 and on a second LRS unit by December 31, 2023. The DEQ/AQD proposed these additional controls would form part of the Long-Term Strategy of Wyoming's Regional Haze State Implementation Plan (RHSIP). These requirements were carried forward into Condition 16 of Permit MD-6047. Schlichtemeier Aff. at ¶ 38. Exs. 13, 21.

30. On June 3, the DEQ/AQD advertised its proposed decision and provided for public comment through August 6, 2009. Schlichtemeier Aff. at ¶ 40; Ex. 14.

31. At the end of the public comment, on August 6, 2009, the DEQ/AQD held a public hearing on its proposed decision. Schlichtemeier Aff. at ¶ 41; Ex. 15.

32. During the public comment period, the DEQ/AQD received comments from several individuals and entities, including the EPA. In part, the EPA commented that if the 0.07 lb/MMBtu was achievable at LRS, it needed "to be included as the BART level of control, not postponed under reasonable progress." Schlichtemeier Aff. at ¶ 42; Ex. 16.

33. Basin Electric also submitted comments during the public comment period regarding Condition 16. Basin Electric stated:

Regarding Condition 16, Basin Electric requests DEQ to revise the time for submitting a permit application for additional add-on NO_x controls from six years prior to installation to two years prior to installation. New Low-NO_x Burners will be installed on the units in 2012, 2013, and 2014. Observation and evaluation of the operation of the Low-NO_x Burners will be required to determine the design of new add-on technology before the technology can be specified and be included in a permit application. The engineering and analyses required for the permit application may take several years to prepare an application. This additional time could also allow for the development of emerging technologies before we would need to make a commitment for a specific technology. At the present time, we are not sure that a retrofit NO_x control system can be added to the LRS units that would meet the proposed limit of 0.07 lb/mmBtu on a 30-day rolling average. The additional time we are requesting may allow additional technologies to develop that may provide a greater chance of meeting 0.07 lb/mmBtu and at a lower cost and/or greater efficiency.

Schlichtemeier Aff. at ¶ 43; Ex. 17.

34. On August 27, 2009, the DEQ/AQD requested Basin Electric provide additional information related to NO_x controls. Schlichtemeier Aff. at ¶ 44; Ex. 18.

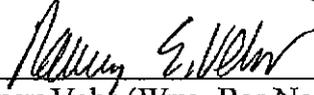
35. On September 14, 2009, the DEQ/AQD received Basin Electric's response. Schlichtemeier Aff. at ¶ 45; Ex. 19.

36. On December 31, 2009, the DEQ/AQD issued its decision and response to comments. The DEQ/AQD's decision noted that it would make Basin Electric's requested change to revise Condition 16 to change the time for submitting a permit

application for additional add-on NO_x control from six years to two years prior to installation. Schlichtemeier Aff. at ¶ 46; Ex. 20.

37. Also on December 31, 2009, the DEQ/AQD issued BART Permit MD-6047 to Basin Electric for the LRS. Schlichtemeier Aff. at ¶ 47; Ex. 21.

FOR RESPONDENT DEQ:


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CERTIFICATE OF SERVICE

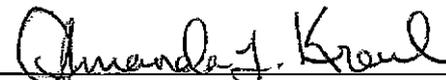
I hereby certify that on the 30th day of July, 2010, a true and correct copy of the foregoing *DEQ's Response to Basin Electric's Annex* was served by placing the same in the United States mail, postage pre-paid, addressed to:

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