



**CARGILL
FERTILIZER, INC.**

RECEIVED

OCT 28 1996

**BUREAU OF
AIR REGULATION**

8813 Highway 41 South - Riverview, Florida 33569 - Telephone 813-677-9111 - TWX 810-876-0648 - Telex 52666 - FAX 813-671-6146

CERTIFIED MAIL: P 343 039 477

October 24, 1996

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Proof of Publication - Notice of Intent to Issue Air Construction Permit, DRAFT Permit No.: 0570008-013-AC (PSD-FL-234)
; Animal Feed Ingredient Plants at Cargill Fertilizer, Inc.'s facility located at 8813 U.S. Highway 41 South,, Riverview, FL 33569, Hillsborough County.

Gentlemen:

You will find enclosed Proof of Publication of the Notice of Intent to Issue subject permit as required by Florida Department of Environmental Protection.

If there are any questions, please contact me at (813) 671-6297.

Sincerely yours,

Melody D. Russo
Environmental Superintendent

/dh

Enclosure

x.c. Jerry Kissell - FDEP
Don Clark
Ozzie Morris
Kathy Edgemon
File P-30-39-1

cc: S. Arif, BAR
B. Thomas, SWD
J. Campbell Hillsb.
EPA
NPS



recycled paper

THE TAMPA TRIBUNE

Published Daily

Tampa, Hillsborough County, Florida

State of Florida
County of Hillsborough } ss.

Before the undersigned authority personally appeared R. Putney, who on oath says that he is Accounting Manager of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida; that the attached copy of advertisement being a

LEGAL NOTICE

in the matter of _____

PUBLIC NOTICE OF INTENT

was published in said newspaper in the issues of _____
OCTOBER 18, 1996

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm, or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

18

Sworn to and subscribed before me, this _____ day
of _____ OCTOBER _____, A.D. 19 _____ 96

Personally Known _____ or Produced Identification _____

Type of Identification Produced _____

(SEAL)

[Handwritten Signature]

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT
STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DRAFT Permit No.: 0570008-013-AC, (PSD-FL-234)
Cargill Riverview Fertilizer Facility
Animal Feed Ingredient Plants
Hillsborough County
The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Cargill Fertilizer, Inc., for a revision of the emission limits of a recently constructed animal feed ingredient (AFI) plant, and addition of a second AFI plant at the fertilizer manufacturing facility located on Highway 41 in Riverview, Hillsborough County. A Best Available Control Technology (BACT) determination was required for particulate matter (PM/PM10), fluoride (F), and nitrogen oxides (NOx) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and address are: Cargill Fertilizer, Inc., 8813 Highway 41 South, Riverview, Florida 33569.

This permit will revise the allowable emission rates for particulate matter (PM/PM10) for the dryer/vents scrubber for the existing animal feed ingredient plant 1. The project will increase the production rate of the animal feed ingredient plants from 150,000 TPY to 300,000 TPY. This increase will be accomplished through the addition of a second animal feed ingredient plant essentially identical to the existing plant. The modification will also increase the operating hours of the granulation operation. The PSD review and BACT determination are applicable to all production from both plants for all applicable pollutants.

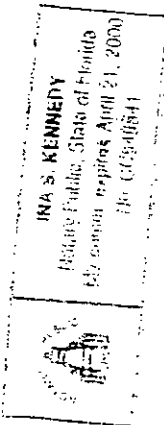
Emissions of these pollutants will not exceed the following limits, measured in tons per year: F, 3.26; Nox, 56.85; PM/PM10, 57.36.

An air quality impact analysis was conducted. Emissions from the facility will consume PSD increment but will not significantly contribute to or cause a violation of any state or federal ambient air quality standards. The maximum percent of allowable PSD Class II increments consumed from this project, along with all other sources in the area, will be as follows. The PSD Class II increment consumed are 11.6 ug/m3 (24-hour PM10), 1.0 ug/m3 (Annual PM10) and 5.4 ug/m3 (Annual NO2). The respective Allowable increment and Percent Increment Consumed are 30 ug/m3 and 39% for 24-hour PM10, 17 ug/m3 and 6% for Annual PM10 and 25 ug/m3 and 22% for Annual NO2.

The project has an insignificant impact on the Chassahowitzka PSD Class I area; therefore, no increment consumption was determined.

The Department will issue the FINAL Permit, in accordance with the conditions of the enclosed DRAFT Permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT



Permit, the Department shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice.

The Department will issue FINAL Permit with the attached conditions of the enclosed DRAFT Permit unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. or a party requests mediation as an alternative remedy under Section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9370, fax: 904/487-4938. Petitions must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition (or a request for mediation, as discussed below) within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice of intent. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

A request for mediation must contain the following information: (a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any; (b) A statement of the preliminary agency action; (c) A statement of the relief sought; and (d) Either an explanation of how the requester's substantial interests will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that the requester has already filed, and incorporating it by reference.

The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signatures of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at: Department of Environmental Protection, Bureau of Air Regulation, 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida, 32301

Telephone: 904/488-1344
Fax: 904/922-6979
Department of Environmental Protection
Southwest District Office
Tampa, Florida 33619
Telephone: 813/744-6100
Fax: 813/744-6458
Hillsborough County Environmental Protection Commission
Air Management Division
1410 North 21 Street
Tampa, Florida 33605
813/272-5960

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 904/488-1344, for additional information.
4193 10/18/96

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



April 14, 1997

Mr. A. A. Linero, P.E.
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED
APR 16 1997
BUREAU OF
AIR REGULATION

Re: Cargill Fertilizer, Inc.
Animal Feed Plant - Draft Permit 0570008-013-AC (PSD-FL-234)

Dear Mr. Linero:

I have received the Department's letter dated March 18, 1997, regarding the above captioned permit. Provided below are responses to each of the Department's comments, in the same order as they appear in the letter.

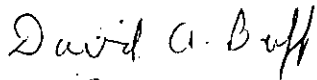
1. The existing wet scrubber for the AFI #1 plant is designed to handle emissions from one batch tank. The scrubber is designed to achieve 8 NTUs. With the proposed modification to handle two batch tanks, the scrubber will be enlarged and modified to achieve 8 NTUs at the increased air flow. Based on Specific Condition III.B.4 of the draft permit, if a different design than described above is ultimately selected, the permittee must submit the necessary scrubber efficiency calculations and drawings to the Department for approval prior to construction. Cargill will submit any such changes if the scrubber design changes.
2. The calculations in Table 1 are based on one batch tank, but the resulting emissions are then doubled to represent two batch tanks operating. As discussed in Item 1 above, the existing scrubber is designed to accommodate one batch tank, and has 8 NTUs. The modified scrubber will be designed to accommodate two batch tanks with the same NTUs. For permitting purposes, we have estimated emissions for the worst case situation, which is to assume that only one batch tank is operating at any one time, but then doubling the emissions to account for two batch tanks.
3. The original application was based on the premise of 223.6 tons P2O5 per batch, and 0.04 lb/ton fluoride emissions emitted over a 17-hour batch time to yield an average of 0.53 lb/hr. The current calculations are based on the NTU's of the scrubber, variable batch times, and estimated fluoride loadings to the scrubber, which yields a lower average hourly emission rate and lower equivalent lb/ton P2O5.

Mr. Al A. Linero
Page 2
April 14, 1997

4. The 425 tons of acid reflects the capacity of each batch tank, based on the dimensions of the batch tanks. This is the basis of the original application and equates to 223.6 tons P2O5 per batch (@ 52.6% P2O5).

Please call if you have any questions concerning this information.

Sincerely,



David A. Buff, P.E.
Principal Engineer
Florida P.E. #19011
SEAL

DB/az

cc: David Jellerson
Kathy Edgemon
File (2)

EPA
NPS
SWD
Hillsboro Co
S. Arif, BAR

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



May 30, 1997

Mr. A. A. Linero, P.E.
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

JUN 02 1997

BUREAU OF
AIR REGULATION

Re: Cargill Fertilizer, Inc.
Animal Feed Plant - Revised Draft Permit 0570008-013-AC (PSD-FL-234)

Dear Mr. Linero:

Cargill has received the revised draft permit referenced above for the Animal Feed Ingredients (AFI) plants located at the Riverview facility. Based on our review of the revised draft permit, we have several comments concerning the Technical Evaluation and Preliminary Determination (TE&PD), draft permit conditions, and best available control technology (BACT) determination. The comments are presented below.

