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BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING

IN THE MATTER OF	)	
MEDICINE BOW FUEL & POWER	)	Docket No. 09-2801
AIR PERMIT CT-5873	)	

ANNEX TO THE DEQ'S MOTION FOR SUMMARY JUDGMENT

Respondent Wyoming Department of Environmental Quality (DEQ) by and through its undersigned counsel and pursuant to WYO. R. CIV. P. Rule 56.1 and the Environmental Quality Council Rules, Chapter II, Sections 3 and 14, hereby submits the following statements of material fact as to which the DEQ contends there is no genuine issue to be tried:

1. On February 8, 2007, the PSD Modeling protocols for the Facility were submitted to the DEQ/AQD. Schlichtemeier Aff. ¶ 13; Ex. 3.

2. On December 31, 2007, Medicine Bow submitted a revised air construction permit application (AP-5873) to Wyoming DEQ, replacing the previous application in its entirety. The permit application starts the BACT review process. The DEQ/AQD continues reviewing information and asking questions until assured that the application is technically complete. Schlichtemeier Aff. ¶ 15; Ex. 4.

3. The Facility is subject to PSD permitting requirements because it is one of the 28 listed major source types and will emit, or have the potential to emit, over 100 TPY of NO_x, CO, VOC, PM/PM_{10}. Schlichtemeier Aff. ¶ 22; Ex. 11.

4. The PSD permit review for the Facility consisted of BACT analyses, an ambient air quality analysis, increment analysis, and AQRV analysis for the PSD pollutants. Schlichtemeier Aff. ¶ 22; Ex. 11. Other pollutants were analyzed pursuant to Wyoming's minor source permitting requirements. *Id.*

5. On January 10, 2008, the AQD requested Medicine Bow submit revised meteorological data processing needed for analyzing near-field impacts. Nall Aff. ¶ 12; Ex. 28.

6. On February 13, 2008, URS submitted Application revisions to the DEQ changing emission calculations and the near field air quality modeling analysis. Schlichtemeier Aff. ¶ 16; Ex. 6.

7. On March 3, 2008, URS responded to AQD's January 10, 2008 request. Nall Aff. ¶ 13; Ex. 29.

8. On March 10, 2008, the DEQ/AQD notified Medicine Bow that the Application was complete and that DEQ/AQD would proceed with its technical review. Schlichtemeier Aff. ¶ 17; Ex. 7.

9. On March 18, 2008, the DEQ requested Medicine Bow submit additional information regarding the near-field (AERMOD) impact analysis. Nall Aff. ¶ 14; Ex. 30.

10. On April 23, 2008, URS submitted additional information regarding coal mine emissions, near-field air dispersion modeling, startup/shutdown emissions and planned flaring operations. Schlichtemeier Aff. ¶ 19; Nall Aff. ¶ 15; Ex. 9.

11. On June 4, 2008, URS submitted additional information and revised application pages reflecting changes to the mercury emission rate calculation and equipment leak calculations. Schlichtemeier Aff. ¶ 20; Ex. 10.

12. On June 19, 2008, the DEQ/AQD completed its Application Analysis for the Facility, concluding that the Facility would comply with the WAQSR and proposed approval of the Application. Schlichtemeier Aff. ¶ 21; Ex. 11.

13. On July 3, 2008, the DEQ/AQD advertised its proposed decision, providing public comment through August 4, 2008. Schlichtemeier Aff. ¶ 23; Ex. 13.

14. A public hearing on the proposed decision was held on August 4, 2008. The DEQ/AQD received public comments about the proposed decision in writing and up through the close of the public hearing. Schlichtemeier Aff. ¶¶ 24, 27; Ex. 17; Ex. 31; Ex. 55.

15. On July 31, 2008, URS submitted additional application revision pages, and a CD containing an electronic version of the complete revised Application (less some figures that had previously been provided). Schlichtemeier Aff. ¶ 25; Ex. 14-15.

