

**Sheplak, Scott**

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**From:** Sheplak, Scott  
**Sent:** Tuesday, September 18, 2007 5:29 PM  
**To:** Koerner, Jeff; Linero, Alvaro  
**Subject:** BART Mosaic-Riverview  
**Attachments:** pieces of response dated 09 10 2007.pdf

Jeff/Al:

They proposed nothing for BART.

I am reviewing their responses. What are your thoughts on the page 3 and 5 underlined response items (see attached excerpts)?

9/18/2007

In the original BART application it was noted that the cost of DAP/MAP would increase by \$1.50 per ton because of the installation of an ammonia scrubbing system under the "depressed" market. Market conditions for DAP appear to be very strong now having changed substantially the past 3 months. The price of DAP on the market has increased 37% or by \$91 per tonne, up from \$247 per tonne to \$338 per tonne according to the news release dated July 30, 2007 on Mosaic's web site. A cost increase of \$1.50 due to the installation of an ammonia scrubbing system appears to be a fraction of this market price increase.

- a. Are there any reconsiderations by Mosaic to the proposed BART because of these recent market conditions?

**Response:** Although current market conditions are favorable, these conditions are subject to change and may again be depressed, based on the 10-year history of the industry. Based on the revised cost calculation, the annualized cost of control has gone up from \$3 million reported before to \$5.9-\$6.9 million, which is almost \$3.5 per ton of production based on a theoretical 2 million tons of annual production. Also, the cost effectiveness in terms of dollar per ton of SO<sub>2</sub> removal is very high, ranging from \$4,400 to \$5,300. The cost of visibility improvement was also found to be extremely high, between \$30 and \$32 million per deciview of visibility improvement. Based on these high cost effectiveness figures in terms of dollar per ton of SO<sub>2</sub> removal and dollar per deciview of visibility improvement, Mosaic does not consider an ammonia scrubbing system to be cost-effective for BART. It is also noted that BACT determinations are for a different purpose than BART, and that BACT does not necessarily represent BART. The BART determination is based on factors different than BACT.

In response to item 10., it was indicated that the SAP Nos. 7, 8, & 9 began operations in 1961, 1965 and 1974 respectively. This means these plants are 46, 32 and 23 years old respectively. A remaining useful life of 20 years was used in calculating the annualized costs. A longer remaining useful life would result in a lower annualized cost thus lowering the cost effectiveness numbers, the \$ ton pollutant removed.

- b. Is it realistic to use a longer "remaining useful life"?

**Response:** The SAPs 7, 8, and 9 are actually 46, 42, and 33 years old, respectively, according to their start-of-operation dates. The 9.5-year time period was provided to Mosaic by EPA as the appropriate amortization period for BACT analysis in the New Source Review (NSR) enforcement context.

**Comment 7.** Comment and response to item 11. in the letter from Golder Associates Inc. dated July 9, 2007. As part of the response a copy of the originally submitted Owner/Authorized Representative Statement [Page 4 of DEP Form No. 62-210.900(1) - Form] dated 01/31/07 and signed by Mr. Jeff Stewart, Environmental Superintendent was resubmitted. The Department requires the Statement for the subject application to be from either a corporate officer or the plant manager or an authorized person. Please submit either the new Statement signed by the plant manager or an authorization letter from the plant manager designating Mr. Stewart.

**Response:** Mr. Jeff Stewart is the current authorized representative of the Riverview facility. A letter of designation was submitted to the Department in 2006 (see letter, attached).

**Air Dispersion Modeling Items**

**Comment 11.** Comment and response to item 16. in the letter from Golder Associates Inc. dated July 9, 2007 states that permitted emission limits rather than available CEMs data was used for the BART sulfur dioxide analysis. According to the modeling protocol, if CEMs data is available, that is what should be used. Please use available CEMs data for your sulfur dioxide analysis.

**Response:** The CEMS data graphs provided with the RAI response letter dated July 9, 2007 for each of the Riverview SAPs clearly show that the 24-hour average SO<sub>2</sub> emissions in lb SO<sub>2</sub>/ton H<sub>2</sub>SO<sub>4</sub> is less than the permit limit of 3.5 lb SO<sub>2</sub>/ton H<sub>2</sub>SO<sub>4</sub>. Emission rates used in the BART analysis are based on the permit allowable emission rates of 3.5 lb SO<sub>2</sub>/ton H<sub>2</sub>SO<sub>4</sub>. Therefore emission rates higher than the rates allowed for modeling were used, resulting in higher baseline impacts and lower visibility cost effectiveness in terms of dollars per deciview, both of which are on the conservative side. Using the maximum 24-hour average rates from CEMS data, the 8<sup>th</sup>-highest visibility impacts were determined using the new IMPROVE equation and are presented in Table 1, attached. It can be seen that the visibility impacts have decreased and the cost-effectiveness values for visibility improvement have increased.