TE&PD

The comments presented below on the TE&PD are to correct certain inconsistencies in the document. None of these comments require a revision to the draft construction permit.

Section 4.2.3, pg. 5 - The last paragraph of this section refers to production rates based on a 17-hour day. Note that the daily production rate should be referenced as 1,160 TPD. Page 5 of the permit correctly reflects this production rate.

Section 6.1, pg. 8 - The emission summary table incorrectly lists the new allowable for fluorides from the common stack to be 0.53 lb/hr instead of 7.7 lbs/batch. However, Table 1 of the draft permit is correct.

Section 6.4.3, pg. 14 - Note that the stack height for the AFI plants will not be 250 feet. The stack height will be 136 feet, which is less than the GEP de minimis stack height of 213 feet (65 meters).

DRAFT PERMIT

SECTION II

2.2 Unconfined Emissions of Particulate Matter

In paragraph (b) of this specific condition, the word "shall" should be removed in order to conform to the wording in Rule 62-296.320(4)(c).

3.2 Changes/Modifications

The exclusions from a physical change or change in the method of operation due to an increase in the production rate or operating hours, described in Rule 62-210(185), should be added at the end of this section as items 2. and 3.

SECTION III

SUBSECTION A

This source is not subject to NSPS, and therefore the reference to the NSPS in the title to this subsection should be deleted.

SUBSECTION B

B.2 - This condition referring to excess emissions is redundant with Common Specific Condition 3.5 (pg. 6 of 15), and therefore should be deleted.

B.5 - Retaining of records should be for 5 years, consistent with Rule 62-213.440(1)(b)2.b., and Specific Condition C.5 (pg. 15 of 15).

B.6 - This section needs to be reworded to allow for digital logging of data without use of strip chart recorders. Suggested rewording is as follows:

Cargill may, at its option, substitute continuous monitoring and data logging or recordings for the manual record keeping required by this specific condition. If this option is exercised, then all calibration and maintenance records and logged or recorded data shall be retained at least three years.

Also, retaining of records should be for 5 years, consistent with Rule 62-213.440(1)(b)2.b., and Specific Condition C.5 (pg. 15 of 15).

B.10, B.11 - This condition cites 62-297.400, F.A.C., which has been repealed.

B.13 - It is understood that the initial compliance test will be used to obtain representative fluoride emissions data over the entire batch cycle. After the initial compliance test, testing will only be required during the initial part of the batch, when emissions are highest. It is requested that the last sentence of this condition be worded to read as follows:

After the initial compliance test, the test run frequency will be reduced to three runs to be completed within 5 hours of the completion of the addition of diatomaceous earth to the batch tank. Compliance with the fluoride emission limit in Table 1 will be demonstrated if average emissions over the three test runs do not exceed 2.8 lb/hr.

B.15 - It is requested that the phrase "in writing" be deleted from the second sentence. This notification requirement has already been stated in Specific Condition 5.3. It should be reworded to be consistent with Specific Condition 5.3.

B.19 - The requirement for advance notification for testing (auditing) of any instrumentation has been deleted from Specific Condition C.5 (pg. 15 of 15), and should be deleted here to be consistent. Calibration and maintenance records will be retained. However, advance notification for these activities should not be required.

Mr. A. A. Linero
Page 3
May 30, 1997

SUBSECTION C

C.2 - This condition referring to excess emissions is redundant with Common Specific Condition 3.5 (pg. 6 of 15), and therefore should be deleted.

Table 1-1

The allowable emission limit in gr/dscf for AFI Plant No. 2 should be deleted, consistent with AFI Plant No. 1. Also, the lb/ton limit for fluorides for both AFI plants should be deleted. The correct limit for the plants is shown under the lb/hr and TPY columns. Also, it is understood that the NOx emission limit would be deleted from Table 1-1, since it is based on AP-42 emission factors; however, initial stack testing would be performed to verify the emission factor.

APPENDIX BD - BACT

BACT Determination Requested by Applicant

Note that Cargill withdrew the requested BACT limit for fluorides of 0.04 lb/ton. The requested limit is 7.70 lb/batch.

BACT Determination Procedure

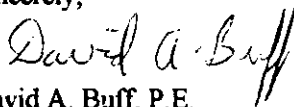
pg. BD-5: The fluoride BACT limit as reflected in the permit (Table 1-1) is 7.70 lb/batch and 1.63 TPY.

BACT Determination by DEP

pg. BD-6: The fluoride BACT limit as reflected in the permit (Table 1-1) is 7.70 lb/batch and 1.63 TPY.

Cargill appreciates your consideration of these comments. Please call if you have any questions or comments.

Sincerely,



David A. Buff, P.E.
Principal Engineer
Florida P.E. #19011
SEAL

cc: David Jellerson
Kathy Edgemon
File (2)

cc: S. Arif, BARR
J. Campbell, Hillsboro
B. Thomas, SWD
EPA
NPS



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 18, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David A. Buff, P.E.
Golder Associates Inc.
6241 Northwest 23rd Street, Suite 500
Gainesville, Florida 32653-1500

Re: Cargill Fertilizer, Inc., Animal Feed Plant
File No. 0570008-013-AC (PSD-FL-234)

Dear Mr. Buff:

We have reviewed your letter dated March 13, 1997, in which you outline the two issues concerning the clarification of the production rate for the facility and the BACT emission limit for fluorides.

It is the Department's understanding, based on the letter, that Cargill will not be installing a wet scrubber for the AFI Plant #2 defluorination area. This appears to be a substantial modification of the project after publication of the Notice of Intent to Issue. This can require revision of the Technical Evaluation and publication of a Notice of Project Modification with the scope of the point of entry limited to the issues raised by the modification - which in this case means the change in scrubber configuration.

In order to make a determination on this matter please respond to the following:

- The existing wet scrubber for the AFI Plant #1 will now be used to control fluoride emissions for the acid batch tanks for both plants. Please indicate if the original design of the wet scrubber was to handle emissions from two batch tanks or from one.
- The calculations of Table 1 of the letter seems to be based on one batch tank. If that is true, what will be the fluoride removal efficiency if two batch tanks are in use in the defluorination area, and the emissions are routed to the existing wet scrubber? Please provide calculations to support your answer.
- The scrubber outlet fluoride emissions was shown to be 0.34 lb/hr for a 17- hour batch cycle in Table 1 of the letter, whereas the original application stated the emissions to be 0.53 lb/hr, which was also based on a 17-hour batch cycle. Please explain the discrepancy.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Mr. David A. Buff, P.E.

Page 2

March 18, 1997

- In determining fluoride emissions from each batch of acid, 425 tons of acid was used with a typical fluoride content of 1.2 percent. Please indicate how 425 tons of acid was arrived at.

If you have any questions regarding this matter, please contact Mr. Syed Arif at 904/488-1344.

Sincerely,



A. A. Linero, P.E. Administrator
New Source Review Section

AAAL/sa/a

cc: Mr. Jerry Campbell, HCEPC
Ms. Melody Russo, Cargill
Ms. Kathy Edgemon, Cargill
Mr. David Jellerson, Cargill

P 265 659 136

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

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Street & Number	Golden Assoc
Post Office, State, & ZIP Code	re: Carjill
Post Office	Gainesville, FL
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	3/18/97
	PSD-FI-234 3/19/97

PS Form 3800, April 1995

Fold at line over top of envelope to

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 David A. Buff, PE
 Golden Assoc.
 6241 NW 23rd St, Suite 500
 Gainesville, FL
 32653-1500

4a. Article Number
P 265 659 136

- 4b. Service Type
- Registered
 - Certified
 - Express Mail
 - Insured
 - Return Receipt for Merchandise
 - COD

7. Date of Delivery
3/19/97

5. Received By: (Print Name)

M. DeWitt

6. Signature: (Addressee or Agent)

X

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



March 13, 1997

Mr. Al A. Linero, P.E.
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

MAR 14 1997

BUREAU OF
AIR REGULATION

Re: Cargill Fertilizer, Inc.
Animal Feed Plant - Draft Permit 0570008-013-AC (PSD-FL-234)

Dear Mr. Linero:

Golder Associates, Inc. (Golder) recently submitted a letter commenting on the draft permit for Cargill Fertilizer, Inc.'s (Cargill) Animal Feed Plant. This letter resulted in a meeting in which you, Syed Arif, and members of Cargill were present. It is my understanding that in this meeting all issues were resolved except for the clarification of the production rate for the facility and the agreement of a BACT emission limit for fluorides. These two issues are discussed in this letter. Also presented are minor changes in the facility design, which results in lower annual fluoride emissions from the animal feed plant.

