

Sheplak, Scott*- file 0870008-055-AC-*

From: Sheplak, Scott
Sent: Thursday, January 31, 2008 11:24 AM
To: Heron, Teresa
Cc: Linero, Alvaro
Subject: (Archived w/ Attachments) sulfuric acid plants & SO₂
Attachments: Friedman Paper Clearwater 07.pdf; Clark Paper Clearwater 07.pdf; Topsoe brochure Cat%20-%20HT%20VK%20.pdf

Teresa,

The Friedman paper (attached) suggests SO₂ BACT on sulfuric acid plants (SAPs) could be down to 1.0 - 1.25 lb/ton not only for single absorption SAPs but, also for double absorption SAPs.

The Clark paper suggests replacement of the catalyst alone with the "super cesium" can bring SO₂ down to even lower than 1.0 lb/ton. This catalyst seems to easily achieve 3.0 lb/ton. The Haldor Topsoe brochure (attached) advertises a 50% reduction in SO₂ at double absorption SAPs; the presumption may be from 4.0 to 2.0 lb/ton. Even with a guarantee, the replacement of catalyst alone in a sulfuric acid plant could be very cost effective, down to as low as \$200/ton; easily achieving a level of 2.0 lb/ton.

Ammonia scrubbing as indicated by Mosaic-Riverview in their BART application on a double absorption SAP had a cost effectiveness range of \$4,440 - \$5,300/ton of SO₂ capable of going below 1.0 lb/ton. Ammonia scrubbing has the advantage of a readily available ammonia source at a phosphate fertilizer manufacturing complex and the possibility of recirculating scrubber effluent back into the fertilizer manufacturing process.

Conclusion

2.0 lb/ton may be the next BACT.

Scott



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RETURN RECEIPT REQUESTED #7004 2510 0002 0526 9265

January 24, 2008

Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

Attention: Ms. Trina Vielhauer, Chief

**RE: Mosaic Fertilizer, LLC
Draft Permit No. 0570008-055-AC
Best Available Retrofit Technology (BART) for Riverview Plant
Comments on Draft BART Permit**

Dear Ms. Vielhauer

Mosaic Fertilizer, LLC has received the Florida Department of Environmental Protection's (FDEP) draft permit package dated December 17, 2007 regarding Best Available Retrofit Technology (BART) at the Riverview Plant. The package includes the public notice, Technical Evaluation and Preliminary Determination (TE&PD), and the draft permit. Mosaic, Golder Associates Inc., and Mosaic's legal counsel have reviewed the draft permit package. We have also considered the Department's comments during our meeting of January 11 in Tallahassee to review the draft BART permit. Our comments on the draft permit package are presented below. We ask that the Department consider and incorporate each of these comments in issuing the final BART permit, and we look forward to discussing these issues further with you and your staff.

General Comments

All the BART limits should be specified as lb/hr caps and not as lb/ton since the analysis for the visibility impact is based on maximum mass emission rates. A limit at reduced production rate will only have a lesser visibility impact and should not be considered to be a BART limit.

There is no rationale for including VE limits as BART. It has been demonstrated and is recognized that VE do not correlate well with mass emissions. VE is related more to particle size than mass quantity. Given an equal amount of mass emissions, fine particles will cause much higher visible emissions than large particles. Moreover, VE limits will have no effect on actual PM mass emissions, and therefore no effect on actual visibility conditions in the Class I area.

Technical Evaluation and Preliminary Determination

Page 4 of 25, Regulatory Authority: 1st paragraph- This "project" is not subject to all regulations as indicated. Individual emissions units or the facility as a whole may be subject to the listed regulations, but not due to the BART project.

Draft Permit

Page 8 of 15, Emission Standards and Limitations

Condition 5: This condition sets a new PM₁₀ emissions limit for the wet scrubber stack. The new limit is equivalent to the existing PM limit of 0.03 gr/dscf. This condition also sets the test method as EPA Method 201A. Since the PM and PM10 emission limits are identical, it is requested that the test method be EPA Method 5. Since Method 5 measures total PM, including PM₁₀, compliance with the PM limit insures compliance with the PM₁₀ limit.

Page 9 of 15, Monitoring Requirements

Condition 12: The Department's preliminary BART determination presented on page 12 of 25 of the TE&PD sets BART as the existing VE standards, compliance with Rule 62-296.411, and compliance with Title V permit no. 0570008-045-AV. This would indicate no new conditions are being imposed due to BART. Condition 2 also states "This BART determination does not require new, modified, or additional air pollution control systems or measures." However, the requirement to check and record the condition of covers on the three sulfur pits once per 8-hour shift is a new measure. Mosaic requests that this requirement be deleted, because it is unclear how this condition will reduce emissions, and moreover, there is no correlation between sulfur pit covers and visibility at Class I areas located 87, 289 and 291 kilometers away. In addition, Rule 62-296.411 already contains adequate measures to insure emissions from sulfur pits are adequately controlled. Mosaic also notes that the Riverview facility operates on 12-hour shifts, rather than 8.

