August 10, 1994

John C. Brown
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Requested information for Cargill Fertilizer Inc, Sulfuric Acid Plant No.8 & 9, Permit File No. AC29-241660, PSD-FL-209

Dear Mr. Brown:

Cargill has received the Department's letter dated July 11, 1994 requesting additional information for the above referenced application. KBN Engineering and Applied Sciences (KBN) has assisted Cargill in developing responses to these questions. On behalf of Cargill, responses to each of the Department's comments are provided below in the same order as they appear in the July 11 letter.

1. The two most recent compliance tests for sulfuric acid plant No. 9 were performed on December 15, 1992 and January 13, 1994. Although no testing was completed in the calendar year of 1993, the interval between testing was kept as close to 12 months as possible.

2. From information presented in the June 10 letter, SO_2 stack test data presented values up to 3.9 lb/ton. In the near future, enhanced monitoring will require continuous compliance. Therefore, to allow for the fluctuating nature of emissions and increased production, the 4.0 lb/ton limit is necessary. FDEP should consider in its evaluation the expected annual SO_2 emissions based on historical operation. Estimated annual emissions were presented in the BACT information submitted in the June 10 letter. The average annual emissions from No. 8 and No. 9 were 64 percent of the allowables on a TPY basis.

3. Additional modeling has been performed to provide further assurances that the amended project does not significantly contribute to any predicted SO_2 AAQS exceedances. The methodology has been previously discussed with Cleve Holladay, and results are presented in Table 1. These impacts include the background levels presented in the original submittal for this project. The amended project does not have a significant contribution to any predicted 24-hour or 3-hour SO_2 exceedance. Further, the amended project does not have a significant impact for the annual averaging time. The maximum predicted SO_2 impacts to which the amended project does have a significant contribution are 258 $\mu g/m^3$ and 608 $\mu g/m^3$, for the 24-hour and 3-hour averaging times, respectively.

4. The facility operates three sulfuric acid plants (No. 7, 8, & 9) from one control room with a Texas Instruments D3 system. Each plant has its own totalizer system. The totalizers consist of a magnetic flow meter installed on the product line exiting each plant. Without piping modifications, Cargill Fertilizer Inc, does not have the ability to physically meter the flow from both the No. 8 and No. 9 plant through a single meter. However, the data can be combined

KBN ENGINEERING AND APPLIED SCIENCES, INC.

1034 Northwest 57th Street, Gainesville, Florida 32605, 904-331-9000, FAX 904-332-4189
5405 West Cypress Street, Suite 215, Tampa, Florida 33607, 813-287-1717 FAX 813-287-1716
1801 Clint Moore Road, Suite 105, Boca Raton, Florida 33487, 407-994-9910, FAX 407-994-9393
6821 Southpoint Drive North, Suite 216, Jacksonville, Florida 32216, 904-296-9663 FAX 904-296-0146
1616 'P' Street N.W., Suite 450, Washington, D.C. 20036, 202-462-1100, FAX 202-462-2270

using the two meters already installed to feed information to the control room. The D3 system receives data from the production totalizers and converts the value to a 100 percent H_2SO_4 basis. The operators receive the plant production totals already as a 100 percent H_2SO_4 basis. This would provide a total TPH production rate for No. 8 and No. 9 combined.

If you have any questions concerning this information, please call me at (904) 331-9000.

Sincerely,

Mark J. Aguilar for David Buff

David A. Buff
Florida Registration 19011

MJA/lcb

Attachment

cc: David Jellerson, Cargill Fertilizer
Mark Aguilar, KBN
File (2)
C. Holladay
D. Kissel, SW Dist
J. Campbell, EPCHC
J. Harper, EPA
J. Dumpert, DPS

Table 1. Maximum Predicted SO_2 Concentrations Compared With AAQS

Averaging Time	Concentration ($\mu g/m^3$)			Receptor Locations[a]		Period Ending	Florida AAQS
	Total	Modeled	Background	Direction (degrees)	Distance (m)	(YYMMDDHH)	($\mu g/m^3$)
24-Hour[b]	204	170	34	70	2,000	82082724	260
	185	151	34	100	1,100	83090824	
	258	224	34	360	1,100	84060224	
	182	148	34	360	1,100	85060224	
	191	157	34	360	1,100	86081824	
3-Hour[b,c]	608	555	103	360	1,100	83082918	1,300

Note: YY=Year, MM=Month, DD=Day, HH=Hour

[a] Receptors locations are relative to the No. 9 stack location.

[b] All short-term concentrations are highest, second-highest concentrations.

[c] Proposed project only has a significant 3-hour impact in 1983 meteorology.