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BEFORE THE BOARD OF ENVIRONMENTAL REVIEW
OF THE STATE OF MONTANA

IN THE MATTER OF:)	
SOUTHERN MONTANA ELECTRIC)	Case No. BER 2007-07 AQ
GENERATION AND TRANSMISSION)	
COOPERATIVE — HIGHWOOD)	
GENERATING STATION)	
AIR QUALITY PERMIT NO. 3423-00)	
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**REPLY IN SUPPORT OF CLOSING STATEMENT OF APPELLANTS
MONTANA ENVIRONMENTAL INFORMATION CENTER
AND CITIZENS FOR CLEAN ENERGY**

The closing statements offered by the Montana Department of Environmental Quality (“DEQ”) and Southern Montana Electric Generation and Transmission Cooperative (“SME”) cannot change the law, which requires compliance with Best Available Control Technology (“BACT”) for very fine particulate matter (“PM2.5”), or the factual record in this case, which shows that SME and DEQ could have undertaken a BACT analysis for PM2.5 and could have identified control technologies that have a greater potential for reducing both filterable and condensable PM2.5 emissions from the Highwood coal plant. Having failed to meet their heavy burden to demonstrate that PM2.5 BACT analysis is impossible, SME and DEQ cannot rely on

illegal guidance from EPA to excuse the failure to conduct a valid BACT analysis for PM2.5. Moreover, even if a surrogate approach were permissible — which it is not — SME and DEQ have failed to justify why the Highwood coal plant cannot achieve lower limits that have been permitted across the country.

I. DEQ AND SME HAVE FAILED TO SHOW THAT BACT ANALYSIS FOR PM2.5 IS IMPOSSIBLE

DEQ and SME cannot show that it would be impossible to conduct a BACT analysis and establish a BACT-determined emission limit for PM2.5 as the law requires. Alabama Power Co. v. Costle, 636 F.2d 323, 359 (D.C. Cir. 1980) (parties bear “a heavy burden to demonstrate the existence of an impossibility” and “[t]he agency’s burden in such case is especially heavy”) (emphasis added).

According to DEQ, it is Petitioners “who have failed to prove that an FFB [fabric filter baghouse], with membrane bags, or an FFB, followed by a wet ESP [electrostatic precipitator], ever would constitute BACT.” DEQ’s Closing Argument (“DEQ Close”) at 12. However, in the absence of any BACT analysis at all for PM2.5, MEIC does not, and cannot, suggest what BACT for PM2.5 would be. What MEIC has established on the record is that the tools are now available to conduct a PM2.5 BACT analysis in the first instance, and that there are existing control technologies with the potential to achieve greater reductions in PM2.5 emissions than the technologies that SME is currently planning to install for control of PM10. Given this factual record, the burden is on SME and DEQ to prove that it is nevertheless impossible to conduct required BACT analysis for PM2.5. SME and DEQ cannot meet this burden.

A. DEQ and SME Fail To Show That Information On Emissions Rates is Unavailable

DEQ and SME cannot meet their burden to show that there is insufficient information regarding PM2.5 emissions rates to conduct a PM2.5 BACT analysis for the Highwood coal plant circulating fluidized bed (“CFB”) boiler. DEQ and SME challenge Mr. Taylor’s testimony that boiler vendors can supply emission rates for PM2.5 on grounds that he has never conducted all five steps of a BACT analysis for a utility boiler. See DEQ Close at 4-5; SME Close at 8-9. However, Mr. Taylor was qualified as an expert on control of fine particles because he has spent the better part of his career figuring out how to quantify and control particulate matter emissions. See Trans. Vol. I at 39-49. He has conducted over 100 BACT analyses. See id. at 45:18-23. He also spent ten years, three of them as Chief Engineer, working for a boiler manufacturer. Thus, he is the only witness that was qualified to testify regarding the information that boiler manufacturers can and do provide with respect to particulate emissions. See id. at 84:21-86:6; see also id. at 40:3-41:13 (discussing Mr. Taylor’s substantial career experience measuring very fine particulate emissions and, in particular, “determin[ing] particle size, morphology -- in other words, shape of the particle -- as well as speciation, in other words, what the particle was made -- what it consisted of”). Given concessions by Mr. Lierow and Mr. Merchant that they never tried to obtain PM2.5 emission rates from Alstom, the manufacturer of Highwood’s CFB boiler, see Trans. Vol. III at 335:8-23, 538:13-15, 24-25, there is no evidence in the record to rebut Mr. Taylor’s credible testimony based on extensive professional experience.