Regarding the facility design, Cargill has determined that the second AFI plant (AFI Plant #2) will only consist of a granulation area. The existing acid defluorination area will be upgraded to support both AFI granulation plants. The design as presented in the original application consisted of two acid defluorination areas, each with two acid batch tanks. Each defluorination area was to process one "batch" of defluorinated acid at any one time in each plant.

The revised design consists of the single existing defluorination area. However, a third acid batch tank and an additional acid heater will be added to complement the existing two acid batch tanks and acid heater. In order to support both AFI granulation plants and to provide more operational flexibility in the defluorination area, two batch tanks may be in use defluorinating acid at any one time.

A flow diagram showing the revised system arrangement is attached as Figure 1. Emissions from the AFI Plant #1 granulation area will exit out the common AFI Plant #1 stack, which also serves the common defluorination area. The AFI Plant #2 granulation area will exit out through a separate stack.

Since the maximum annual animal feed production rate will not change as a result of the requested changes, maximum emissions from the diatomaceous earth (DE) handling, limestone handling, and product storage, handling and loadout portions of the plant will not be affected. The proposed

changes only affect the maximum hourly and annual fluoride emissions from the defluorination area. The revised fluoride emissions are described below. No other emission points will be affected by the proposed changes. The requested changes do not increase the maximum annual emissions of any pollutant from the AFI plants.

The production rate of the facility is stated in the permit application as 822 tons per day (TPD) (pg 1-1) and 48.34 tons per hour (TPH) (pgs 2-3 and 2-4). However, these rates were based on the operation of the defluorination area of the plant and the projected defluorination batch time. The defluorination batch time can range from 17 hours to more than 30 hours. The rates in the application were based on the shorter 17-hour operating day.

The production rate of the facility is more appropriately based on the operation of the granulation area of the plant, since this area will actually produce animal feed product. Also, emissions for particulate matter and for products of combustion (due to fuel burning) from the granulation plant were determined based on a 24-hour operating day. The two granulation areas combined are expected to produce a maximum of 48.34 TPH and operate 24 hours per day (1,160 TPD). Total annual production will be limited to 300,000 tons per year. Recording production rates will be accomplished by measuring the total tons of product produced per day and dividing that value with the total operating hours for an average daily tons per hour value. Therefore, the correct permit limit for production rate would be a daily value of 1,160 TPD.

In the draft BACT review for fluorides, the Department suggested an initial fluoride limit, with a final limit to be determined based on performance testing of the source. This suggestion was made because the Department felt there was insufficient data on which to base a final limit. Our research indicates that there is a lack of similar processes for comparison to Cargill's defluorination process. IMC, PCS Phosphates, and Coronet also defluorinate acid to produce animal feed ingredients with low fluorine content. IMC uses an evaporation process to remove fluorine from the phosphoric acid, PCS Phosphates uses a different type of phosphoric acid that needs little if any fluorine removal, and Coronet uses a kiln to remove fluorine from phosphoric acid. For these reasons, the BACT limit for Cargill's defluorination process cannot be set based on other industry processes and emissions. Therefore, it is appropriate to use vendor design specifications in determining a BACT limit.

Based on information from the scrubber vendor, KEMWorks Technology, Inc., the following calculations are provided showing the scrubber capabilities and estimating the evolution of fluorine during the batch process. Typical worst-case conditions are estimated in order to provide the typical worst-case emissions.

The typical maximum amount of fluoride evolved from each batch of acid is determined as follows:

$$\text{Each batch} = 425 \text{ tons @ } 1.2 \text{ percent fluoride content (typical max.)} = 5.1 \text{ tons} = 10,200 \text{ lbs}$$

Fluoride content after defluorination = 0.1 percent (typical min.) = 0.425 tons = 850 lbs

Fluoride evolved = 10,200 - 850 = 9,350 lbs/batch

In the initial permit application the batch time was estimated to be 17 hours. However, since startup, it has been found that actual batch times vary and it can take longer than 30 hours to achieve the necessary fluorine removal. On an annual basis, the average batch time is not expected to exceed 30 hours. Approximately 91 percent of the fluoride evolution from the batch tank occurs during the first 5 hours after the diatomaceous earth has been added to the batch, with the remaining 9 percent being evolved over the remaining hours of the batch.

Based on the scrubber design, the wet scrubber has a total of 8.0 transfer units. The resulting fluoride emissions are shown in Table 1. Fluoride emissions are shown for the shorter batch time of 17 hours and for the longer batch time of 30 hours. Fluoride emissions vary for each case because of the different fluoride loading to the scrubber, which, in turn, affects the fluoride removal efficiency.

As shown, total fluoride emissions are calculated as 5.72 lb per batch for the 17-hour batch with an overall scrubber removal efficiency of 99.94 percent, and 7.70 lb per batch for a 30-hour batch with a 99.92 percent removal efficiency. Therefore, the worst-case situation is the 7.70 lb per batch for the longer batch time. Using this basis, maximum annual fluoride emissions are calculated as follows. Annual emissions will be based on the tons of phosphoric acid defluorinated per year. The maximum tons of phosphoric acid to be defluorinated per year is 163,496 tons P_2O_5 . The maximum fluoride emissions will be 7.70 lb per batch, based on 214 ton P_2O_5 per batch. Therefore, the maximum fluoride emissions per year will be:

$$163,496 \text{ tons } P_2O_5/\text{yr} \div 214 \text{ tons } P_2O_5/\text{batch} \times 7.70 \text{ lb F/batch} \times 1 \text{ ton}/2,000 \text{ lb} = 2.94 \text{ TPY}$$

The annual fluoride emissions represent a decrease compared to the original application, which projected maximum fluoride emissions at 3.26 TPY. This change also renders the project exempt from PSD review for fluorides, since the annual fluoride emissions are less than 3.0 TPY. However, based on initial estimates, PSD review has already been conducted on this source.

Due to the batch nature of the process and the variation in fluoride emissions over the batch time, a maximum hourly fluoride limit is not proposed. However, in order to demonstrate proper operation of the scrubber, Cargill proposes an annual fluoride stack test. Proper operation of the scrubber would be demonstrated if fluoride emissions during the stack test do not exceed 2.8 lb/hr. This surrogate emission rate is calculated based on the assumption that worst-case emissions occur over the first 5 hours after adding DE to the batch, and processing two batches at a time. Up to 91 percent of the fluorides in the batch can be evolved over the this period.

Mr. Al A. Linero
Page 4
March 13, 1997


$$7.70 \text{ lb/batch} \times 0.91 \div 5 \text{ hours} = 1.4 \text{ lb/hr}$$

$$1.4 \text{ lb/hr per batch} \times 2 \text{ batches} = 2.8 \text{ lb/hr}$$

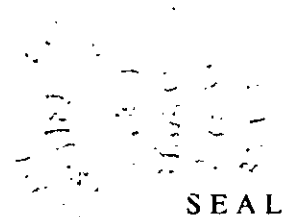
Cargill proposes to begin testing within 1 hour of completion of adding DE to a batch tank. This testing will demonstrate that the scrubber is performing adequately during periods of highest potential emissions. In addition, this proposed compliance testing plan will facilitate test scheduling.

Revised pages from the application form, as well as revised tables from the attachment, are attached and reflect these changes. Thank you for consideration of this information. Please call me directly if you have any questions concerning this information.

Sincerely,



David A. Buff, P.E.
Principal Engineer
Florida P.E. #19011



DB/lcb

cc: David Jellerson
Kathy Edgemon
File (2)

cc: S. Arif, BAR
EPA
NPS
SWD
Hillsboro Co.