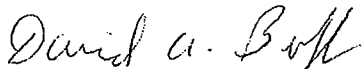
**Comment 12.** Referring to the responses for items 17. and 18. in the letter from Golder Associates Inc. dated July 9, 2007, no electronic spreadsheets have been submitted. Please submit all electronic spreadsheets and any additional modeling files to the Department.

**Response:** It is our understanding that modeling files were sent directly to Mr. Cleve Holladay. A ZIP file containing the requested spreadsheets and modeling files is attached to the electronic version (e-mail) of this letter.

Thank you for consideration of this information. If you have any questions, please do not hesitate to call me at (352) 336-5600.

Sincerely,

GOLDER ASSOCIATES INC.

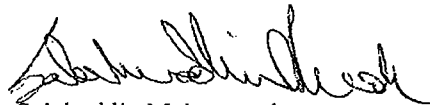


David A. Buff, P.E., Q.E.P.  
Principal Engineer

SKM/DB/nav

Enclosures

cc: D. Turley, Mosaic  
D. Jagiella, Mosaic  
D. Jellerson, Mosaic  
S. Mohammad, Golder



Salahuddin Mohammad  
Staff Engineer

**Sheplak, Scott**~~-file-~~

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**From:** Sheplak, Scott  
**Sent:** Wednesday, September 19, 2007 5:47 PM  
**To:** 'Mohammad, Sal'  
**Cc:** Nelson, Deborah  
**Subject:** RE: Mosaic Riverview BART

The use of actual emissions data from the SO2 CEMs has an effect on the cost effectiveness evaluation also. An example of the different calculations for illustration purposes can help, e.g., \$/ton removed with add on controls based on allowable emissions vs. \$/ton removed with add on controls based on actual emissions (CEMs). Please explain further.

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**From:** Nelson, Deborah  
**Sent:** Wednesday, September 19, 2007 4:16 PM  
**To:** 'Mohammad, Sal'  
**Cc:** Sheplak, Scott  
**Subject:** Mosaic Riverview BART

Sal,

I have a question regarding the Mosaic BART response. I do not understand your response to comments regarding the modeling. My understanding of BART is that you compare visibility impacts before and after BART controls. Then, you analyze the visibility reduction with cost, feasibility, etc. In the Mosaic Review you used PTE's instead of CEMS. You state that this method is more conservative. However, I don't believe that it is more conservative. I think that it is less conservative because you are comparing visibility from PTE to post BART controls. Your visibility reduction, thus would be less than if you were to use CEMS. If you used CEMS, as the protocol suggests, you will show a greater reduction in visibility impacts. Any comments?

Thanks,

Debbie

**Debbie Nelson**  
**Meteorologist**  
**Air Permitting South**  
**850-921-9537**  
**deborah.nelson@dep.state.fl.us**

9/19/2007

**Sheplak, Scott***-file-*

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**From:** Sheplak, Scott  
**Sent:** Monday, September 17, 2007 12:19 PM  
**To:** Nelson, Deborah  
**Cc:** Linero, Alvaro  
**Subject:** FW: Mosaic Riverview BART RAI Response Letter  
**Attachments:** FDEP Modeling Files 091007.zip; RAI070907-643-reduced.pdf; R091007-643a.pdf

We received the hard copy with color & oversized attachments on September 13th.

Therefore, the completion review deadline (Day 30) of their response is October 13th.

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**From:** Mohammad, Sal [mailto:Sal\_Mohammad@golder.com]  
**Sent:** Tuesday, September 11, 2007 5:48 PM  
**To:** Sheplak, Scott  
**Cc:** Buff, Dave; GNV- Document Production  
**Subject:** Mosaic Riverview BART RAI Response Letter

Hi Scott,  
Please find attached the BART RAI (dated August 9, 2007) response letter for Mosaic Riverview. Appendix B of the document is attached as a separate pdf document. The electronic modeling-related files are attached as a ZIP file. A paper copy of the entire document is sent to you via regular mail. Please call me or Dave Buff if you have any questions.

Thank you,

Sal Mohammad  
*Project Engineer*  
*Golder Associates Inc.*  
6241 NW 23rd Street, Ste. 500  
Gainesville, FL 32653  
352/336-5600  
*www.golder.com*

9/17/2007