Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

May 15, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Melody Russo
Environmental Superintendent
Cargill Fertilizer, Inc.
8813 Highway 41 South
Riverview, Florida 33569

Re: DRAFT Permit No.: 0570008-013-AC (PSD-FL-234)
Animal Feed Ingredient Plants

Dear Ms. Russo:

Enclosed is one copy of the **Revised** DRAFT Air Construction Permit for the Animal Feed Ingredient Plants located at the Cargill Riverview Fertilizer Facility, 8813 Highway 41 South, Riverview, Hillsborough County. The Technical Evaluation and Preliminary Determination along with the Department's Intent to Issue Permit for Modified Project and the "NOTICE OF INTENT TO ISSUE PERMIT FOR MODIFIED PROJECT" are also included.

The "NOTICE OF INTENT TO ISSUE PERMIT FOR MODIFIED PROJECT " must be published within 30 (thirty) days of receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the alloted time may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Syed Arif or Mr. Linero at 904/488-1344.

Sincerely,

5/15

C. H. Fancy, P.E., Chief,
Bureau of Air Regulation

CHF/sa/h

Enclosures

P 265 659 216

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to	Melody Russo
Street & Number	Carsill Fert.
Post Office, State, & ZIP Code	Riverview, Fl
Postage	$
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	5-15-97

PS Form **3800**, April 1995

0570008-013-AC
PSD-FL-234

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):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Ms. Melody Russo Env. Supt.
Carsill Fertilizer
8813 Hwy 41 South
Riverview, Fl
33569

4a. Article Number
P 265 659 216

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

7. Date of Delivery
5-17-97

5. Received By: *(Print Name)*
Roy Burnett

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

6. Signature: *(Addressee or Agent)*
X Roy Burnett

PS Form **3811**, December 1994 Domestic Return Receipt

Thank you for using Return Receipt Service.

In the Matter of an
Application for Permit by:

Cargill fertilizer, Inc
8813 Highway 41 South
Riverview, Florida 33569 /

DRAFT Permit No.:0570008-013-AC (PSD-FL-234)
Animal Feed Ingredient Plants
Hillsborough County

INTENT TO ISSUE PERMIT FOR MODIFIED PROJECT

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit for modified project (copy of DRAFT Permit attached) for the proposed modified project as detailed in the application specified above, for the reasons stated below.

The applicant, Cargill Fertilizer, Inc., applied on July 17, 1996, to the Department for an air construction permit for a project at its facility located at 8813 Highway 41 South, Riverview, Hillsborough County. The application is to revise permitted emission limits for the existing animal feed ingredient plant, construct a second identical animal feed ingredient plant, and issue a single permit covering both plants pursuant to Prevention of Significant Deterioration (PSD). An Intent to Issue was filed on October 9, 1996 with publication of that Intent on October 18, 1996. Since then, the project has been substantially modified as detailed by letter dated March 13, 1997 thereby requiring additional notice pursuant to 62-103.150(2)(a)4, F.A.C.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that the permit for modified project is required to construct the second animal feed ingredient plant and to modify the first one at the described facility.

The revised design excludes a cross-flow scrubber for the second animal feed ingredient plant and utilizes the existing scrubber with modifications to support both plants. The requested changes do not increase annual emissions of any pollutant from the plant.

The Department intends to issue this permit for modified project based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "NOTICE OF INTENT TO ISSUE PERMIT FOR MODIFIED PROJECT". The notice shall be published one time only within 30 (thirty) days in the legal advertisement section of a newspaper of general circulation in the area affected. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 904/488-1344; Fax 904/ 922-6979) within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit pursuant to Rule 62-103.150 (6), F.A.C.

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 "NOTICE OF INTENT TO ISSUE PERMIT FOR MODIFIED PROJECT." Written comments should be provided to the Bureau of Air Regulation. 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 NOTICE.

The Department will issue the permit with the attached conditions 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 F.S. 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: 904/488-9730, fax: 904/487-4938. Petitions must be filed within fourteen days of publication of the 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 the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the 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 at 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.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

C.H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE PERMIT FOR MODIFIED PROJECT (including the NOTICE, Technical Evaluation and Preliminary Determination, and the DRAFT permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 5-15-97 to the person(s) listed:

Melody Russo, Cargill *
Brian Beals, EPA
John Bunyak, NPS
Bill Thomas, SWD
Jerry Campbell, HCEPC
David Buff, P.E., KBN

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 5-15-97 (Date)

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

NOTICE OF INTENT TO ISSUE PERMIT FOR MODIFIED PROJECT

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 a permit for modified project to Cargill Fertilizer, Inc., for a revision of the emission limits at a recently constructed animal feed ingredient (AFI) plant, and addition of a second 150,000 ton per year AFI plant at the fertilizer manufacturing facility located on Highway 41 in Riverview, Hillsborough County. This is a revised public notice based on project modifications submitted by Cargill since publication of the original notice on October 18, 1996. The revisions exclude the scrubber for the second AFI plant and modify the existing scrubber to support both AFI plants. The applicant's name and address are: Cargill Fertilizer, Inc., 8813 Highway 41 South, Riverview, Florida 33569.

