Florida Department of Environmental Protection

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Secretary

March 1, 2007

E-MAIL - RECEIVED RECEIPT REQUESTED

jeff.stewart@mosaicco.com

Jeff Stewart
Environmental Superintendent
Mosaic Fertilizer, LLC
8813 U.S. Highway 41 South
Riverview, FL 33569

Re: Project Number 0570008-055-AC
Best Available Retrofit Technology
Riverview Facility

Dear Mr. Stewart:

On February 2, 2007, the Department received the air construction permit (AC) application for the proposed Best Available Retrofit Technology (BART) determination for the BART eligible emissions units at the Riverview Facility.

After review, it has been determined that this application is incomplete. In order to continue processing the application, the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

Additional Information Items on the Proposed BART

Sulfur Dioxide (SO_2)

1. The Department finds the applicant proposing the continued use of the double-absorption technology for the sulfuric acid plant (SAP) numbers (Nos.) 7, 8 and 9. All three plants also use a vanadium catalyst in the converters except that in the 4th pass of the SAP Nos. 8 and 9 a cesium promoted catalyst is used.
    a. What are the current actual SO_2 absorption efficiencies at each SAP? In TABLE 5-2 an estimated efficiency of >99.7% was provided.

b. The applicant did not propose using the cesium promoted catalyst in SAP No. 7.
   (i) Can the cesium promoted catalyst be used in the SAP No. 7? If so, how much would it cost to use cesium promoted catalyst in SAP No. 7 and what would the associated SO_2 reductions be?
   (ii) Please provide detailed information on the current catalyst beds such as: a breakdown of the constituents in the beds; how much catalyst is used, in liters; and, the manufacturer(s) and catalogue number(s) of the catalysts.
   (iii) Are any other catalysts available besides vanadium and cesium?
c. What type of acid mist removal system does each SAP use?
d. Do the SAPs recover waste heat? If so, what is the waste heat used for? Does waste heat recovery reduce plume visibility?
e. What techniques are used to minimize emissions during startup, shutdown and malfunction?
f. Please provide current detailed process flow diagrams for each SAP.

2. The most recent Best Available Control Technology (BACT) issued by the Department in Permit Number PSD-FL-339 (0570005-019-AC) specified an SO_2 emission limit of 3.5 lb/ton 100% sulfuric acid (H_2SO_4) produced on a 3-hour rolling average demonstrated by the continuous emissions monitoring system (CEMS).
   a. Are you proposing an SO_2 emission limit of 3.5 lb/ton 100% H_2SO_4 on a 24-hour average for each SAP?
   b. Please provide the actual SO_2 emissions in lb/ton 100% H_2SO_4 from the previous 5 recent calendar years, e.g., 2001-2005, for each SAP. Provide the basis for the actual emissions, including the actual tons of 100% H_2SO_4 produced from each SAP and the actual CEMS data summaries in tons per year.
      (i) Please include graphical representations of the 5 years of data from each SAP, e.g., actual lb/ton 100% H_2SO_4 with 3-hour & 24-hour averages versus the 4 lb/ton 100% H_2SO_4 3-hour average for each SAP.
      (ii) How does the level of actual emissions in units of lb/ton 100% H_2SO_4 compare to the permit allowable in terms of a percentage (%) from each SAP for the different averaging periods?
      (iii) Provide the dates of the turnarounds and the duration of the turnarounds for each SAP.
   c. Please provide a cost estimate to comply with a 3.5 lb/ton 100% H_2SO_4 on a 3-hour average for each SAP.

3. Ammonia scrubbing is included as an SO_2 emission control technology evaluated for BART.
   a. The cost cited for the installation of one ammonia scrubber on one double absorption SAP is $8 million without a blower, mist eliminator and certain other items on page 5-7 of the application. Provide the ammonia scrubbing cost quote cited from 2004 on page 5-7, which supports the $8 million cited.
   b. TABLE 5-3 shows a more detailed breakdown of equipment costs. A cost of $9.4 million was referenced for the "absorber + packing + auxiliary equipment" based on the actual costs of ammonia scrubbers on single absorption SAPs at CF Industries as denoted by footnote "[b]". Provide the documentation used to support this actual cost cited. Show how the $9.4 million was calculated.