Condition 15.b: This condition requires a PM₁₀ stack test prior to permit renewal and once every 5 years thereafter. Based on our comments on Condition 5 above, it is requested that the test method be EPA Method 5.

Condition 17: As discussed previously, it is requested that Condition 12 be removed, and therefore this requirement should also be deleted.

Page 12 of 15, Emissions Standards and Limitations

Condition 4: This condition revises the SO₂ CEM's compliance and recordkeeping limit from a 24-hour block average to a 24-hour rolling average. However, a rolling 24-hour average emission rate is not appropriate for a BART determination. All BART visibility modeling is conducted on the basis of a 24-hour block time period. It is requested that this condition be revised to be consistent with the current Title V permit, based on a 24-hour block average. Based on a brief review of its CEMS SO₂ data, for valid 24-hour time periods, it appears that a rolling 24-hour average would produce SO₂ emissions only 2 to 3 percent higher than a block 24-hour average. This is a minimal difference.

Condition 5.b: Same comment as above on 24-hour rolling average.

Page 13 of 15, Emissions Standards and Limitations

Condition 7: This condition imposes a new NO_x limit on the SAPs of 0.12 lb/ton. Since there is no control device for NO_x on these plants, there is no justification for a NO_x emissions limit; instead, a work practice standard of "good combustion practices" should be sufficient. If necessary, equivalent emissions could be specified in the permit for "inventory purposes only". Mosaic also notes that the Department's BART determination for PCS imposes a limit of 0.14 lb/ton.

Page 14 of 15, Emissions Testing

Condition 15.c: As no NO_x limit should be required, no NO_x testing should be required.

The permitting note should be reworded to clarify that when SO₂ CEMS are required to demonstrate compliance, no initial or annual compliance tests are necessary "for SO₂".

Condition 17: The requirement to submit quarterly excess emissions reports is new, since the Title V permit current requirement is semi-annual reporting. We request that the reporting be consistent with the current Title V permit, i.e., semi-annual reporting.

Condition 18: The reference to Condition 5 should be changed to "Condition C.5" for clarification.

Alternative Strategies

Based on our discussions, the Department may consider alternative strategies which achieve equivalent or greater visibility reductions in the Class I area as those achieved by the draft BART permit. Alternatives could include non-BART emission units. Mosaic will continue to evaluate such alternatives and inform the Department of any strategies which they may like to pursue. This may include the possibility of lowering the deciview impact of the BART-eligible source to below the exemption criteria of 0.5 deciview, in order to become exempt from BART. Proposed permit language to allow for this is provided below.

"Prior to expiration of this BART permit, the applicant may apply to the Department for an alternative BART compliance strategy which achieves equal or greater visibility reduction in the Class I area as achieved by this BART permit. This may include a BART strategy which results in a visibility impact of the BART-eligible source of less than 0.5 deciview, thereby exempting the facility from BART requirements."

EPA Comments

Mosaic appreciates the Department forwarding comments filed by EPA Region 4 on the Mosaic Riverview draft BART determination. Mosaic reserves the right to respond to these comments within a reasonable time.


Clarification on BART Permit Application

It has come to Mosaic's attention that there was an incorrect statement made on page 5-2 of the BART application dated January 2007. It is stated "The No. 8 and 9 SAPs were subject to a BACT determination when the production capacity of the facility was expanded and the continued use of double-absorption technology and with the addition of cesium promoted vanadium catalyst into the 4th pass of the converter was determined to be BACT for SO₂ emissions." However, review of permit no. 0570008-036-AC/PSD-FL-315 reveals that the permit and BACT determination did not require that cesium promoted catalyst be used in the 4th pass of the converter. The permit specified the emission limit for SO₂, and the BACT determination cited "double absorption", but no requirement for cesium-promoted catalyst was included. In fact, only cesium-promoted catalyst has been incorporated into SAP No. 9, while SAP No. 8 does not have cesium-promoted catalyst.

Thank you for consideration of these comments. If you have any questions, please do not hesitate to call me at (863)428-6480.

Sincerely,

MOSAIC FERTILIZER, LLC



David B. Jellerson
Assistant Vice President
Environmental

DB/all

Enclosures

cc: J. Stewart
D. Buff
D. Jagiella
R. Manning
T. Lulf
S. Sheplak

Sheplak, Scott

From: Bennett, Sandi R - Pierce [Sandi.Bennett@mosaicco.com]
Sent: Friday, January 25, 2008 1:18 PM
To: Vielhauer, Trina; Sheplak, Scott
Cc: ROBERTM@hgslaw.com; dbuff@golder.com; Jagiella, Diana - Plymouth; Lulf, Alan - Riverview; Stewart, Jeff M - Riverview; Ahrens, Dean - New Wales; Turley, Charles D - New Wales; Jellerson, David - Pierce
Subject: Riverview BART Permit Submittal Comments
Importance: High
Attachments: Comments to DEP re Draft Riverview BART Permit.pdf

For your information, in addition to this e-mailing, the attached letter was mailed 1/24/08 via U. S. Certified Mail, Return Receipt Requested, to Ms. Trina Vielhauer.

Sandi Bennett
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