



Florida Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

December 20, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David A. Buff
KBN Engineering & Applied Sciences, Inc.
1034 N.W. 57th Street
Gainesville, Florida 32605

Re: Cargill Fertilizer, Inc.
No. 9 Sulfuric Acid Plant Expansion
Permit File No. AC 29-241660, PSD-FL-209

Dear Mr. Buff:

The Department has received the application for an increase in the No. 9 sulfuric acid plant production rates (2800 to 3200 tons per day) of the existing facility at the Cargill's Riverview Plant in Hillsborough County. Based on our initial review of the proposed project, we have determined that additional information is needed in order to continue processing this application package. Please submit the information requested below to the Department's Bureau of Air Regulation.

1. Provide storage tank capacities, throughput rate increases, etc. of molten sulfur and sulfuric acid for the facility to handle increased production rates.
2. What facilities will use the additional sulfuric acid produced by the modified plants? Where are these facilities located?
3. What physical modifications, if any, will be required to the sulfuric acid plant to achieve the higher production rates?
4. Please explain the reasons for the permitted production rate varying between 2600 tons per day (TPD) and 2800 TPD between 1974 and 1989 as shown in the application.
5. The application states that the sulfuric acid plant now has a permitted production rate of 2,800 TPD. The present allowable SO₂ emission rate of 433.2 lb/hr is based on a 2,600 TPD production rate and 4.0 lb/ton of acid produced (2,600 ton/day * 4 lb/ton * 1 day/24 hr = 433.2 lb/hr). With a permitted production rate of 2800 TPD and an allowable emission rate of 433.2 lb/hr results in 3.71 lb/ton of acid

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produced ($433.2 \text{ lb/hr} * 24 \text{ hr/day}/2800 \text{ ton/day} = 3.71 \text{ lb/ton}$). Therefore, the emission factor for SO_2 was already established at 3.71 lb/ton of acid produced for this facility. Likewise, the H_2SO_4 mist emissions using the above criteria results in an emission factor of 0.14 lb/ton. Please explain, if this assessment is incorrect.

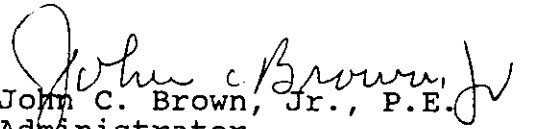
6. Please provide the available control technologies for sulfuric acid plants and their associated control efficiencies. Documentation, including actual cost data, should be provided for control technologies that are economically infeasible for this project.
7. Please provide the Department with reasonable assurance that the efficiency of the converters will not be degraded while operating at the proposed new process conditions and higher process rates. The answer to this question must:
 - a. completely describe the process streams that each converter was originally designed to handle,
 - b. completely describe the process streams that each converter will handle in the proposed modified facility, and
 - c. explain why the differences between (a) and (b) will not degrade converter efficiency.
8. Please provide the Department with reasonable assurance that the efficiency of the absorbers will not be degraded while operating at the proposed new process conditions and higher process rates. The answer to this question must:
 - a. completely describe the process streams that each absorber was originally designed to handle,
 - b. completely describe the process streams that each absorber will handle in the proposed modified facility, and
 - c. explain why the differences between (a) and (b) will not degrade absorber efficiency.
9. Please provide the Department with reasonable assurance that the efficiency of the mist eliminators will not be degraded while operating at the proposed new process conditions and higher process rates. The answer to this question must:
 - a. completely describe the process streams that each mist eliminator was originally designed to handle,

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- b. completely describe the process streams that each mist eliminator will handle in the proposed modified facility, and
 - c. explain why the differences between (a) and (b) will not degrade mist eliminator efficiency.
10. Modeling data was received on December 10, 1993. Therefore, after it is reviewed DEP may have additional questions.

We will resume processing this application after we receive the requested information. Should you have any questions, please contact Syed Arif (engineering) or Cleve Holladay (modeling) at 904-488-1344.

Sincerely,


John C. Brown, Jr., P.E.
Administrator
Air Permitting and Standards

JB/SA/bjb

cc: B. Thomas, SWD
J. Campbell, HCEPC
E. Curran, Cargill
J. Harper, EPA
J. Bunyak, NPS

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- Complete items 3, and 4a & b.
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3. Article Addressed to:
Mr. David A. Buff
KBN Engineering & Applied Sciences
1034 N.W. 57th Street
Gainesville, Florida 32605

4a. Article Number
P 872 562 515

4b. Service Type
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7. Date of Delivery
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5. Signature (Addressee)
David A. Buff

6. Signature (Agent)
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PS Form 3811, December 1991 *U.S. GPO: 1992-323-402

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AC 29-241660	
PSD-FL-209	

PS Form 3800, JUNE 1991