FWS/ANWS-AR-AQ

June 30, 2008

Ms. Maya Rao, Chief
Air Division
Mississippi Department of Environmental Quality
515 E. Amite Street
Jackson, Mississippi 39201

Subject: Regional Haze State Implementation Plan Comments

Dear Ms. Rao:

On June 16, 2008, the State of Mississippi submitted for public comment proposed revisions to the Mississippi State Implementation Plan, describing its proposal to improve air quality regional haze impacts at mandatory Class I areas across your region. We appreciate the opportunity to work closely with the State through the initial evaluation, development, and, now, subsequent review of this plan. Cooperative efforts such as these ensure that, together, we will continue to make progress toward the Clean Air Act's goal of natural visibility conditions at all of our most pristine National Parks and Wilderness Areas for future generations.

This letter acknowledges that the U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS) in coordination with the National Park Service (NPS) have received and conducted a substantive review of your proposed Regional Haze Rule implementation plan in fulfillment of your requirements under the federal regulations 40 CFR 51.308(i)(2). Please note, however, that only the U.S. Environmental Protection Agency (EPA) can make a final determination regarding the document's completeness and, therefore, ability to receive federal approval from EPA.

As outlined in a letter to each State dated August 1, 2006, our review focused on eight basic content areas. The content areas reflect priorities for the Federal Land Manager agencies, and we have attached comments associated with these priorities. We look forward to your response, as per section 40 CFR 51.308(i)(3). For further information, please contact Tim Allen (FWS) (303) 914-3802.

Again, we appreciate the opportunity to work closely with the State of Mississippi and compliment you on your hard work and dedication to significant improvement in our nation's air quality values and visibility.

Sincerely,

/s/

Sandra V. Silva, Chief
FWS Branch of Air Quality

Enclosure (1)

cc:

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U.S. Fish and Wildlife Service Comments Regarding
Mississippi Regional Haze Rule State Implementation Plan

On June 16, 2008, the State of Mississippi submitted the Mississippi State Implementation Plan (SIP) Revision for the Regional Haze Program, pursuant to the requirements codified in Federal rule at 40 CFR 51.308(i)(2), to the U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS).

The air program staff of the FWS has conducted a substantive review of the Mississippi plan and provides the comments listed below. On January 15, 2008, and March 4, 2008, we discussed our major concerns with the Mississippi Department of Environmental Quality and the State indicated it preferred to resolve as many issues prior to public comment period.

We are providing these comments to the State and ask that these be included in the official public record. We look forward to your response as per section 40 CFR 51.308(i)(3), and we are willing to work with the Mississippi Department of Environmental Quality (MDEQ) staff towards resolving any of the issues discussed below. For further information, please contact Tim Allen with FWS at (303) 914-3802.

Clarifications

Section 7.3.3, "Determination of BART Requirements for Subject-to-BART Sources" (3rd paragraph, 2nd to the last sentence) -- The State must commit to submitting a supplemental State Implementation Plan (SIP). A committal SIP to be submitted one year after the Regional Haze SIP is submitted is not federally enforceable and is not provided for in the Best Available Retrofit Technology (BART) Guidelines. This sentence could be reworded to: "Mississippi *will* submit . . ." which would make it federally enforceable.

Section 7.4, "Relative Contributions to Visibility Impairment: Pollutants, Source Categories, and Geographic Areas" -- The graph titles on Figures 7.4-1, 7.4-2 and 7.4-3 do not agree with the text describing the graph immediately below the graph. Also, it should be clarified in the concluding paragraph to the section, whether the purpose of the 30% reduction is to show that SO_2 is important.

In Section 7.5.5, "Specific Sources in the Areas of Influence" -- The second set of bullet point, item number 1, should state: "This threshold is representative of a 5 percent change in *extinction*."

Section 7.6, "DuPont DeLisle Facility/Conclusion" -- The State must commit to submitting a supplemental SIP. A committal SIP to be submitted one year after the Regional Haze SIP is submitted is not federally enforceable and is not provided for in the BART Guidelines. This sentence could be reworded to: "Mississippi *will* submit . . ." which would make it federally enforceable.

Section 7.7, "What Additional Emissions Controls Were Considered as part of the Long-Term Strategy for Visibility Improvement by 2018?" -- The State should address whether Class I areas considered as a sensitive visibility receptor. In addition, it would be helpful if the State explains if the emissions from fire are anticipated to shrink, stay the same, or increase over the ten year planning period.

Best Available Control Technology

The following are comments regarding the Best Available Retrofit Technology (BART) determinations for three facilities.

Mississippi Phosphates Corporation – Pascagoula Facility (Mar 2008)

The State must commit to submitting a supplemental SIP. A committal SIP to be submitted one year after the Regional Haze SIP is submitted is not federally enforceable and is not provided for in the BART Guidelines. This sentence could be reworded to: "Mississippi *will* submit . . ." which would make it federally enforceable.