Table 1. Calculation of Fluoride Emissions From AFI Plant Defluorination Area

Scrubber Inlet Conditions					Scrubber NTUs	Scrubber Outlet Conditions				FI Removal Efficiency
acfm	dscfm	FI Loading				FI Loading (mg/dcf)	dscfm	FI Emissions		
		(lb/batch)	(lb/hr)	(mg/dcf)	(lb/hr)			(lb/batch)		
<u>Over Entire Batch Cycle Assuming 17 Hour Batch</u>										
14,000	10,477	9,350	550	397	8	0.243	10,477	0.34	5.72	99.94%
<u>Over Entire Batch Cycle Assuming 30 Hour Batch</u>										
14,000	10,477	9,350	312	225	8	0.185	10,477	0.26	7.70	99.92%

Notes:

Fluoride air concentration due to pond water @ 120 deg. F and 8,000 ppm FI = 0.110 mg/dcf

mg/dcf = milligrams per dry cubic feet

NTUs = number of transfer units = $\ln [(F_{in} - PW) / (F_{out} - PW)]$
where, PW = pond water vapor pressure

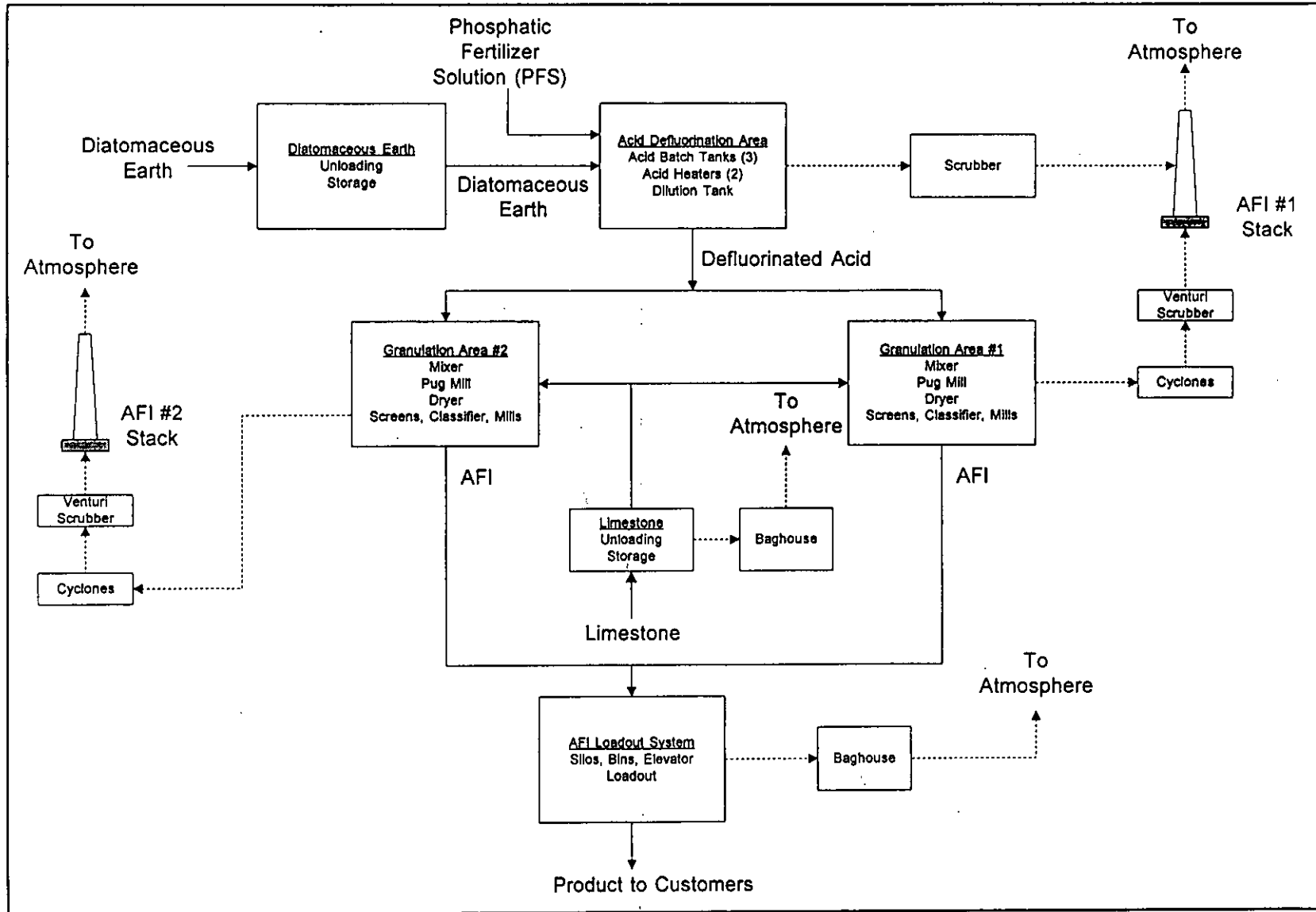


Figure 1
Simplified Flow Diagram of Animal
Feed Plant, Cargill Riverview

Process Flow Legend:
 Solid / Liquid ———>
 Gas>

Emission Unit: Animal Feed Plant
 Filename: ANMLFEED.VSD
 Latest Revision Date: 2/26/97



REVISIONS TO PERMIT APPLICATION

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	93	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:	1,160	tons/day
5. Operating Capacity Comment (limit to 200 characters):		
Represents total rates for AFI Plant #1 and AFI Plant #2. Inputs include: Phosphatic Fertilizer Solution, Diatomaceous earth and limestone.		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	8,760 hours/yr

9. Actual Volumetric Flow Rate:	100,000 acfm	
10. Percent Water Vapor:	%	
11. Maximum Dry Standard Flow Rate:	dscfm	
12. Nonstack Emission Point Height:	feet	
13. Emission Point UTM Coordinates:		
Zone:	East (km):	North (km):
14. Emission Point Comment (limit to 200 characters):		
<p>Parameters are for the common stack for AFI Plant #1. See Part B for parameters for other sources.</p>		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products, Phosphate Rock	
2. Source Classification Code (SCC): 3-05-019-99	
3. SCC Units: Tons Processed	
4. Maximum Hourly Rate: 48.34	5. Maximum Annual Rate: 300,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Represents total granular animal feed phosphate product for both AFI Plant #1 and AFI Plant #2. Hourly rate based on maximum daily average rate of 1,160 TPD.	

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: FL		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	2.8 lb/hour	2.94 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
6. Emission Factor:		7.70 lb/batch
Reference: BACT		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters):		
Hourly: 7.70 lb F/batch x 2 batches/day x 0.91 ÷ 5 hours = 2.7 lb/hr		
Annual: 163,496 tons P2O5/yr ÷ 214 tons/batch x 7.70 lb/batch ÷ 2,000 lb/ton = 2.94 TPY		
Note: Fluoride emissions exit through AFI Plant #1 stack. Hourly emissions based on 91% fluoride being evolved over first 5 hours after DE is added.		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section 1 of 1
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 7.70 lb/batch		
4. Equivalent Allowable Emissions:	lb/hour	2.94 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 13A or 13B		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Proposed BACT limit		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Table 2-1. Summary of Pollution Control Equipment and PM/PM10 and Fluoride Emissions, Animal Feed Plant, Cargill Fertilizer (Revised 3/13/97)

Source	Control Type	Manufacturer/Model	Design Capacity		Control Efficiency (percent)	Operating Hours	PM/PM10 Emissions			Fluoride Emissions	
			Value	Units			(gr/dscf)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
AFI PLANT #1 STACK:											
Defluor. Batch Tanks A, B, & Reactor/Granulator/ Materials Handling	Wet Scrubber	BCI/Bithell CF4x4-3	14,000	acfm	99.95 (F1)	8,760	NA	NA	NA	2.80 (b)	2.94 (c)
	Dryer Scrubber	Fisher-Klosterman/MS 1200	85,000	acfm	99.9 (PM)	8,760	NA	6.00	26.28	NA	NA
AFI PLANT #2 STACK:											
Reactor/Granulator/ Materials Handling	Dryer Scrubber	Fisher-Klosterman/MS 1200 (a)	85,000	acfm	99.9 (PM)	8,760	NA	6.00	26.28	NA	NA
DE HOPPER	Baghouse	MAC 39-AVRC-21	518	dscfm	99.9	8,760	0.02	0.089	0.39	NA	NA
LIMESTONE SILO	Baghouse	MAC 39-AVRC-21	691	dscfm	99.9	8,760	0.02	0.12	0.52	NA	NA
AFP LOADOUT SYSTEM	Baghouse	MAC 144-MCF-255	12,960	dscfm	99.9	3,500	0.02	2.22	3.89	NA	NA
TOTAL AFI PLANT							Total =	14.43	57.36	2.80	2.94

Note: acfm = actual cubic feet per minute
 AFP = animal feed phosphate
 DE = diatomaceous earth
 dscfm = dry standard cubic foot per minute.
 gr/scf = grains per standard cubic foot
 lb/hr = pounds per hour
 TPY = tons per year
 NA = not applicable

(a) Scrubber will be of type shown, or equivalent

(b) Based on 7.70 lb F/batch and 91% of F emitted over first 5 hours after DE is added.