Emissions and impacts on ambient air quality pursuant to rules for the Prevention of Significant Deterioration were discussed in the previous notice. The modifications related to the scrubbers do not affect the previous determination.

The Department will issue the FINAL Permit, in accordance with the conditions of the 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 and requests for public meetings 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 conditions of the 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.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

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 the 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:

NOTICE TO BE PUBLISHED

IN THE NEWSPAPER

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
3804 Coconut Palm Drive
Tampa, Florida 33619
Telephone: 813/744-6100
Fax: 813/744-6458

Hillsborough Co. Envir. Protect. Committee
Air Management Division
1410 North 21st Street
Tampa, Florida 33605
Telephone:813/272-5690

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.

TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

Cargill Fertilizer, Inc.,
Riverview, Hillsborough County, Florida

Air Permit Number 0570008-013-AC
PSD-FL-234
(Includes Revision of 0570008-002-AC)

Department of Environmental Regulation
New Source Review Section
Bureau of Air Regulation

May 15, 1997

1. APPLICATION INFORMATION

1.1 Applicant Name and Address

Cargill Fertilizer, Inc.
8813 Highway 41 South
Riverview, Florida 33569

Authorized Representative:
Melody Russo, Environmental Superintendent

1.2 Reviewing and Process Schedule

7-17-96: Date of Receipt of Application
8-16-96: Application complete
10-10-97: 1st Draft Permit Issued

2. FACILITY INFORMATION

2.1 Facility Location

Cargill Fertilizer, Inc.
Fertilizer Manufacturing Facility
UTM: Zone 17; 362.9 and 3082.5

2.2 Standard Industrial Classification Code

Major Group Number	28	*Chemicals & Allied Products*
Group Number	287	*Agricultural Chemicals*
Industry Number	*2874*	*Phosphatic Fertilizers*

2.3 Facility Category

This industry is on the list of the 28 Major Facility Categories per Chapter 62, Table 62-212.400-1, F.A.C. This installation is an existing fertilizer manufacturing facility consisting of phosphoric acid plants, sulfuric acid plants, mono-ammonium phosphate plant, di-ammonium phosphate plant, etc. Air pollutant emissions from the facility are over a 100 tons per year (TPY) of particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NOx) and carbon monoxide (CO). This is a Major Facility per Rule 62-210.200(171), F.A.C. and a Major (Title V) Source of Air Pollution per Rule 62-210.200(173).

3. PROJECT DESCRIPTION

3.1 This project involves the following emissions units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
103*	Common stack Animal Feed Plant No. 2
078#	Common stack Animal Feed Plant No. 1
079#	Diatomaceous Earth Silo
080#	Limestone Silo
081#	Animal Feed Phosphate Loadout System

* New emission unit
\# Existing emission units common with Animal Feed Plant No. 1

Cargill Fertilizer, Inc. requested the following:

1. To increase the production rate of the animal feed plant from 150,000 TPY to 300,000 TPY. This expansion will be accomplished through the addition of a second animal feed plant essentially identical to the existing plant.

2. To increase the existing PM emission limit for the dryer/vents scrubber from 2.82 lb/hr to 6.0 lb/hr. The same emission limit is proposed for the new animal feed plants dryer/vents scrubber.

3. To increase the operating hours of the granulation operation for the existing animal feed plant from 8,300 hours per year to 8,760 hours per year.

The proposed permit revisions and the expansion will, however, result in a significant net emissions increase for particulate matter (PM/PM_{10}), fluorides (F) and nitrogen oxides (NO_x).

Background Information

The existing Animal Feed Ingredient (AFI) Plant No. 1 was originally permitted under air construction permit AC29-242897, issued June 16, 1994. This permit was amended on January 12, 1996, with the issuance of air construction permit 0570008-002-AC. This plant is currently permitted to produce a total of 150,000 tons per year (TPY) of granular animal feed ingredient. The new AFP No. 2 will allow the production rate of the plant to increase from 150,000 TPY to 300,000 TPY.

In addition to the proposed increase in production rate, revisions are being sought to increase the allowable PM emission limit for AFI No. 1. The original vendor guarantees for PM emissions from the control equipment serving the common stack were not considered to be routinely achievable. The new

PM/PM_{10} emission limit for the dryer/vents scrubber will be increased from 2.82 lb/hr and 11.69 TPY to 6.0 lb/hr and 26.28 TPY for each animal feed plants.