The FWS asks that the Mississippi Department of Environmental Quality (MDEQ) consider the comments below regarding the tentatively approved BART determination for the Mississippi Phosphates Corporation (MPC) -- Pascagoula Facility. A primary concern is that the BART SO_2 control alternative of the cesium catalyst replacement in the third and fourth converter pass of each sulfuric acid plant was dismissed as not being technically feasible and not being cost effective, when there may be an acceptable solution.

The cesium catalyst technology was dismissed as being "not widely used." Requiring that a candidate BART technology be "widely used" is not an acceptable reason to dismiss a BART alternative as being not technically feasible. The BART Guidelines state, "Deployment of the control technology on a new or existing source with similar gas stream characteristics is generally a sufficient basis for concluding the technology is technically feasible . . ."[1] The cesium catalyst is currently in use as an add-on technology at the CF Industries, Inc. – Plant City, Florida facility on SAP 'B', 'C' and 'D', the latter two units being double absorption units, similar to the Pascagoula Facility. It is also in use at the Mosaic Fertilizer, Riverview Facility in Florida on double absorption units. These facilities are of the same vintage as the Pascagoula Facility. Installation has also been required by EPA on 12 facilities under consent decrees. Since the technology has been implemented in practice, it cannot be dismissed as being not technically feasible.

MPC derived a cost of $1,581 per ton of sulfur dioxide ($SO_{2)}$ reduction to implement the cesium catalyst alternative and determined the figure to be excessive. A cost of $1,581 per ton for SO_2 control is within the acceptable cost range under the BART Guidelines. However, with a proper 15-year amortization period the annualized cost would be less. MPC amortized costs over five years, indicating that this was the expected life of the plant given its current age. This specific instance is addressed in the BART Guidelines[2]. The "Guidelines" also state that the source operator may accept a federally enforceable condition requiring the source to shut down by a given date. Where the source chooses not to accept a federally enforceable condition requiring

the source to shut down by a given date, it is necessary to determine whether a reduced time period for the remaining useful life changes the level of controls that would have been required as BART. If the reduced time period does change the level of BART controls, the source may identify, and include as part of the BART emission limitation, the more stringent level of control that would be required as BART if there were no assumption that reduced the remaining useful life. The source may incorporate into the BART emission limit this more stringent level, which would serve as a contingency should the source continue operating more than five years after the date EPA approves the relevant SIP. The source would not be allowed to operate after the 5-year mark without such controls. Since MPC stated that the sulfuric acid plants "most likely will be replaced," the Company should be willing to accept this as a permit condition.

This may be a good alternative for both MPC and the MDEQ. The Pascagoula Facility claims a double absorption SO2 control level of 4.0 lbs/ton of sulfuric acid ($H_2SO_{4)}$ product. The double absorption technology often delivers a control level of 3.5 lbs/ton of H_2SO_4 product without a cesium catalyst. If not, almost certainly the cesium catalyst reaches that level of control. Under BART, MDEQ could impose a 3.5 lbs/ton of H_2SO_4 product after five years; an emission limitation that MPC may already be meeting. If not, the cesium catalyst could be added before the five year time period. This is a significant effort, because MPC estimates that visibility impact at Breton could be reduced from 0.82 deciviews to 0.5 deciviews with the increased level of control.

Mississippi Phosphates Corporation's BART determination summarizes the costs involved in the alternatives, but it does not show a detailed explanation of those costs and it does not document the costs with equipment vendor estimates, U.S Environmental Protection Agency's Office of Air Quality Planning and Standards (OAQPS) Control Cost Manual, etc.[3] The prorated cost of the "lost" vanadium due to changeover to a cesium catalyst is not an appropriate cost and should be deleted from the analysis. The lack-of-adequate-space argument regarding the Dual Alkali Scrubbing alternative should be further explored with a cost analysis of configurations that might accommodate the necessary adjustments to acquire the necessary space. Any argument for lack of technical feasibility for this alternative should be based on excessive cost of accommodating the space needs.

Finally, there was no discussion about enforceable limits on nitrogen oxides ($NO_{x)}$, particulates or sulfuric acid mist. Other phosphate facilities reasonably meet a NO_x limit of 0.11 – 0.12 lb/ton of H_2SO_4 product. Likewise, a 10% particulate matter opacity limit often is imposed. The sulfuric acid mist limit for diammonium phosphate/ monoammonium phosphate (DAP/MAP)

units should be about 0.18 lb/ton of H_2SO_4. These limits can usually be attainable without installation of additional pollution control equipment. Emission limits should be enforced using continuous emission monitoring systems. Such limits should be addressed in the facility's permit.

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[1] See 40 CFR Part 51, Appendix Y. The U.S. Environmental Protection Agency finalized it's BART Guidelines on June 15, 2005, and published the preamble and final rule text in the Federal Register on July 6, 2005. The rulemaking action added Appendix Y to Part 51, titled "Guidelines for BART Determinations Under the Regional Haze Rule." See Section IV.D.Step 2.3.

[2] See 40 CFR Part 51, Appendix Y. The U.S. Environmental Protection Agency finalized it's BART Guidelines on June 15, 2005, and published the preamble and final rule text in the Federal Register on July 6, 2005. The rulemaking action added Appendix Y to Part 51, titled "Guidelines for BART Determinations Under the Regional Haze Rule." See Section IV.D.Step 4.k.3.