(c) Based on 163,496 tons P₂O₅ per year, 214 tons P₂O₅ /batch, and 7.70 lbs F/batch.

Table 2-3. Stack and Vent Geometry and Operating Data (revised 3/11/97)

Source	Stack/Vent Release Height (ft)	Stack/Vent Diameter (ft)	Gas Flow Rate			Gas Exit Temperature (°F)	Water Vapor Content (Percent)	Velocity (ft/sec)
			(ACFM)	(SCFM)	(DSCFM)			
AFI Plant #1 Common Stack	136	6.0	100,000	86,557	73,574	150	15	58.9
AFI Plant # 2 Stack	136	6.0	85,000	73,574	62,538	150	15	50.1
DE Hopper Dust Collector Vent	64	1.5	600	576	518	90	10	5.7
Limestone Silo Dust Collector	85	1.5	800	768	691	90	10	7.5
AFP Loadout System Dust Collector	15	1.0 x 3.5	15,000	14,400	12,960	90	10	55.6

Note: ACFM = actual cubic feet per minute
 AFP = animal feed phosphate
 DE = diatomaceous earth
 DSCFM = dry standard cubic feet per minute
 SCFM = standard cubic feet per minute

Table 3-1. PSD Source Applicability Analysis, AFI Plant (revised 3/11/97)

Pollutant	AFI Plant Total Emissions (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Triggered?
Particulate Matter (TSP)	57.36	25	Yes
Particulate Matter (PM10)	57.36	15	Yes
Fluorides	2.94	3	No
Sulfur Dioxide	9.4	40	No
Nitrogen Oxides	56.8	40	Yes
Carbon Monoxide	14.2	100	No
Volatile Organic Compounds	1.1	40	No

B2. The Department's Bureau of Air Regulation will accept as a demonstration of proper fluoride scrubber operation an annual stack test which demonstrates fluoride emissions are no greater than 1.4 lb/hr per batch tank (2.8 lb/hr total); based on the average of 3 test runs.

B12 Emission Units 078 and 103 shall be tested in accordance with the EPA/reference method, testing time, frequency, and minimum compliance test duration in Table 2-1. Testing for fluorides shall begin within 1 hour after completion of addition of diatomaceous earth to a batch. Compliance Requirements (attached). **[Rules 62-204.800, 62-297.310, 62-297.400, and 62-297.401, F.A.C.]**



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DEC 20 1996

**BUREAU OF
AIR REGULATION**

December 18, 1996

Mr. A. A. Linero, P.E.
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Cargill Fertilizer, Inc.
Animal Feed Plant - Draft Permit 0570008-013-AC (PSD-FL-234)

Dear Mr. Linero:

Cargill and KBN Engineering and Applied Sciences, Inc. (KBN) have received the draft permit referenced above for the Animal Feed Ingredients (AFI) plants at the Riverview facility. A letter commenting on the draft permit dated November 13, 1996, was recently submitted to the Department. In addition to these comments, Cargill is proposing some minor changes in the two animal feed plants' equipment and operation. The purpose of these changes is to provide more flexibility in the operation of the AFI plants. Maximum annual emissions from the two plants will not be affected by these changes. These changes are described below.

The design of the two animal feed plants as presented in the application was to process one "batch" of defluorinated acid at any one time in each plant. In order to provide more operational flexibility, Cargill desires to allow two batches of defluorinated acid to be processed at any one time within each AFI plant (i.e., two batches of 223.9 tons P_2O_5 per day per plant). However, the maximum daily production rate of 1,160 TPD and the maximum annual production rate of 300,000 TPY for both plants combined will not change.

In order to accommodate this change, the system which pneumatically conveys diatomaceous earth (DE) to each AFI plant will need to be modified. This will involve modifying the two pipes which convey the DE material to the acid batch tanks to allow both tanks within each plant to receive DE at the same time.

In addition, a new defluorinated acid storage tank will be added to each AFI plant to store defluorinated acid from the two batch tanks within each plant. A revised flow diagram showing the new tank within one of the AFI plants is attached. The granulation area, limestone handling, and product storage, handling and loadout portions of the plant will not be affected by this change.

The proposed changes only affect the maximum hourly fluoride emissions from each AFI plant. The maximum hourly fluoride emissions from the common stack for each plant will change from 0.53 lb/hr to 1.06 lb/hr. A revised Table 2-1 from the application is attached which reflects this change. No other

9651074Y/FI/RTC1/01

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Suite 105
Jacksonville, Florida 32256
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Suite 350
Washington, DC 20036
202-462-1100 FAX 202-462-2270

Mr. A. A. Linero, P.E.
Page 2
December 18, 1996



emission points will be affected by the proposed changes. The requested changes do not increase the maximum annual emissions of any pollutant from the AFI plants.

Thank you for consideration of this information. Please call me directly if you have any questions concerning this information.

Sincerely,

David A. Buff

David A. Buff, P.E.
Principal Engineer
Florida P.E. #19011

DB/lcb

cc: David Jellerson
Kathy Edgemon
File (2)

cc: Syed Anif, BAR
EPA
NPS
SWD
Hillsboro Co

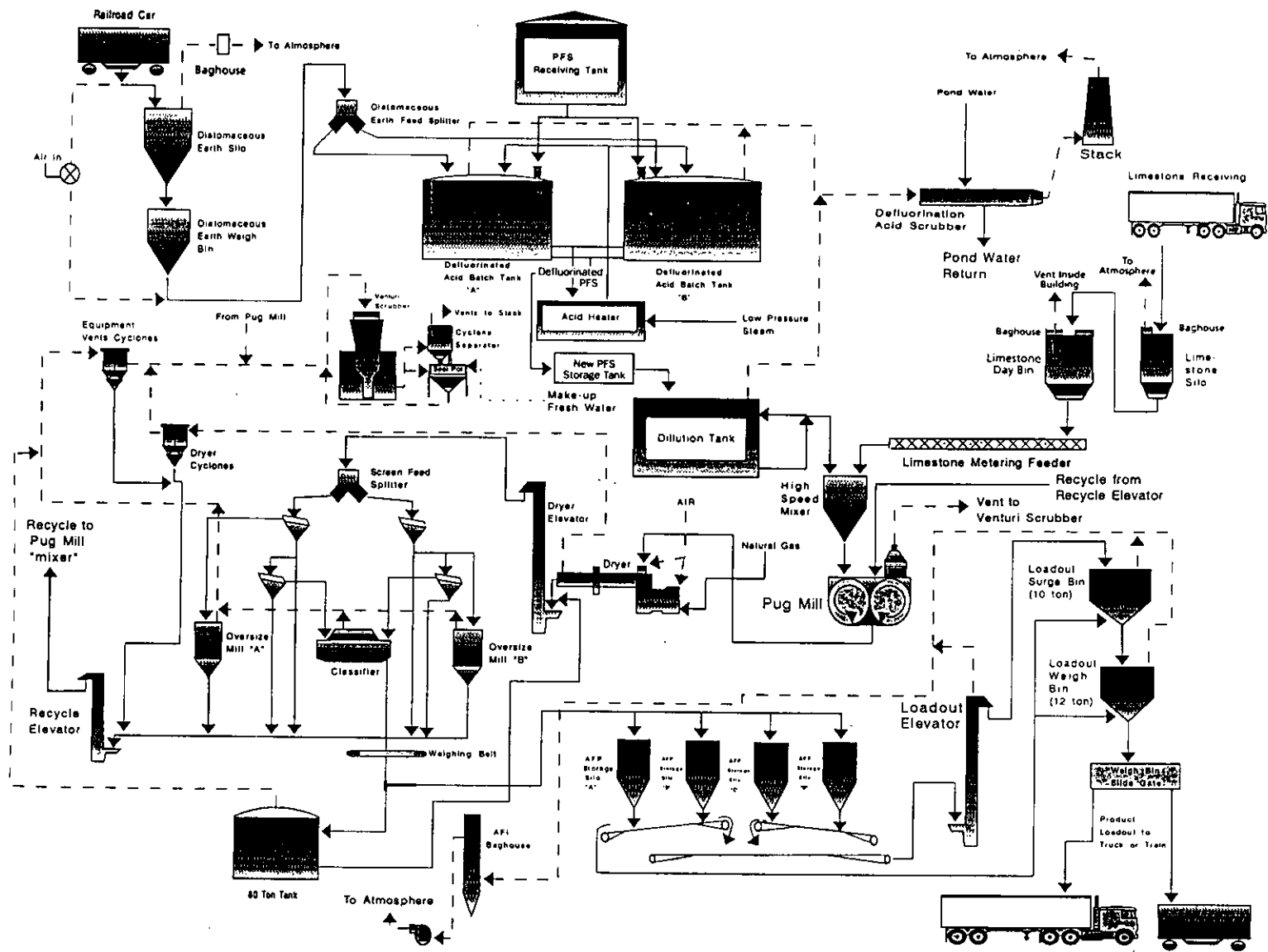
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Table 2-1. Summary of Pollution Control Equipment and PM/PM10 and Fluoride Emissions, Animal Feed Plant, Cargill Fertilizer (Revised 12/18/96)