4. Good table, TABLE 5-2, summarizing SO_2 emission control technologies with a ranking by control efficiency. Please create a table to illustrate a summary of the costs in the BART analysis to show for each BART emissions unit: affected pollutant(s); the cost effectiveness to reduce each affected pollutant in $/Ton; and, the cost tied to the reduction(s) in visibility in $/deciview (dv).

5. Florida has a specific rule regulating Sulfur Storage and Handling Facilities, Rule 62-296.411, Florida Administrative Code. Does this rule contain anything which could presumptively be considered to be BART for the molten sulfur storage tanks and pits identified as BART emission units?

Nitrogen Oxides (NOx)

6. Please provide more information on the BART analysis for NOx on the SAPs. Section 5.2 does not address any proposed specific emission limitations, specific potential control technologies, specific cost effectiveness considerations and resulting impacts.

7. In TABLE 2-12 maximum 24-hour average emission rates were provided for NOx emissions from each SAP as part of the air modeling protocol. NOx emissions were estimated to be 16.0, 13.5 and 17.0 lb/hour for SAP Nos. 7, 8 and 9 respectively. Provide an estimate of NOx emissions in terms of lb/ton 100% H_2SO_4 for each SAP.

Particulate Matter less than 10 microns (PM_{10})

8. Please provide the actual visible emissions (VE) test results from the previous 5 recent calendar years, e.g., 2001-2005, for each SAP in a table summary. Include the actual tons of 100% H_2SO_4 produced from each SAP during the VE tests.
   a. Please include graphical representations of the 5 years of data from each SAP, e.g., actual VE versus the permit allowable, e.g., 10% opacity for each SAP.
      (i) How does the level of actual emissions compare to the permit allowable in terms of a percentage (%) from each SAP?
   b. Please provide a cost estimate to comply with a 5% VE for each SAP.

Emission Unit Applicability Items

9. The list of proposed BART eligible emission units identified in the Department's draft list (copy enclosed) was compared to what was in the application submission. Several emission units were not included in the application, specifically, Nos. 3 & 4 MAP Plant and South Cooler, (Emission Unit Identification number (EU ID No.) -022, -023 & -024), Phosphoric Acid Production System (EU ID No. -073) and Phosphogypsum Stack I (EU ID No. -104). Please explain further.

10. On page 5-9 of the BART application a remaining useful life of 20 years was used for the BART capital cost recovery. In what year did each SAP begin operations?

Other Items

11. The Department requires a properly completed Owner/Authorized Representative Statement [Page 4 of DEP Form No. 62-210.900(1) - Form]. The Department requires an original signature and date; the submission appeared to be a photocopy. The owner or authorized representative needs to sign this statement. The owner is typically a corporate officer or plant manager. A letter of authorization may be submitted by the owner to duly designate other persons.

12. The Department requires a properly completed application form for the affected emission units, specifically the Facility Information section and the Emissions Unit Information section [see Pages 3, 7-12 and 13-28 of DEP Form No. 62-210.900(1) - Form]. Please submit the completed pages.

13. The detailed calculations for the Riverview Facility could not be located in APPENDIX A of the submission, please provide.

14. Submit any additional updates to the application and supporting documentation in quadruplicate as required by Rule 62-4.050(2), F.A.C.

Air Dispersion Modeling Items

15. Section 2.0 of the BART application states that the Nos. 3 and 4 MAP Plants at the South Cooler have been permanently shut down. Does this shutdown include EU ID No. -024, South Cooler?

16. Section 2.0 of the BART application states that 24-hour emission limits for EU ID Nos. -004, -005 and -006 were used for this BART analysis. Is there CEMS data available for SO_2? According to the modeling protocol, permitted emission limits should only be used if there is no CEMS or stack test data.