B. DEQ and SME Fail To Show That Superior Controls For PM2.5 Are Unavailable

DEQ and SME cannot meet their burden to show that there are no additional technologies to consider in a BACT analysis for PM2.5. While they advance several arguments

suggesting that membrane bags are not a viable control option, none of them are availing. See DEQ Close at 9-10; SME Close at 9-10. First, they allude to membrane bag failures reported in the so-called “Otter Tail” study (Exh. I), which piloted the Advanced Hybrid Particulate Collector. However, as discussed in MEIC’s Closing Statement at 11-12, that study provides no indication of how membrane bags routinely function in conventional baghouses. See also id. at 76:12-77:3 (testimony that Mr. Taylor recommends the use of membrane bags to his clients “right away” because “it is such an excellent device for fine particulate, and it lasts a long time” and is “low maintenance”). Second, they point to Eric Merchant’s testimony that he was unfamiliar with membrane bags. However, this is hardly evidence that membrane bags are not available. Contrary to SME’s assertion, Mr. Merchant never testified that “he did not believe, based on [his] extensive experience, that membrane filters were an available and feasible technology for utility boilers.” SME Close at 9. On the contrary, Mr. Merchant testified that he did not “have any reason to disagree” with Mr. Taylor’s expertise on membrane bags. Trans. Vol. III at 336:6-337:7. Finally, SME and DEQ insist that membrane bags have not been used at any power plants. However, they misstate the record. Mr. Taylor did not “concede[] that no commercial utility is using membrane bags.” DEQ Close at 10 (citing Trans., Vol. I, pp. 105 and 115). Mr. Taylor testified that he personally had “never worked on a power plant application in which a membrane bag was used.” Trans. Vol. I at 105:13-16. There is no record evidence to suggest that membrane bags are not in use at any power plant, and Mr. Taylor’s own experience involved installation of membrane bags at utility-scale boilers. See id. at 105:17-106:3. As the NSR Manual makes clear, SME and DEQ were required to identify all available technologies including “controls applied to similar source categories and gas streams.” Exh. 1, NSR Manual at B.5.

With respect to the combination of a fabric filter baghouse followed by a wet ESP, SME and DEQ rely on the Deseret permit to argue that any such combination would be cost-prohibitive. See DEQ Close at 11; SME Close at 10. Notably, they do not explain why it was permissible for SME and DEQ to ignore a top control alternative that EPA analyzed in detail during the contemporaneous permitting process for the Deseret Bonanza Plant. See Exh. 11 at 69-74. More importantly, they do not cite to a single legal provision or even any EPA guidance document that mandates consideration of cost-effectiveness of adding a second control device rather calculating the cost-per-ton effectiveness of two controls as a single linked technology for the same pollutant. See Trans. Vol. III at 525:10-15 (Mr. McCutchen conceding that “Congress made it clear that the states have the ability to weigh those three factors — the energy, environmental, and economic factors — any way they wish to, as long as it isn’t unlawful, or arbitrary or capricious, I would assume under state laws or federal laws.”). If cost-effectiveness were assessed for a fabric filter baghouse plus wet ESP as linked technologies rather than technologies in sequence, the cost-per-ton removal for PM2.5 (as opposed to PM10) might well be deemed reasonable. See id. at 522:10-525:9; see also Trans. Vol. III at 473:14-474:13 (Mr. McCutchen explaining, in a PM2.5 BACT analysis, “one thing that’s going to happen is that the cost effectiveness numbers are going to increase over the cost effectiveness numbers for PM10”). Whether the addition of a wet ESP would be cost-prohibitive in light of these considerations is a question that could and should be answered on remand.

Moreover, SME and DEQ must complete a case-by-case BACT analysis that considers each of top control technologies site-specifically. As Mr. Taylor explained in his testimony, the BACT analysis for the Deseret plant is not transferable to the Highwood plant:

Again, BACT analyses are very site-specific. And so with respect to the wet ESP, it depends on whose wet ESP, how they sized it, did they have four

fields. What were they going after? You can have a number of fields and get more and more efficient, but you can also gain some efficiency just by having a small one. ...

Also I don't know the difference between the sites. Water issues are certainly problematic with any wet device that removes pollutants. So if they have a disposal issue there, some costs involved with that, water problems, pondage on site that you can't use, do I have to recycle the water. Who knows? So there is specific reasons that things can cost more or less, and so that's why I think the – When I look at a BACT, it's very site-specific.

Trans. Vol I at 126:23-127:18. In the absence of any BACT analysis evaluating the wet ESP add-on alternative, DEQ and SME cannot summarily dismiss it on speculative cost grounds.