4. PROJECT DESCRIPTION

4.1 General Information

There are two types of animal feed phosphate (AFP) that are produced at this facility, dicalcium phosphate (DCP) and monocalcium phosphate (MCP). The process involves defluorinating the phosphatic fertilizer solution (PFS) from the existing phosphate fertilizer plant, and reacting it with limestone to produce animal feed phosphates. The defluorination process is a batch operation which uses diatomaceous earth and PFS. After reaction with limestone, the products are discharged to a rotary dryer where they are granulated. The solids are discharged from the dryer to the solids handling section of the granulation plant where the product is classified, cooled and de-dusted. Product material is then transferred to bulk storage where it is subsequently loaded into trucks or railcars. The new plant will only consist of a granulation area, and will be located adjacent to the existing plant. The existing acid defluorination area will be upgraded to support both AFI granulation plants. The new plant will share certain common equipment with the existing plant. The shared facilities will include the diatomaceous earth and limestone unloading systems, and the AFP loadout system.

4.2 Process Description

4.2.1 Emission Unit ID 079 - Diatomaceous Earth Unloading

Diatomaceous earth (DE) is pneumatically unloaded from trucks or railcars and conveyed to a storage silo. The silo is fitted with an efficient baghouse to control PM emissions from the transfer operation. The maximum DE unloading rate is currently 12 TPH. The DE is then transferred to a weigh bin before it is pneumatically transferred to the acid defluorination tanks. With the proposed plant expansion, the DE unloading operation will remain the same (12 TPH, maximum), but maximum operating hours will increase to 8,760 hr/yr. DE will be pneumatically conveyed to the acid batch tanks in both the existing and the new animal feed plants.

4.2.2 Emission Unit ID 103 - Acid Defluorination

DE is metered from the weigh bin to the acid batch tanks where it is slurried with PFS and defluorinated in a batch stripping process. The existing AFI Plant No. 1 has two batch tanks. The proposed plant will add a third batch tank and an additional 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. At the conclusion of the batch operation, defluorinated PFS is pumped to the storage tanks.

Fluoride emissions from the acid batch tanks are controlled by wet scrubbers. The existing AFI Plant No. 1 batch tanks are controlled by a single wet scrubber. The existing scrubber will be modified to handle two batch tanks defluorinating acid at the same time.

4.2.3 Emission Unit ID 080 - Granulation Process

The defluorinated PFS is reacted with limestone to produce calcium phosphate. Ground limestone is pneumatically unloaded from trucks into a bulk storage silo adjacent to the granulation plant area for AFI Plant No. 1. The maximum limestone unloading rate is 25 TPH (Instantaneous rates may be as high as 60 TPH). A baghouse controls PM emissions from the transfer operation. Limestone is periodically transferred from the storage silo by pneumatic conveyor to the limestone day bin in the granulation plant building. PM emissions from the day bin are controlled by a baghouse. The baghouse is vented back inside the building.

The limestone is metered from the limestone day bin into a hopper and then into a high speed mixer where it reacts with heated defluorinated PFS to form a mixture of MCP or DCP. The proportions of limestone and hot acid are adjusted to determine the grade of AFP. The acid and limestone slurry is combined in the mixer. A stream of dust and crushed oversize material from the recycle system are added to the acid/limestone slurry in the pug mill, which produces a granular material. The material then discharges into the rotary dryer.

The damp calcium phosphate solids discharge from the pug mill directly into the rotary dryer. Heated air is supplied from a separate combustion chamber which is normally fueled by natural gas. Provisions are made to use No. 2 fuel oil as a stand-by fuel for less than 400 hours per year. Dry solids discharge from the end of the dryer, through a grizzly, into the dryer elevator. The dryer exhaust gases pass through cyclones to capture product, and then through a venturi scrubber for PM control.

The AFI Plant No. 2 will utilize the existing limestone unloading system and storage silo. This system will be common to both plants. The AFI Plant No.2 granulation area will be equivalent in design to the AFI Plant No. 1 granulation area. The maximum production rate of the AFI Plant No. 2 dryer will be the same as the AFI Plant No. 1 dryer: 150,000 TPY of AFP, which equates to 24.17 TPH based on a 17-hour day, 365 days per year. The proposed future production rate of both AFI No. 1 and No. 2 plants combined will be 300,000 TPY, or 48.35 TPH based on a 17-hour day.

4.2.4 Emission Unit ID 103 - Solids Handling

The solids handling section of the AFI Plant No. 1 granulation plant takes the solids discharged from the dryer and classifies, cools and de-dusts the materials. The dryer elevator discharges material onto a double-deck screen which separates the material into oversize, product and fine streams.