17. The modeling disk submitted to the Department includes spreadsheets for the New IMPROVE equation for the BART Determination modeling results. Please submit these spreadsheets for the base case or exemption cases.

18. The New IMPROVE spreadsheets include data from CALPOST (Ranked Daily Visibility Change). Please submit the CALPOST files for all units (total) subject to BART for the Determination modeling so Ranked Daily Visibility Change can be verified. The files submitted to the Department only included the base cases.

The Department has not received comments from the National Park Service, Fish & Wildlife Service and the EPA regarding the modeling analyses completed for this project. Any comments received will be forwarded to you.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department construction permit must be certified by a professional engineer registered in the State of Florida.

This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative. You are reminded that Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within **ninety (90)** days or provide a written request for an additional period of time to submit the information.

If you should have any questions, please contact me at 850/921-9523 and Ms. Deborah Nelson regarding modeling items at 850/921-9537. We would be glad to meet with you and your staff to discuss this project.

Sincerely,

Scott M. Sheplak, P.E.
Air Permitting South Section
Bureau of Air Regulation
Mail Station #5505
2600 Blair Stone Road
Tallahassee, FL 32399
Scott.Sheplak@dep.state.fl.us

/sms&dn

Enclosure

copy to: David A. Buff, P.E., Golder Associates: dbuff@golder.com
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Jim Little, EPA, Region 4: little.james@epa.gov
Dee Morse, National Park Service: Dee_Morse@nps.gov

DRAFT LIST OF POTENTIAL BART-ELIGIBLE SOURCES - BY INDUSTRY

N/S	COUNTY	FACILITY ID	SIC	BART CAT.	OWNER COMPANY NAME	SITE NAME	EU ID	EU DESCRIPTION	MMBtu/hr	MW
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	4	NO. 7 SULFURIC ACID PLANT		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	5	NO. 8 SULFURIC ACID PLANT		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	6	NO. 9 SULFURIC ACID PLANT		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	22	NO. 3 MAP PLANT		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	23	NO. 4 MAP PLANT		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	24	SOUTH COOLER		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	63	TANK Nos. 1, 2, and 3 for molten sulfur storage w/scrubber		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	66	SULFUR PIT #7, MOLTEN S STORAGE/HANDLING SYSTEM		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	67	SULFUR PIT #8, MOLTEN S STORAGE/HANDLING SYSTEM		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	68	SULFUR PIT #9, MOLTEN S STORAGE/HANDLING SYSTEM		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	73	PHOSPHORIC ACID PRODUCTION SYSTEM (Prayon, Dorrco, No. 3)		
S	HILLSBOROUGH	0570008	2874	21	MOSAIC FERTILIZER, LLC	MOSAIC--RIVERVIEW FACILITY	104	Phosphogypsum Stack I		

0	<-- Escambia		
0	<-- Hamilton		
0	<-- North	0	<-- North - (Hamilton + Escambia)
12	<-- South	12	<-- South + (Hamilton + Escambia)

Source Categories Eligible for BART:

1 Fossil-fuel fired steam electric plants of more than 250 million Btu/hr heat input
3 Kraft pulp mills
4 Portland cement plants
13 Phosphate rock processing plants
15 Sulfur recovery plants
20 Secondary metal production plants
21 Chemical process plants
22 Fossil-fuel boilers of more than 250 million Btu/hr heat input

Sheplak, Scott

From: Harvey, Mary

Sent: Thursday, March 01, 2007 11:58 AM

To: 'jeff.stewart@mosaicco.com'; 'dbuff@golder.com'; 'smohammad@golder.com'; 'lee@epchc.org'; Zhang-Torres; 'little.james@epa.gov'; 'dee_morse@nps.gov'

Cc: Sheplak, Scott; Adams, Patty; Gibson, Victoria

Subject: Project #0570008-055-AC - Mosaic Fertilizer, LLC

Attachments: LTR-Jeff Stewart - Mosaic Fertilizer - Project #0570008-055-AC.pdf

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: http://www.adobe.com/products/acrobat/readstep.html.

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Thank you,

DEP, Bureau of Air Regulation