C. DEQ and SME Fail To Show That Viable Test Methods Are Unavailable

DEQ and SME also fail to meet their burden to show that a PM_{2.5} BACT analysis is impossible for lack of available test methods. DEQ improperly cites to EPA's final rule governing the development of state implementation plans ("SIPs") for PM_{2.5} attainment, see 72 Fed. Reg. 20,586 (Apr. 25, 2007) (Exh. 6), for the proposition that "the problems with measuring both filterable and condensable PM-2.5 that existed at the time EPA issued the Seitz memo, still exist, and that these test methods cannot be relied on to make a BACT determination for PM-2.5." DEQ Close at 5. First, the cited portion of the rule does not address filterable particulate; it relates exclusively to "Condensable Particulate Matter Test Methods and Related Data Issues," 70 Fed. Reg. at 20,651. Second, a considerable amount of the text, in which EPA expressed a high degree of confidence in its conditional test methods, was excised from the lengthy quotation provided by DEQ. Thus, ellipses appear in place of the following statements by EPA:

"We believe that when Method 202 is applied appropriately (i.e., with the N₂ purge as prescribed), the SO₂ artifact formation is reduced by 90 percent";

"We believe that a dilution sampling method [CTM-039] for measuring direct PM_{2.5} eliminates essentially all artifact formation and provides the most accurate emissions quantification."

“In conjunction with our validation efforts, we intend to continue participation in the ASTM D22 committee to develop and publish a dilution sampling method and encourage other volunteers on that committee to approve the consensus based dilution sampling method. We believe that this work is nearly complete.”

“These preliminary findings indicate that Method 202 is essentially a viable method that these proposed laboratory studies will serve to enhance.”

“As for CTM-040, we believe that further validation of this method is unwarranted since the technology and procedures are based upon the same as evaluated for Method 201A. Method 201A has undergone public review and comment.”

Id. at 20,653. Overall, EPA confirmed that new test methods have been verified to a large extent and that they are proving successful at eliminating “artifact” problems that have long plagued test methods for PM10 as well as PM2.5. See Trans. Vol. III at 452:21-453:16 (Mr. McCutchen conceding that the test method in use for PM10 is not “perfect”). While EPA agreed with commenters that promulgated Method 202 could potentially be improved and that CTM-039 and CTM-040 had not “been subjected to adequate notice and comment rulemaking,” this does not mean that the test methods are not workable or otherwise ready for use by state agencies. EPA has expressly authorized their use in the permitting context. See U.S. EPA, Highlights of the Emission Measurement Center’s Activities for 2005/2006 (March 5, 2006) (Conditional test methods including CTM-039 and CTM-040 are “available for application without EPA oversight for other non-EPA program uses including state permitting programs and scientific and engineering applications.”) (Exh. S); see also Trans. Vol. III at 455:3-456:3 (Mr. McCutchen confirming that EPA has authorized states to use conditional test methods in the PSD permitting context).

II. SME AND DEQ HAVE FAILED TO JUSTIFY THE HIGHWOOD PERMIT PM10 EMISSION LIMITS IN LIGHT OF MORE STRINGENT PERMITTED LIMITS

SME and DEQ do not dispute that there are several comparable CFB boilers with permitted PM10 emission limits that are lower than the limits in the Highwood Permit.

However, they argue that it is unnecessary to comply with “lowest achievable emission rate”

(“LAER”) requirements in the PSD context, and that the emissions limits set for the Highwood plant are therefore acceptable. As EPA’s Environmental Appeal Board (“EAB”) has recently made clear, this is not a sufficient justification for selecting a permit limit that is less stringent than other permitted limits around the country. “To the extent that [an applicant] rejects as BACT for its facility a more stringent PM emission limit in favor of a less stringent limit, it must explain why the more stringent limit is technically infeasible or otherwise inappropriate based on consideration of energy, environmental or cost impacts.” In re Indeck-Elwood, LLC, PSD Appeal 03-04, 2006 WL 3073109 (E.A.B. Sept. 27, 2006) --- E.A.D. --- (remanding permit for failure to justify rejection of more stringent limit for particulate matter).

The Indeck-Elwood case is directly on point. There, the permitting agency argued that “[a]part from the mere existence of a lower emission rate[,] Petitioners fail to explain any rational basis or empirical support for their argument that BACT for PM emission from Indeck’s proposed facility should be more stringent.” Id. (internal quotations and alterations omitted). The E.A.B. disagreed: “Contrary to [the agency’s] protestations, the existence of a similar facility with a lower emissions limit creates an obligation for Indeck (and [the agency]) to consider and document whether that same emission level can be achieved at Indeck’s proposed facility.” Id. The E.A.B. then went on to explain, based on the NSR Manual, that “to the extent that a permit applicant selects an emission limit that does not reflect the most stringent limit among recently permitted similar facilities, the burden, in the first instance, is on the permittee to explain why the more stringent limits were rejected.” Id. (emphasis added). Because “the BACT analysis is one of the most critical elements of the PSD permitting process, ... it should be well documented in the administrative record.” Id. (emphasis added). Here, SME and DEQ’s

failure to explain why the Highwood plant cannot comply with more stringent emission limits renders the permit invalid.

CONCLUSION

For all of these reasons, and the reasons set forth in MEIC's Closing Statement, summary judgment briefing, and supplemental briefing, the Board should rule in MEIC's favor and remand the Highwood Permit so that SME and DEQ can undertake a comprehensive BACT determination for PM2.5.

Respectfully submitted this 24th day of March, 2008.

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