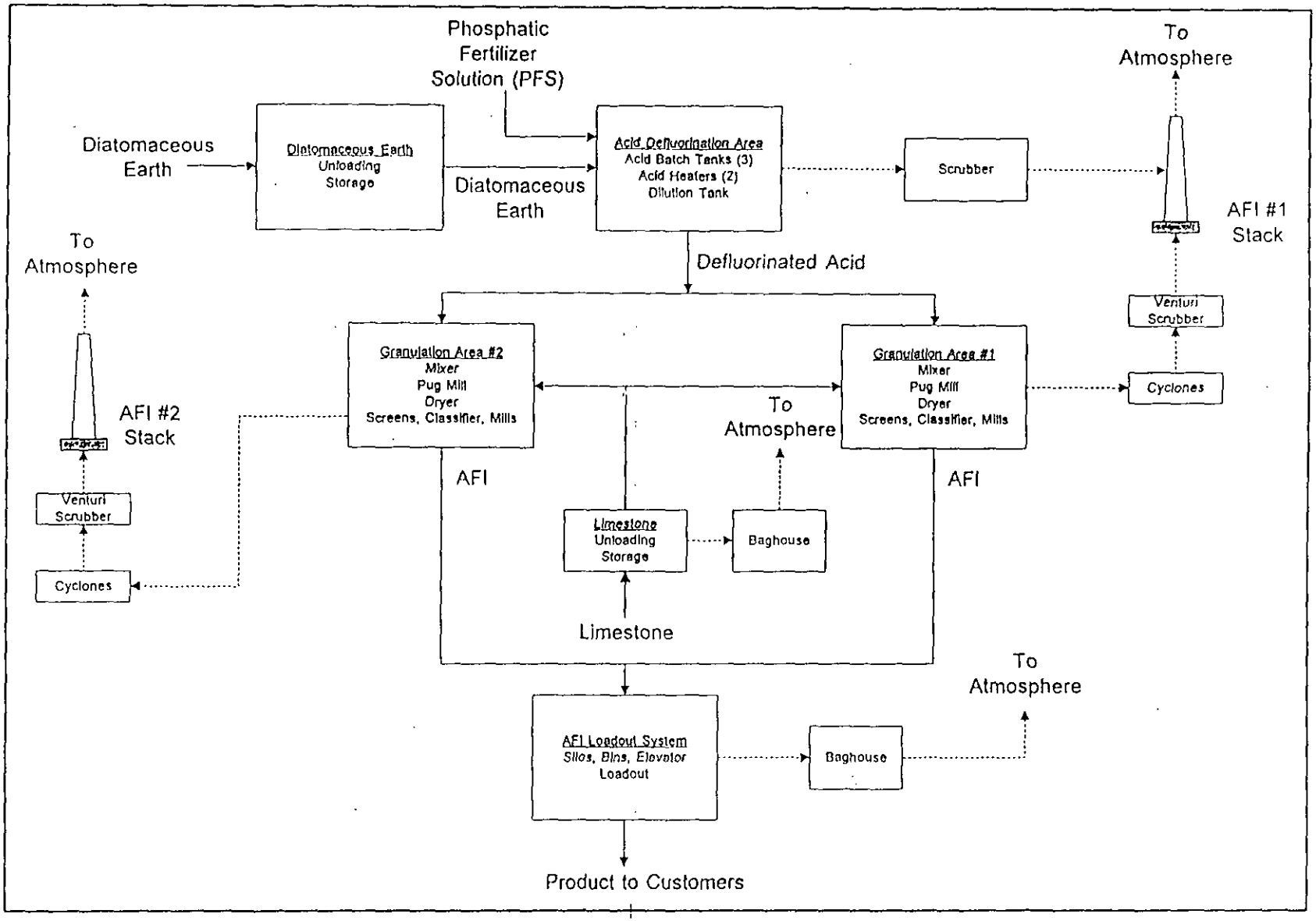

Figure 1
Simplified Flow Diagram of Animal Feed Plant, Cargill Riverview

Process Flow Legend:
Solid / Liquid ——→
Gas ·····→

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

Golder Associates

Provisions are made to bypass excess recycle material around the screen directly to the crushing mill, which also receives the oversize material from the screen.

Product size material from the screen discharges to a fluid bed classifier/cooler. This unit has a dual function; positive removal of dust and fines from the product stream by entrainment into the fluidizing air; and cooling of the product material to minimize storage and shipping problems. Cooled, onsize material is discharged from the fluid bed unit into the product storage silos. Particulate emissions from the mills and classifier/cooler are vented to the equipment vents cyclones and then to the dryer venturi scrubber.

The AFI Plant No. 2 will utilize an identical system for solids handling, consisting of a fluid bed cooler/classifier and roller mills. AFP will be sent to the existing product silos which also serve AFI Plant No. 1. Particulate emissions from the AFI Plant No. 2 mills and classifier/cooler will be vented to the equipment vent cyclones and then to the dryer venturi scrubber within the plant. The exhaust from the scrubber exits through the AFI Plant No. 2 common stack.

4.2.5 Emission Unit ID 081- Product Loadout

The existing product loadout system will serve both AFI No. 1 and No. 2 plants. Withdrawal of product from the product silos is metered to the loadout elevator and then to the loadout surge bin, loadout weigh bin, and finally to trucks or railcars. The maximum loading rate through the loadout system is 100 TPH (Instantaneous rates may be as high as 300 TPH). The silos and load-out systems are equipped with ventilation systems and a baghouse to control PM emissions. An 80-ton tank is used to store off-specification material for recycle. PM emissions from the tank are vented to the equipment vent cyclones.