Source	Control Type	Manufacturer/Model	Design Capacity		Control Efficiency (percent)	Operating Hours	PM/PM10 Emissions			Fluoride Emissions		
			Value	Units			(gr/dscf)	(lb/hr)	(TPY)	(lb/ton P ₂ O ₅)	(lb/hr)	(TPY)
EXISTING SOURCES												
DE HOPPER	Baghouse	MAC 39-AVRC-21	518	dscfm	99.9	8,760	0.02	0.089	0.39	NA	NA	NA
AFI PLANT #1 COMMON STACK:												
Defluor. Batch Tanks A & B	Wet Scrubber	BCI/Bithell CF4x4-3	9,000	acfm	99.95 (FI)	8,760	NA	6.00	26.28	0.04	1.05 (b)	1.63 (c)
Reactor/Granulator/ Materials Handling	Dryer Scrubber	Fisher-Klosterman/MS 1200	85,000	acfm	99.9 (PM)	8,760						
LIMESTONE SILO	Baghouse	MAC 39-AVRC-21	691	dscfm	99.9	8,760	0.02	0.12	0.52	NA	NA	NA
AFP LOADOUT SYSTEM	Baghouse	MAC 144-MCF-255	12,960	dscfm	99.9	3,500	0.02	2.22	3.89	NA	NA	NA
NEW SOURCES												
AFI PLANT #2 COMMON STACK:												
Defluor. Batch Tanks C & D	Wet Scrubber	BCI/Bithell CF4x4-3 (a)	9,000	acfm	99.95 (FI)	8,760	NA	6.00	26.28	0.04	1.05 (b)	1.63 (c)
Reactor/Granulator/ Materials Handling	Dryer Scrubber	Fisher-Klosterman/MS 1200 (a)	85,000	acfm	99.9 (PM)	8,760						
TOTAL AFI PLANT							Total =	14.43	57.36	Total =	1.05	3.26

Note: acfm = actual cubic feet per minute
 AFP = animal feed phosphate
 DE = diatomaceous earth
 dscfm = dry standard cubic foot per minute.
 gr/scf = grains per standard cubic foot
 lb/hr = pounds per hour
 TPY = tons per year

(a) Scrubber will be of type shown, or equivalent.
 (b) Based on 223.6 tons P₂O₅ per batch run; 2 batches per day and 17 hours per batch, operating 365 days per year.
 (c) Based on 81,614 tons P₂O₅ per year and 0.04 lb/ton P₂O₅.



LEGEND

- EVACUATION - - - - ->
- PROCESS FLOW ———>
- FRESH WATER ·····>

Figure 2-1
Animal Feed Plant Process Flow Diagram

Source: Cargill Fertilizer, Inc., 1995.





KBN ENGINEERING AND APPLIED SCIENCES, INC.
 6241 NW 23rd Street
 Gainesville, FL 32653-1500

FAX: 352/336-6603
 Telephone: 352/336-5600

Letter of Transmittal

Date: 12/19/96

Project No.: 9651074-0100

To: Mr. Al Linder
FDEP

Re: Cargill Fertilizer

RECEIVED

DEC 20 1996

BUREAU OF AIR REGULATION

The following items are being sent to you: with this letter under separate cover

<u>Copies</u>	<u>Description</u>
<u>1</u>	<u>Letter re: draft Permit 057008-013-AC dated 12/18/96</u>

These are transmitted:

- As requested
- For review
- For review and comment
- For approval
- For your information
- _____

Remarks: We have sent a second copy (attached) of this letter. The copy sent on 12/18/96 may not have been sealed. This will replace it. I apologize for the inconvenience.

Sender: Leslie Buzes

Copy to: D. Buff



November 13, 1996

RECEIVED

NOV 14 1996

BUREAU OF
AIR REGULATION

Mr. A. A. Linero, P.E.
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Cargill Fertilizer, Inc.
Animal Feed Plant - Draft Permit 0570008-013-AC (PSD-FL-234)

Dear Mr. Linero:

Cargill and KBN have received the draft permit referenced above for the Animal Feed Ingredients plants at the Riverview facility. Based on our review of the draft permit, we have several comments concerning the Technical Evaluation and Preliminary Determination (TE&PD), draft permit conditions, and best available control technology (BACT) determination. The comments are presented below.

DRAFT PERMIT

SECTION I

Facility Description - Modify the description of the facility to indicate that the AFI Plant 2 will be similar to the existing plant, and not necessarily identical.

Regulatory Classification - The Draft permit incorrectly indicates that the source is subject to a New Source Performance Standard (NSPS) for the Phosphate Fertilizer Industry. As indicated on page 7 of the TE&PD, this source is not subject to NSPS requirements. The referenced subpart F does not apply to any phosphate industry category. Further, there is not an NSPS subpart that applies to Animal Feed Phosphate production facilities. All references to NSPS applicability and regulations should be removed from the permit. Also, this section incorrectly states that all facilities subject to NSPS are Title V sources.

SECTION II

1.1 Regulating Agencies - This condition, as written, does not accurately reflect the current delegation agreement between the DEP and the Hillsborough County Environmental Protection Commission (HCEPC). The condition should be reworded to indicate that permitting activities are conducted by the DEP while the HCEPC has delegated authority for compliance issues.

1.7 Applicable Regulations - Reference to Code of Federal Regulations Section 40, Part 60 should be deleted.

9651074A/1

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1616 P Street NW
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202-462-1100 FAX 202-462-2270



2.1 General Visible Emissions Standard [Rule 62-296.310(4)(b)]. - The rule citation is incorrect [should be 62-296.320(4)(b)]. The permit condition does not accurately reflect the rule language cited. Further, the cited rule does not contain a requirement that minor sources controlled by baghouses be limited to 5% opacity. The referenced rule section actually reads as follows:

No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity).

However, it is noted that Rule 62-296.711(3)(c) (Materials Handling, Sizing, Screening, Crushing and Grinding Operations) provides that a visible emissions test indicating no visible emissions (5 percent opacity) may be submitted in lieu of a particulate stack test for materials handling emissions units subject to this rule, where the emissions unit is equipped with a baghouse.

This permit condition should be rewritten to clarify that the applicable visible emission limit for the baghouses is 20% opacity but that visible emission tests indicating no visible emissions (5 percent opacity) may be submitted in lieu of a particulate stack test.

2.2 Unconfined Emissions of Particulate Matter - The rule citation is incorrect [should be 62-296.320(4)(c)]. Paragraph (a) should be worded exactly as the referenced rule as follows:

- (a) No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.

Paragraph (b) of this Specific Condition has language relating to fugitive emissions from haul roads and material storage piles. However, the subject source does not involve either haul roads or open storage of dry materials. This paragraph should either be deleted entirely or should be replaced with the exact language from the rule as follows:

- (b) Reasonable precautions include the following:
 - Paving and maintenance of roads, parking areas and yards.
 - Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
 - Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
 - Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.



Landscaping or planting of vegetation.
Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
Confining abrasive blasting where possible.
Enclosure or covering of conveyor systems.

The note at the end of SC 2.2 is acceptable.