16. On July 31, 2008, DKRW provided comments and proposed additional permit conditions. Schlichtemeier Aff. ¶ 26; Ex. 16.

17. On August 15, 2008, the DEQ requested Medicine Bow address certain comments received during the public notice and hearing, including items regarding LDAR and section 112 applicability. Schlichtemeier Aff. ¶ 28; Ex. 17.

18. On September 5, 2008, the DEQ requested Medicine Bow address ozone impacts and normal startup emissions from the plant. Schlichtemeier Aff. ¶ 29; Ex. 18.

19. On September 30, 2008, Medicine Bow responded to the DEQ's August 15, 2008 request. Schlichtemeier Aff. ¶ 30; Ex. 19.

20. On October 3, 2008, the DEQ requested Medicine Bow address health risks associated with HAP emissions from the Facility. Nall Aff. ¶ 16; Ex. 32.

21. On October 14, 2008, Medicine Bow responded to the DEQ's September 5, 2008 request. Schlichtemeier Aff. ¶ 31; Ex. 20.

22. On November 5, 2008, Medicine Bow responded to the DEQ's October 3, 2008 request. Nall Aff. ¶ 17; Ex. 33.

23. On November 11, 2008, Medicine Bow provided additional information as a follow-up to their October 14, 2008 letter. Schlichtemeier Aff. ¶ 32; Ex. 21.

24. On December 29, 2008, the DEQ requested Medicine Bow address elemental mercury, visible emission limits for slag operations, and the Black Start Generators hours of operation. Schlichtemeier Aff. ¶ 33; Ex. 22.

25. On December 30, 2008, Medicine Bow responded to the DEQ's December 29, 2008 request. Schlichtemeier Aff. ¶ 34; Ex. 23.

26. On February 3, 2009, Medicine Bow responded to a question regarding PM_{10} emission calculations and BACT analysis. Schlichtemeier Aff. ¶ 35; Ex. 24.

27. On March 4, 2009, the DEQ issued its response to comments and determination that the Application complied with all applicable WAQSR and that a permit would be issued to Medicine Bow allowing the construction of the Facility, and issued air quality construction permit CT-5873 to Medicine Bow for the Facility. Schlichtemeier Aff. ¶¶ 36-37; Ex. 25; Ex. 26.

28. The DEQ/AQD NSR staff spent over 807 hours reviewing, analyzing, and processing the Application. Schlichtemeier Aff. ¶ 38; Ex. 27.

29. The review for SO_2 consisted of a BACT analysis, an ambient air quality analysis, an increment analysis, and an AQRV analysis. Schlichtemeier Aff. at ¶¶ 22, 39 – 41; Ex. 11. The dispersion modeling for SO_2 impacts included all SO_2 sources from the proposed plant. Nall Aff. ¶ 18.

30. Modeled 3-hour and 24-hour emissions of SO_2 from the flares reflected worst-case hourly conditions. Nall Aff. ¶ 19; Ex. 11; Ex. 15; Ex. 25. The modeling results were less than the 3-hour and 24-hour WAAQS and NAAQS. *Id.*; Ex. 11; Ex. 25.

31. When making a PSD applicability determination, the DEQ/AQD evaluates the facility's normal operations as represented in the permit application. Schlichtemeier Aff. ¶ 51; Ex. 2.

32. Temporary emissions and startup, shutdown, and malfunction emissions are not considered in determining PSD applicability. Ex. 55 at DEQ001697.

33. Medicine Bow characterized warm startup/shutdown events as part of normal operations and included in the Facility's PTE of 36.6 TPY SO_2. Schlichtemeier Aff. ¶ 52; Ex. 11; Ex. 15; Ex. 21; Ex. 25.