[3] See 40 CFR Part 51, Appendix Y. The U.S. Environmental Protection Agency finalized it's BART Guidelines on June 15, 2005, and published the preamble and final rule text in the Federal Register on July 6, 2005. The rulemaking action added Appendix Y to Part 51, titled "Guidelines for BART Determinations Under the Regional Haze Rule." See Section IV.D.Step 4.a.5.

Chevron Products Company – Pascagoula Refinery (Mar 2008)

The RH SIP makes the statement, "Further reductions would be very costly without significant visibility improvement. Mississippi has determined that the emissions controls and resulting reductions from the consent decree constitute BART." These statements can be made only if one of two conditions are met. First, if MDEQ makes the determination that all of the consent decree controls constitute Best Availalible Control Technology (BACT) and therefore constitute BART; or second, if the five-step BART determination is completed for each control technology. The above quote from the RH SIP does not make the declaration that the consent decree control technologies are determined by MDEQ to be BACT and it makes a statement that further emission reductions would be very costly without significant visibility improvement, without justifying that conclusion with a five-step BART analysis.

There is no evidence that the five-factor BART analysis[1] was followed in selecting the control technologies for the BART-eligible units under the EPA Consent Decree. However, since the EPA Consent Decree was signed on June 7, 2005, before the BART Guidelines were promulgated on July 6, 2005, the equipment installed under the Consent Decree can be considered as "in-place" and also be considered as "baseline" for BART purposes. In instances where the chosen control technology was Best Available Control Technology (BACT), the five factor analysis is not required beyond that point. Compliance with a New Source Performance Standard does not necessarily constitute BART. A statement in the Regional Haze SIP should indicate that MDEQ has determined that all controls installed and proposed as part of the EPA Consent Decree are BACT and that this constitutes BART. If some of the Consent Decree control equipment does not constitute BACT, then additional controls should be analyzed with the five-factor BART analysis.

Given that one refinery process heater in the US is being controlled by Selective Non-Catalytic Reduction (SNCR), this alternative should be included among the BART alternatives and should undergo a five-factor BART analysis, rather than simply being dismissed as too expensive.

Strategies to reduce SO_2 emissions from the Sulfur Recovery Units should include increasing the capacity of the Claus train to recover more sulfur and improving the efficiency of the tail gas scrubber in several different ways. These alternatives should be analyzed in the BART analysis format as part of the proposed Optimization Study.

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[1] See 40 CFR Part 51, Appendix Y. The U.S. Environmental Protection Agency finalized it's BART Guidelines on June 15, 2005, and published the preamble and final rule text in the Federal Register on July 6, 2005. The rulemaking action added Appendix Y to Part 51, titled "Guidelines for BART Determinations Under the Regional Haze Rule." See Section IV.D.

DuPont DeLisle Plant (Titanium Dioxide Pigment Plant) (Mar 2008)

The State must commit to submitting a supplemental SIP. A committal SIP to be submitted one year after the Regional Haze SIP is submitted is not federally enforceable and is not provided for in the BART Guidelines. This sentence could be reworded to: "Mississippi *will* submit . . ." which would make it federally enforceable.

The DuPont DeLisle Plant has two 209 MMBtu/hour coal boilers that have been shown to contribute 1.2% of the visibility impairment at the Breton National Wildlife Refuge, which is about 45 km from the Plant. It shows the second-highest visibility impact at Breton of all Mississippi industrial facilities. It is for this reason that a review of its control measures is being performed. This Plant is not BART-eligible so the analysis is based on the "Reasonable Progress" four-factors outlined in the Regional Haze Rule (40 CFR 51.308(d)(1)(i)(A)), rather than the five-factor BART determination protocol.

DuPont states that a rigorous engineering analysis was not performed. CFR 51.308 does not provide for less rigorous analysis than the BART Guidelines. The risk in allowing a less rigorous analysis at this time is that possibly poor numbers get institutionalized and will not be seriously reviewed when Reasonable Progress alternatives are considered in a later timeframe.

Several coal alternatives were reviewed. Certainly, the alternative of switching from 2.5% sulfur coal to 1.5% sulfur coal at a cost of $1,050,000 per year and a reduction of 1,996 tons per year SO_2 ($527/ton) is a reasonable alternative.

A Spray Dry Absorber showing 85% SO_2 control (4,687 tons of SO_2 removal) at a capital cost of $55 million or $2,649/ton was presented. The estimates shown do not comport with other similar data showing 90% SO_2 control at a capital cost of $39 million and a range of $600 - $2,600 per ton. The fact that the plant operates at 69% of capacity may affect some of the numbers, but not enough detail is shown to confirm that supposition.

Installation of low NO_x burners is shown to cost $1,204 per ton of NO_x removed. If BART were used as a yardstick, this figure would be within the cost-feasibility range. It is understood that SO_2, rather than NO_x is your primary consideration.