2.3 General Pollutant Emission Limiting Standards - Paragraph (a) is not necessary for this permit. The subject source operation does not involve the production or use of VOC's except potentially minor amounts associated with maintenance activities (painting, lubrication, cleaning, etc.). If the condition is kept in the permit, it needs to be modified to read exactly as the referenced rule [Rule 62-296.320, F.A.C.] as follows:

- (a) No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

3.1 Summary of Sources - The control device manufacturer/model numbers and design capacities should not be contained in the construction permit. During public workshops related to Title V permitting, DEP representatives advised against accepting permits with specific make and model numbers since this reduces operational flexibility and potential to upgrade pollution control equipment without going through a permit modification. Detailed information regarding the control equipment will be included in the operating and maintenance plan required for the operating permit in accordance with 62-296.700(6).

The production limitation should be expressed as a daily limit of 1,160 TPD (replacing the hourly limit of 48 TPH) and the reference to batch duration should be deleted. It is our experience that batch duration may vary and can exceed 24 hours. The duration of the defluorination batch does not affect total emissions since the total amount of fluoride to be removed from the acid remains the same (i.e., the defluorination process is continued until the fluorine has been removed). It is recommended that the last line of this condition read as follows:

Production Limitation (Combined AFI No. 1& 2): 1,160 tons/day and 300,000 tons/year.

3.2 Changes/Modifications - The permit language is not in strict accordance with the rule language. Specifically, Rule 62-210.300 reads as follows:

The owner or operator of any emissions unit which emits or can reasonably be expected to emit any air pollutant shall obtain an appropriate permit from the Department prior to beginning construction, modification, or initial or continued operation of the emissions unit



unless exempted pursuant to Department rule or statute. All emissions limitations, controls, and other requirements imposed by such permits shall be at least as stringent as any applicable limitations and requirements contained in or enforceable under the State Implementation Plan (SIP) or that are otherwise federally enforceable. Issuance of a permit does not relieve the owner or operator of any emissions unit from complying with applicable emission limiting standards or other requirements of the air pollution rules of the Department, or any other applicable requirements under federal, state, or local law.

In addition, the term "Modification" is defined in 62-210(185) as:

Any physical change in, change in the method of operation of, or addition to a facility which would result in an increase in the actual emissions of any air pollutant subject to regulation under the Act, including any not previously emitted, from any emissions unit or facility.

1. A physical change or change in the method of operation shall not include:
 - a. Routine maintenance, repair, or replacement of component parts of an emissions unit; or
 - b. A change in ownership of an emissions unit or facility.

In accordance with the adopted rule language, permit modifications are only required for changes which result in an increase in actual emissions. Specific Condition 3.2 should be revised to accurately reflect the rule requirements.

3.5 Excess Emissions Requirements - Item (c) of this permit condition does not accurately reflect the rule language of 62-210.700(6). The permit condition should be reworded exactly as the rule is written as follows:

(c) In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

5.1 Test Performance - As indicated on page 7 of the TE&PD, this source is not subject to NSPS requirements. Therefore, the reference to 40 CFR 60.8, Subpart A, General Provisions should be deleted or modified to reflect DEP regulations..

5.2 Test Procedures - The requirement to submit records for the 30 production day prior to the test period should be deleted. There is no regulatory requirement for this condition and this data is not relevant to the test conditions. All production records will be maintained and available for review by the agency in accordance with condition 6.1 and General Condition G.7.

5.3 Test Notification - The permit language does not conform to the referenced rule language. Specifically, the rule does not require "written" notification and only requires that the notification be 15 days in advance of the scheduled test date. In addition, there is no requirement in the rule that



the company conducting the test be identified at the time of the notification. Also, the condition is not consistent with respect to Regulatory Agency responsibilities. The notification is required to be made to the HCEPC, however, only the Department may waive the notification requirement.

This condition should be changed to read as follows:

The owner or operator shall notify the HCEPC office in Tampa at least (15) days prior to each scheduled compliance test of the test date, the expected test time, and the facility contact person for the test. The (15) day notification requirement may be waived at the discretion of the HCEPC. Likewise, if circumstances prevent testing during the test window specified for the emission unit, the owner or operator may request an alternate test date before the expiration of this window. [Rule 62-297.310]

As indicated on page 7 of the TE&PD, this source is not subject to NSPS, therefore the 30 day notification period does not apply and the reference to 40 CFR 60.8 should be deleted.

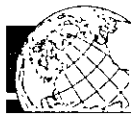
6.1 Duration - The rule citation for 5-year record retention is incorrect. The condition should refer to 62-213.440(1)(b)2.

6.2 Emission Compliance Stack test Reports - This condition is not consistent with respect to regulatory agency responsibilities. Paragraph (a) requires that reports must be file with the HCEPC, however, paragraph (b) indicates that the reports must be sufficient for the Department to determine if the test was properly conducted.

6.3 Excess Emissions Report - This condition should be deleted; it is repetitive of Specific Condition 3.5. Also, 40 CFR 60.7 should not be referenced. If this condition remains in the permit it should be reworded to reflect the rule language as follows:

In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department [62-210.700(6)]

7.1 Waste Disposal - This condition is irrelevant to these emissions units and should be deleted.



SECTION III

SUBSECTION A

As indicated on page 7 of the TE&PD, this source is not subject to NSPS, therefore the reference to the NSPS in Subsection A should be deleted.

SUBSECTION B

B2 - The fluoride BACT determination for the original construction permit (AC29-242897) set 0.04 lb/ton as the final limit for the plant. It also stated that "the emission limit of 0.04 lb per ton of P2O5 is the same as the limit in the BACT determination for the Occidental Chemical animal feed ingredients plant defluorination unit (FL-PSD-067) and is similar to actual fluoride emissions from the Coronet Industries Feed Preparation Plant." This 0.04 lb/ton P2O5 limit should represent the final BACT determination. It is based upon other BACT determinations for similar source types, and therefore there exists an appropriate basis for setting the BACT limitation now. Not knowing the allowable emission rate is prior to commencement of construction of the source would introduce too much uncertainty into the project. The referenced Rule 62-212.400(6) explicitly states that "the Department shall make a determination of Best Available Control Technology during the permitting process" (emphasis added). In addition, we do not believe that this procedure is consistent with Federal PSD regulations, since the project does not represent the use on innovative control technology or an undemonstrated technology. Finally, it is neither technically nor statistically sound to base a BACT determination on a single test conducted upon start-up of a new source, as required by the draft permit condition.

B3 - The reference to 40 CFR 60.7 should be deleted.

B5 - The requirement to monitor scrubber water pressure and scrubber water flow is redundant. The list in this condition should read:

- (X) Water Pressure or Volumetric Liquid Water Flow Rate
- (X) Gas Pressure Drop.

B6 - The second and third sentences should read "The record log shall contain, at a minimum, the volumetric liquid water flow rate (or the water pressure), the gas pressure drop, and the date and time of the measurements. Where measurements are collected manually, the person responsible for performing the measurements shall also be recorded."

This change is necessary to allow for automatic data collection.

B7 - This section needs to be reworded to allow for digital logging of data without use of strip chart recorders. Suggested rewording is as follows:



Cargill may, at its option, substitute continuous monitoring and data logging or recordings for the manual record keeping required by Specific Condition B6. If this option is exercised, then all calibration and maintenance records and logged or recorded data shall be retained at least three years.

B9 - The throughput rate of phosphatic fertilizer solution should be deleted, as it does not directly relate to emissions. The limit for the combined maximum production rates should read 1160 TPD instead of 48 ton/hr.

B10 - The natural gas fuel usage limit should be expressed as an annual average, e.g., 93,000 cubic feet/hr (annual average). The maximum fuel oil usage should be 662.1 gallons/hour (daily average).

B11 - This permit condition should be deleted. The requirements for Compliance Assurance Monitoring should be based on the CAM regulations due to be adopted by EPA and which will be incorporated into the facility Title V permit.

B12 - This condition cited 62-297.400, F.A.C., which has been repealed. Note also, that the DEP and EPA have approved an alternate procedure to EPA Method 13B. The alternate procedure eliminates the requirement for distillation of the sample. Due to the hazardous nature of the distillation procedure, Cargill requests that the modified test method be included in this permit condition.

B14 - It is not necessary or appropriate to establish an emission limit for NO_x emissions. The NO_x emissions presented in the application are based on AP-42 factors, and therefore the emissions are estimates only. Although BACT applies to NO_x, the Department may establish a work practice standard (i.e., good combustion practices) in lieu of an emission limit. In fact, the draft BACT determination states that BACT for NO_x is the use of low nitrogen fuels and good combustion practices. The BACT determination does not set an emission limit for NO_x. A rewording of this condition is suggested as follows:

Compliance with the particulate matter and fluoride standards contained in Table 1-1 (attached) shall be determined using EPA Method 5, EPA Methods 13A, 13B or the modified 13B, respectively. [Rules 62-204.800 and 62-297.401, F.A.C.]