The process flow diagram for this facility is presented in Figure 1.

5. RULE APPLICABILITY

The proposed project is subject to preconstruction review under the applicable provisions of Chapter 403, Florida Statutes, and Chapters 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This facility is located in Hillsborough County, an area designated as air quality maintenance area for PM. The proposed project is subject to review under Rule 62-212.400., F.A.C., Prevention of Significant Deterioration (PSD), because the emission increases for PM/PM_{10}, F and NO_x exceed the significance emission rates given in Chapter 62, Table 62-212.400-2. This review consists of a determination of Best Available Control Technology (BACT) and unless otherwise exempted, an analysis of the air quality impact of the proposed project's impacts on soils, vegetation and visibility; along with air quality impacts resulting from associated commercial, residential and industrial growth. The emission units affected by this modification shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations) and, specifically, the following chapters and rules:

• Chapter 62-4	Permits.
• Rule 62-204.220	Ambient Air Quality Protection
• Rule 62-204.240	Ambient Air Quality Standards
• Rule 62-204.260	Prevention of Significant Deterioration Increments
• Rule 62-204.360	Designation of Prevention of Significant Deteriration Areas
• Rule 62-204.800	Federal Regulations Adopted by Reference
• Rule 62-210.300	Permits Required
• Rule 62-210.350	Public Notice and Comments
• Rule 62-210.370	Reports
• Rule 62-210.550	Stack Height Policy
• Rule 62-210.650	Circumvention
• Rule 62-210.700	Excess Emissions
• Rule 62-210.900	Forms and Instructions
• Rule 62-212.300	General Preconstruction Review Requirements
• Rule 62-212.400	Prevention of Significant Deterioration
• Rule 62-212.500	Preconstruction Review for Nonattainment Areas
• Rule 62-296.320	General Pollutant Emission Limiting Standards
• Rule 62-296.330	Best Available Control Technology (BACT)
• Rule 62-296.403	Phosphate Processing
• Rule 62-296.700	Reasonable Available Control Technology (RACT) Particulate Matter
• Rule 62-296.705	Phosphate Processing Operations
• Rule 62-296.711	Materials Handling, Sizing, Screening, Crushing and Grinding Operations
• Rule 62-297.310	General Test Requirements
• Rule 62-297.400	EPA Methods Adopted by Reference
• Rule 62-297-401	EPA Test Procedures
• Rule 62-297.520	EPA Performance Specifications

The Animal Feed Ingredient plant is not subject to the NSPS requirements.

6. SOURCE IMPACT ANALYSIS

6.1 Emission Summary

ANIMAL FEED INGREDIENT PLANT No. 1

Source / Emission Unit ID	Pollutants	Current Allowable		New Allowable	
		lb/hr	ton/yr	lb/hr	ton/yr
Common Stack / 078	PM/PM_{10}	2.82	11.69	6.00	26.28
	F	0.53	1.6	0.53(a)	1.63
DE Silo / 079	PM/PM_{10}	0.089	0.011	0.089	0.39
Limestone Silo / 080	PM/PM_{10}	0.12	0.21	0.12	0.52
AFP Loadout System / 081	PM/PM_{10}	2.96	2.96	2.22	3.89

ANIMAL FEED INGREDIENT PLANT No. 2

Source / Emission Unit ID	Pollutants	New Allowable	
		lb/yr	ton/yr
Common Stack / 103	PM/PM_{10}	6.00	26.28
	F	0.53 (a)	1.63

COMBINED AFI PLANTS No. 1 & No. 2

Source	Pollutants	Allowable Emissions		Net Increase	PSD Significant Level
		lb/hr	ton/yr	ton/yr	ton/yr
Total Plant	PM/PM_{10}	14.43	57.36	57.36	25/15
	F	1.05	3.26	3.26	3

Total Emissions from Fuel Combustion

Pollutants	No.2 Fuel Oil		Natural Gas	
	lb/hr	ton/yr	lb/hr	ton/yr
SO_2	47.01	9.40	0.056	0.24
NO_x	13.24	2.65	12.98	56.84
CO	3.31	0.66	3.24	14.21
VOC	0.132	0.026	0.26	1.14

Footnote:

(a) - Based on 223.6 tons P_2O_5 per batch run; 1 batch per day and 17 hours per batch, operating 365 days per year.

6.2 Emission Limitations

This facility emits the following PSD regulated pollutants: particulate matter, nitrogen oxides and fluorides. This facility was originally permitted under air construction permit AC29-242897, issued June 16, 1994. This permit was amended on January 12, 1996, with the issuance of air construction permit 0570008-002-AC. The purpose of the amendment was to update the design data for the plant.