34. The Facility's design includes a multi-gasifier configuration. Ex. 21.

35. Permit CT-5873 limits the Facility's total SO_2 emissions to 36.6 TPY. Ex. 26.

36. Based on the type of event and frequency, emissions from Initial Startup (commissioning activities), Cold Startup/Shutdowns or malfunction events were excluded from the Facility's PTE. Schlichtemeier Aff. ¶ 52; Ex. 11; Ex. 15; Ex. 21; Ex. 25.

37. The DEQ does not address malfunctions in permitting because malfunctions are addressed according to Chapter 1, Section 5 of the WAQSR. Schlichtemeier Aff. ¶ 54; Ex. 25.

38. The flares function as a control device during startup/shutdowns and malfunction events. Ex. 15; Ex. 25 at DEQ000040.

39. The DEQ established the startup/shutdown emission minimization plan (SSEM Plan) as BACT to minimize the duration and extent of flare SO_2 emissions. Ex. 11; Ex. 15; Ex. 21; Ex. 25; Ex. 26.

40. The DEQ did not establish flare SO_2 emission limits as BACT as there are no traditional EPA reference methods for monitoring compliance. Ex. 25; Ex. 41 at 73:5-77:13.

41. Facility commissioning activities are temporary, only occur once during Initial Facility startup, and were excluded from PTE. Schlichtemeier Aff. ¶ 53; Ex. 15; Ex. 21; Ex. 25; Ex. 55 at DEQ001697.

42. SO_2 and NO_x are $PM_{2.5}$ precursors. 73 Fed. Reg. 28341.

43. The $PM_{2.5}$ precursor emissions of SO_2 and NO_x underwent direct review and have BACT emission limits established. Ex. 11 at DEQ000514-19; DEQ000528-29; Ex. 40 at 96:3-19.

44. EPA has not provided all of the tools needed for DEQ to implement analyze $PM_{2.5}$. Nall Aff. ¶ 21; Ex. 36; Ex. 37; Ex. 41 at 101:17-23; Ex. 42 at 180:3-182:16; 72 Fed. Reg. 54112; 73 Fed. Reg. 28321, 28323; 74 Fed. Reg. 12970.

45. Since 1997, the DEQ/AQD has followed EPA's PM_{10} Surrogate Policy to meet PSD permitting requirements. Schlichtemeier Aff. ¶ 55; Ex. 36; Ex. 37;

46. The DEQ modeled PM_{10} to compare predicted impacts to the NAAQS, WAAQS and PSD increments. Nall Aff. ¶ 21; Ex. 11; Ex. 25. PM_{10} was used as a surrogate for $PM_{2.5}$. Nall Aff. ¶ 21; Ex. 11; Ex. 25.

47. EPA did not submit any comments on $PM_{2.5}$. Schlichtemeier Aff. ¶ 56; Ex. 31.

48. Wyoming recommended that all areas within Wyoming be designated as attainment/unclassifiable for the 2006 $PM_{2.5}$ 24-hour NAAQS. Ex. 38. EPA designated all areas within Wyoming as attainment or unclassifiable for the 2006 $PM_{2.5}$ 24-hour NAAQS. 74 Fed. Reg. 58688.

49. Calculating fugitive emissions from equipment components requires: 1) an equipment count; 2) information about the equipment and service type; 3) emission factors; and 4) control efficiency or effectiveness. Ex. 35 at pp. 13-15; Ex. 40 at 61:4 – 62:1; Ex. 40 at 9).

50. Medicine Bow's provided an estimated equipment count by equipment and service type; Ex. 4 at DEQ000124, 000265-82; Ex. 19 at DEQ002918, 2926-27; Ex. 15 at DEQ000078-000054, 000078-000231 – 249.

51. Medicine Bow is required to submit a final component count of the as-built Facility prior to startup. Ex. 25 at DEQ000045, 57-59.

52. Emission factors may be used as a method to estimate emissions. 74 Fed. Reg. 52723, 52724.

53. The Facility is subject to Subpart VVa of 40 CFR part 60 (SOCMI). Ex. 11 at DEQ000525; Ex. 25 at DEQ000058; Ex. 26.

54. The emission factors used by Medicine Bow are widely used and recognized for such calculations. Ex. 15; Ex. 35 at 13, 15-16; Ex. 49.