B15 - The duration of a visible emissions test should be 30 minutes for an emission unit that emits less than 100 TPY of particulate matter [Rule 62-297.310, F.A.C.]. The requirement that the observation period shall included the period during which the highest opacity emissions can reasonably be expected to occur should be deleted. Specific Condition 5.2 of the permit already requires testing within 10% of the maximum production rate. The reference to 40 CFR 60.11 should also be deleted. The condition should be reworded as follows:



The visible emissions test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

B16 - This notification requirement has already been stated in Specific Condition 5.3. It should either be deleted or reworded to be consistent with Specific Condition 5.3.

B17 - The training requirement in this condition is unclear and not required by any rule and should be deleted. We do acknowledge, however, a requirement to properly operate pollution control equipment as required by General Condition #6.

B18 - The requirement to maintain records of the average heating value of the natural gas should be deleted. The permit application referenced standard values for natural gas. However, Cargill has no control over, nor has any alternative to, the source of natural gas supplied by the pipeline.

B19 - The citation of rule 62-210.370(3) (annual operating reports) is inappropriate in this specific condition.

B20 - These emission units are not subject to NSPS, therefore this specific condition should be deleted.

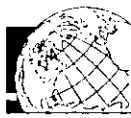
B21 - This condition requires that maintenance/repair logs be kept for any work performed on the equipment subject to this permit. As written, this would require maintenance/repair logs on all process and associated equipment. To our knowledge, this has never been required of a facility in the past. In addition, such a requirement is extremely burdensome, and is not required under the air pollution regulations. The source owner/operator already has an obligation to report any construction activities which constitute a modification under the rules.

This condition also requires that all measurements, records and other data be maintained in a central file. This condition is not practical. Many of the required records are utilized in day-to-day operations and maintenance activities. To require that this information be kept in a central file is not supported by any rule and would create a significant administrative burden. In addition, there is no regulatory language to support a requirement for advance notification for testing of any instrumentation. As required by Specific Condition B8, calibration and maintenance records will be retained, however, advance notification for these activities should not be required. It should also be clarified that calibration logs are only necessary for instruments required to be installed under Specific Condition 4.1.

SUBSECTION C

C1 - Rule 296.711(3)(c) also allows a 5% opacity limit in lieu of a PM stack test. This may be the more appropriate rule for this permit, since the source is in a PM maintenance area.

C2 - The reference to 40 CFR 60.7 should be deleted.



C4 - This permit condition should be deleted. The requirements for Compliance Assurance Monitoring should be based on the CAM regulations due to be adopted by EPA and which will be incorporated into the facility Title V permit. In addition, the training requirement in this condition is unclear and not required by any rule and should be deleted. We do acknowledge, however, a requirement to properly operate pollution control equipment as required by General Condition #6.

C5 - The duration of a visible emissions test should be 30 minutes for an emission unit that emits less than 100 TPY particulate matter. [Rule 62-297.310, F.A.C.] The requirement that the observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur should be deleted. Specific Condition 5.2 of the permit already requires testing within 10% of the maximum production rate. The reference to 40 CFR 60.11 should also be deleted.

C6 - This condition contains requirements that are not applicable to the emission units, specifically, the amount and type of fuel burned per affected unit and the fuel analysis data. As discussed previously, the requirement to maintain maintenance/repair logs on all process equipment is both burdensome and unnecessary, and should be deleted.

This condition also requires that all measurements, records and other data be maintained in a central file. This condition is not acceptable. Many of the required records are utilized in day-to-day operations and maintenance activities. To require that this information be kept in a central file is not supported by any rule and would create a significant administrative burden. In addition there is no regulatory language to support a requirement for advance notification for testing of any instrumentation. calibration and maintenance records will be retained, however, we will not agree to provide advance notification for these activities. It should also be clarified that calibration logs are only necessary for instruments required to be installed under Specific Condition 4.1.

Table 1-1

Allowable emissions in gr/dscf - Cargill did not request a PM limitation of 0.01 gr/dscf, as shown in this table and in the BACT determination. Cargill requested a PM emission rate of 6.0 lb/hr from each AFI plant common stack. In Cargill's BACT analysis, the 6.0 lb/hr limits were shown to equate approximately to a 0.01 gr/dscf dust loading. This calculation was made specifically for the purpose of comparing Cargill's proposed PM emissions to certain other BACT determinations. However, imposition of a grain loading standard would unduly penalize Cargill because this calculated grain loading is based on an estimated maximum air flow rate. At lesser air flow rates, typical of actual operation, higher grain loadings could result.

Allowable emissions in lb/hr and TPY - As discussed previously, the NO_x emission limits should be deleted from Table 1-1.



Allowable Operating Rates -

- Production rates for AFI No's 1 & 2 should be listed as 580 TPD each.
- Gas flow rates should not be listed as a limit or an allowable operating rate.

Table 2-1

Delete NO_x as a pollutant requiring stack testing. As discussed previously, an allowable limit for this pollutant should not be required, and testing should not be required. The emissions are based on AP-42 emission factors.

Min. compliance Test Duration - each VE requirement should be changed to 30 min.

APPENDIX BD - BACT

BACT Determination by DEP - The fluoride BACT determination for the original construction permit (AC29-242897) set 0.04 lb/ton as the final limit for the plant. It also stated that "the emission limit of 0.04 lb per ton of P₂O₅ is the same as the limit in the BACT determination for the Occidental Chemical animal feed ingredients plant defluorination unit (FL-PSD-067) and is similar to actual fluoride emissions from the Coronet Industries Feed Preparation Plant." There is no evidence that this previous BACT determination for the AFI Plant 1 is incorrect or should be changed. This 0.04 lb/ton P₂O₅ limit should also be the final BACT determination for AFI Plant 2. Cargill cannot commence construction on a new plant without knowing what the allowable emission rates will be. In addition, the referenced rule 62-212.400(6) explicitly states that "the Department shall make a determination of Best Available Control Technology during the permitting process (emphasis added)."

The PM/PM₁₀ emission limit requested by the applicant for the scrubber (ref. pgs. BD-1, BD-4, BD-5 and BD-6) should be 6.0 lb/hr per plant, and not 0.01 gr/dscf.

Also, on pg. BD-4, the discussion concerning controls for fugitive dust sources including haul roads and open stockpiles should be deleted, since it is not applicable to these emission units.

The BACT determination on page BD-6 should indicate that the alternate test method 13B is also appropriate for testing fluoride emissions.

TE&PD

The comments presented below on the TE&PD are to correct certain inconsistencies in the document. None of these comments require a revision to the draft construction permit.

Section 2.3, pg. 2 - Note that the facility is not major for VOC.



Section 4.2.3, pg. 5 - Note that the maximum limestone unloading rate may be as high as 60 TPH in the future. This change does not affect the maximum PM emissions from the limestone system presented in the application.

Section 4.2.4, pg. 5 - The proposed system will utilize a crushing mill, and not a "roller mill."

Section 4.2.5, pg. 6 - Note that the maximum loading rate through the loadout system may be as high as 300 TPH in the future. This change does not affect the maximum PM emissions from the loadout system presented in the application.

Section 5, pg. 7 - The animal feed plant is not subject to any NSPS; therefore, all references to the NSPS requirements should be deleted from the TE&PD.

Section 6.3.7, pg. 13 - The table showing the ambient air impacts is in error for the pollutant NO₂. The major sources impact for NO₂ should be 13.4 $\mu\text{g}/\text{m}^3$ instead of 35 $\mu\text{g}/\text{m}^3$, and the total impact should be 34.5 $\mu\text{g}/\text{m}^3$ instead of 56 $\mu\text{g}/\text{m}^3$.

Cargill appreciates your consideration of these comments. Please call if you have any questions or comments.

Sincerely,

David A. Buff

David A. Buff, P.E.
Principal Engineer
Florida P.E. #19011

SEAL

DB/arz

cc: David Jellerson
Kathy Edgemon
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cc: Syed Arif, BAR
Brian Seals, EPA
John Buryak, NPS
Bill Thomas, SWD
Judy Campbell, HC