This new PSD review, PSD-FL-234, will cover the increases in the production rate of the AFI plant and revise the current PM emission limit. The permitted emissions and compliance requirements for this facility are summarized in Tables 1-1, Air Pollutant Emission Standards and Terms, and Table 2-1, Compliance Requirements

6.3. AIR QUALITY ANALYSIS

6.3.1 Introduction

The proposed project will emit three pollutants at levels in excess of PSD significant amounts: NO_x, PM/PM_{10}, and F. The air quality impact analyses required by the PSD regulations for these pollutants include:

* An analysis of existing air quality for PM_{10}, NO_2 and F;
* A significant impact analysis for PM_{10} and NO_2;
* A PSD increment analysis for PM_{10} and NO_2
* An Ambient Air Quality Standards (AAQS) analysis for PM_{10} and NO_2; and
* An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling impacts.

The analysis of existing air quality generally relies on preconstruction monitoring data collected with EPA-approved methods. The significant impact, PSD increment and AAQS analyses depend on air quality dispersion modeling carried out in accordance with EPA guidelines.

Based on the required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is included: "In approving this permit, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC v. Thomas, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification if and when EPA revises the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators." A discussion of the required analyses follows.

6.3.2 Analysis Of Existing Air Quality And Determination Of Background Concentrations

Preconstruction ambient air quality monitoring is required for all pollutants subject to PSD review unless otherwise exempted or satisfied. This monitoring requirement may be satisfied by using previously existing representative monitoring data, if available. An exemption to the monitoring requirement may be obtained if the maximum air quality impact resulting from the projected emissions increase, as determined by air quality modeling, is less than a pollutant-specific de minimus concentration. In addition, if an acceptable monitoring method for the specific pollutant has not been established by EPA, monitoring may not be required.

If preconstruction ambient monitoring is exempted, determination of background concentrations for PSD significant pollutants with established AAQS may still be necessary for use in any required AAQS analysis. These concentrations may be established from the required preconstruction ambient air quality monitoring analysis or from previously existing representative monitoring data. These background ambient air quality concentrations are added to pollutant impacts predicted by modeling and represent the air quality impacts of sources not included in the modeling.

The table below shows that PM_{10} and F impacts from the project are predicted to be greater than the de minimus levels; therefore, preconstruction ambient air quality monitoring is required for PM_{10} and F. The department is not requiring preconstruction monitoring for F for this project because there are no EPA-approved monitoring methods for F. The maximum impact of the project's F emissions were modeled, however, and compared to the department's draft ambient reference concentrations for F; the modeling results are presented in the F impacts section. Additionally, a BACT determination which will set maximum emission limits for F emissions is required for this project. Previously existing representative monitoring data from a PM_{10} monitor in the vicinity of the facility (Gardinier Park) are used to fulfill the PM_{10} monitoring requirement and to establish a PM_{10} background concentration for use in the AAQS analysis. The table below shows that NO_2 impacts from the project are predicted to be less than the de minimus level. Therefore, preconstruction ambient air quality monitoring is not required for this pollutant. However, since an AAQS analysis is required for NO_2 (the project's impacts alone for this pollutant is greater than significant, as will be discussed later in this section), previously existing representative monitoring data from an NO_2 monitor located in the vicinity of the project (Gandy Boulevard) is used to establish a background concentration. Background concentrations for PM_{10} and NO_2 are 20 ug/m3 and 21 ug/m3, respectively.

Maximum Project Air Quality Impacts for Comparison to the De Minimus Ambient Levels.

Pollutant	Avg. Time	Max Predicted Impact[1] (ug/m^3)	Impact Greater Than De Minimus?	De Minimus Level (ug/m^3)
PM_{10}	24-hour	14.4	YES	10
F	24-hour	0.83	YES	0.25
NO_2	Annual	1.4	NO	14

6.3.3 Models And Meteorological Data Used In Significant Impact, PSD And AAQS Analyses

The EPA-approved Industrial Source Complex Short-Term (ISCST3) dispersion model was used to evaluate the pollutant emissions from the proposed project and other existing major facilities. The model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area and volume sources. The model incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition. The ISCST3 model allows for the separation of sources, building wake downwash, and various other input and output features. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options in each modeling scenario. Direction-specific downwash parameters were used for all sources for which downwash was considered.

Meteorological data used in the ISCST3 model consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS) stations at Tampa International Airport, Florida (surface data) and Ruskin, Florida (upper air data). The 5-year period of meteorological data was from 1987 through 1991. These NWS stations were selected for use in the study because they are the closest primary weather stations to the study area and are most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover and cloud ceiling.

Since five years of data were used in ISCST3, the highest-second- high (HSH) short-term predicted concentrations were compared with the appropriate AAQS or PSD increments. For the annual averages, the highest predicted yearly average was compared with the standards. For determining the project's significant impact area in the vicinity of the facility and if there are significant impacts from the project on any PSD Class I area, both the highest short-term predicted concentrations and the highest predicted yearly averages were compared to their respective significant impact levels.