55. Medicine Bow is required to annually provide actual verification of the equipment leak emissions based on the Facility's measured leak detection rates. Ex. 25 at DEQ000059; Ex. 26.

56. Medicine Bow's revised equipment leak calculations were based on a leak definition of 500 ppm for valves and connectors and 2000 ppm for pumps which was also consistent with NSPS and NESHAP. Ex. 10; Ex. 11; Ex. 15; Ex. 25.

57. Medicine Bow is required to annually calculate actual fugitive HAP emissions using the application methodology and the previous year's average measured leak detection rate. Ex. 25 at DEQ000059.

58. Fugitive emissions from equipment leaks can be controlled by implementing an LDAR program or by replacing leaking components or both. Ex. 49 at § 5.1; 72 Fed. Reg. 64860, 64864.

59. Use of leakless components by themselves may be constrained by material composition and process operation. Ex. 42 at 111:19 – 112:18.

60. Medicine Bow identified LDAR as the only available control option for the Facility's fugitive component leaks. Ex. 4 at DEQ000151; Ex. 11 at DEQ000525; Ex. 15 at DEQ000078-000082.

61. Medicine Bow's LDAR program requires Medicine Bow to monitor components at set intervals to determine whether the component is leaking or not. Ex. 25 at DEQ000059, Ex. 26 at DEQ001415. If a component is leaking above the 500/2000 ppm threshold, Medicine Bow must repair or replace it within specified timeframes. Ex. 26; 72 Fed. Reg. at 64883-95.

62. In addition to inspection and repair requirements, and additional recordkeeping and reporting requirements, the DEQ also increased the leak monitoring frequency to every six months. Ex. 25 at DEQ000037; Ex. 26 at DEQ001415, Condition 21.

63. Medicine Bow's fugitive component emission calculations included information on stream composition, emission factors, emission factor source, percent control achieved through application of the LDAR program and estimated component count. Ex. 4 at DEQ000124, 000265-282; Ex. 10; Ex. 15 at DEQ000078-000054, 000078-000231 – 249; Ex. 19.

64. Medicine Bow initially estimated fugitive HAP emissions greater than 10 PTY based in part on a leak detection level of 10,000 ppm. Ex. 4 at DEQ000124, 000265-282; Ex. 10.

65. In May 2008, Medicine Bow lowered the leak detection level to 500 or 2000 ppm depending on the component service. Ex. 10.

66. Medicine Bow redesigned some of the component sampling connections from an open-ended design to a closed-loop design which lowered HAP emission estimates to less than 10 TPY. Ex. 15; Ex. 19; Ex. 25.

67. Medicine Bow's expert did not perform any fugitive VOC or HAP emission calculations. Ex. 41 at 98:1 – 99:12.

68. Short term fugitive PM emission modeling continues to have uncertainties in performance. Nall Aff. at ¶¶ 22 - 23; Ex. 39 at p. 14.

69. The DEQ has an established statewide policy to not require short term fugitive PM emission modeling because of a high degree of uncertainty in modeling such impacts. Nall Aff. at ¶¶ 22-23; Ex. 46; Ex. 47; Ex. 48; Ex. 51; Ex. 52; Ex. 53; Ex. 54.

70. Medicine Bow modeled annual but not 24-hour fugitive PM_{10} emissions. Ex. 15. Medicine Bow's modeling results demonstrated the Facility would comply with the annual PM_{10} WAAQS and NAAQS. Ex. 11; Ex. 25.

DATED this 16th day of November, 2009.

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CERTIFICATE OF SERVICE

I hereby certify that I have served a true and correct copy of the foregoing ANNEX TO DEQ'S MOTION FOR SUMMARY JUDGMENT through United States mail, postage prepaid on this 16th day of November, 2009 addressed to the following:

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