6.3.4 Significant Impact Analysis

Initially, the applicant conducted modeling using only the proposed project's emissions. Receptors were placed within 5 km of the facility, which is located in a PSD Class II area, and the Chassahowitzka National Wilderness Area (CNWA) which is a PSD Class 1 area located approximately 86 km to the north-northwest of the project at its closest point. For each pollutant subject to PSD and also subject to PSD increment and/or AAQS analyses, this modeling compared maximum predicted impacts due to the project with PSD significant impact levels to determine whether significant impacts due to the project

were predicted in the vicinity of the facility or in the CNWA. The tables below show the results of this modeling. The radius of significant impact, if any, for each pollutant and applicable pollutant averaging time is also shown in the tables below.

Maximum Project Air Quality Impacts for Comparison to the PSD Class II Significant Impact Levels in the Vicinity of the Facility.

Pollutant	Avg. Time	Max Predicted Impact (ug/m^3)	Significant Impact Level (ug/m^3)	Significant Impact?	Radius of Significant Impact (km)
PM_{10}	Annual	2.2	1	YES	3
	24-hour	14.4	5	YES	3
NO_2	Annual	1.35	1	YES	1.5

Maximum Project Air Quality Impacts for Comparison to the PSD Class I Significant Impact Levels (CNWA)

Pollutant	Averaging Time	Max. Predicted Impact at Class I Area(s) (ug/m^3)	Significant Impact?	National Park Service (NPS) Significant Impact Level (ug/m^3)
PM_{10}	Annual	0.004	NO	0.08
	24-hour	0.09	NO	0.27
NO_2	Annual	0.003	NO	0.025

As shown in the tables the maximum air quality impacts due to PM_{10} and NO_X emissions from the proposed project are greater than the significant impact levels in the vicinity of the facility but not in the Class I area. Therefore, the applicant was required to do further PM_{10} and NO_2 modeling in the vicinity of the facility, within the applicable significant impact area, to determine the impacts of the project along with all other sources in the vicinity of the facility. The significant impact area is based upon the predicted radius of significant impact. No further modeling for Class I impacts was required.

6.3.5 Receptor Network For PSD Class II Increment And AAQS Analyses

For the AAQS and PSD Class II analyses, receptor grids normally are based on the size of the significant impact area for each pollutant. For predicting maximum PM_{10} concentrations in the vicinity of the facility, a polar receptor grid comprised of 119 discrete and 108 regular grid receptors was used for the screening analysis. The discrete receptors included 36 receptors located on the plant property boundary at 10-degree intervals, plus 83 additional off-property receptors at distances of 0.5, 0.8, 1.1, and 1.5 km from the No. 9 Sulfuric Acid Plant stack, which is the origin of the air modeling coordinate system for this project. The regular polar grid receptors were located at radial distances of 2.0, 2.5 and 3.0 km. For

predicting maximum No_x impacts in the vicinity of the facility, only the 119 discrete polar grid receptors were used in the modeling analysis since the radius of significant impact for NO_x was only 1.5 km.

Modeling refinements were done by using a polar receptor grid with a maximum spacing of 100 m along each radial and an angular spacing between radials of 2 degrees.

6.3.6 PSD Class II Increment Analysis

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant. The results of the PSD Class II increment analysis are presented in the table below. They show that the maximum predicted impacts are less than the allowable increments.

PSD Class II Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	Impact Greater Than Allowable Increment?	Allowable Increment (ug/m^3)
PM_{10}	Annual	1.0	NO	17
	24-hour	11.6	NO	30
NO_2	Annual	5.4	NO	25

6.3.7. AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding a "background" concentration to the maximum modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. The results of the AAQS analysis are summarized in the table below. As shown in this table, emissions from the proposed facility are not expected to cause or contribute to a violation of an AAQS.

Ambient Air Quality Impacts

Pollutant	Averaging Time	Major Sources Impact (ug/m^3)	Background Conc. (ug/m^3)	Total Impact (ug/m^3)	Total Impact Greater Than AAQS	Florida AAQS (ug/m^3)
PM_{10}	Annual	23	20	43	NO	50
	24-hour	93	20	113	NO	150
NO_2	Annual	13.5	21	34.5	NO	100

6.3.8 Fluoride Impacts Analysis

The maximum predicted impacts of F from the project are shown below. These impacts are less than the draft Florida Ambient Reference Concentrations (ARC).

Fluoride Impacts

8- hour		24- hour	
Impact (ug/m^3)	ARC (ug/m^3)	Impact (ug/m^3)	ARC (ug/m^3)
1.62	24	0.83	6

6.4. Additional Impacts Analysis

6.4.1. Impacts On Soils, Vegetation, And Wildlife

The maximum ground-level concentrations predicted to occur for PM_{10}, and NO_X as a result of the proposed project, including background concentrations and all other nearby sources, will be below the associated AAQS. The AAQS are designed to protect both the public health and welfare. As such, this project is not expected to have a harmful impact on soils and vegetation in the PSD Class II area. An air quality related values (AQRV) analysis was done by the applicant for the Class I area. No significant impacts on this area are expected.

6.4.2. Impact On Visibility

Visual Impact Screening and Analysis (VISCREEN), the EPA-approved Level I visibility computer model, was used to estimate the impact of the proposed project's stack emissions on visibility in the CNWA. The results indicate that the maximum visibility impacts do not exceed the screening criteria inside or outside this area. As a result, there is no significant impact on visibility predicted for this Class I area. In addition a regional haze analysis was done. This analysis predicted no adverse impacts upon regional haze.

6.4.3 Growth-Related Air Quality Impacts

There will be a small number of temporary construction workers during construction and no significant increase in the number of new permanent workers after project is completed. There will be no significant impacts on air quality caused by associated population growth.

Good Engineering Practice (GEP) stack height means the greater of: (1) 65 m (213 ft) or (2) the maximum nearby building height plus 1.5 times the building height or width, whichever is less. The plant's main stack will be 76.3 m (250 ft), respectively. This stack will not exceed the GEP stack height and will comply with GEP stack height regulations. However, this stack will be less than GEP; therefore, the potential for building downwash to occur was considered in the modeling analysis for this stack.

7. CONCLUSION

Based on the foregoing technical evaluation of the application and additional information submitted by Cargill Fertilizers, Inc., the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations provided the

Department's Best Available Control Technology Determination is implemented and certain conditions are met. The General and Specific Conditions are listed in the attached draft conditions of approval.

Permit Engineer: S. Arif

Department of Environmental Protection

DRAFT

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Cargill Fertilizer, Inc.,
Riverview Plant
8813 Highway 41 South
Riverview, Florida 33569

FID No.:	0570008
PSD No.	PSD-FL-234
Permit No:	0570008-013-AC
SIC No.	2874
Expires:	December 31, 2000

Authorized Representative:
Melody Russo, Environmental Superintendent

LOCATED AT:

Cargill Fertilizer, Inc., Riverview Plant, Hillsborough County
Project: Fertilizer Manufacturing Facility
Animal Feed Ingredient Plants No. 1 & 2.

UTM: Zone 17 ; 362.9 km E ; 3082.5 km N

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296-, 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached appendices made a part of this permit:

Table 1-1	Air Pollutants Standards and Term
Table 2-1	Compliance Requirements
Appendix BD	BACT Determination
Appendix GC	Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

DRAFT

SECTION I. FACILITY INFORMATION

SUBSECTION A. FACILITY DESCRIPTION

This installation consists of an existing fertilizer manufacturing facility consisting of phosphoric acid plants, sulfuric acid plants, mono-ammonium phosphate plant, di-ammonium phosphate plant, animal feed ingredient (AFI) plant No. 1, etc. This project involves the addition of a second animal feed plant similar to the existing plant. The new plant will be designated as AFI Plant No. 2.

EMISSION UNITS

This permit addresses the following emission units:

EMISSIONS UNIT NO.	EMISSIONS UNIT DESCRIPTION
078	Common Stack Animal Feed Plant No. 1
079	Diatomaceous Earth Silo
080	Limestone Silo
081	Animal Feed Plant Loadout System
103	Common Stack Animal Feed Plant No. 2

SUBSECTION B. REGULATORY CLASSIFICATION

This industry is listed in Table 62-212.400-1 of Chapter 62-212, F.A.C., "Major Facility Categories." Therefore, stack and fugitive emissions of over 100 tons per year of carbon monoxide, sulfur dioxide, nitrogen oxides, or particulate matter characterize the installation as a major facility subject to the requirements of Rule 62-204.800, F.A.C. This facility is a Title V source because it is in the list of the 28, Major Facility Categories Table 212.400-1, F.A.C.

SUBSECTION C. PERMIT SCHEDULE:

- (DATE) Petition for an administrative hearing
- (DATE) Received proof of publication in **(DATE)** issue of Newspaper
- (DATE) Issued Notice of Intent to issue Permit
- 08-16-96 Application deemed complete

1.0 ADMINISTRATIVE

1.1 Regulating Agencies: All applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department of Environmental Protection (DEP) Hillsborough County Environmental Protection Commission (HCEPC) located at 1410 North 21 Street, Tampa, Florida 33605, and phone number (813) 272-5530. All applications for permits to construct or modify an emission unit(s) subject to the Prevention of Significant Deterioration requirements should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP) located at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number (904) 488-1344. Please note that permitting activities are conducted by the FDEP while the HCEPC has delegated authority for compliance issues.

1.2 General Conditions: The owner and operators shall be aware of, and operate under, the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. **[Rule 62-4.160, F.A.C.]**

1.3 Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapter of the Florida Administrative Code. Key definitions, abbreviations, and rule citation formats are provided in *Appendix A-1*.

1.4 Forms and Application Procedures: The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. **[Rule 62-210.900, F.A.C.]**

1.5 Expiration: This air construction permit shall expire on December 31, 2000. **[Rule 62-210.300(1), F.A.C.]**

1.6 Application for Title V Permit: This air construction permit revises specific permit conditions to reflect the current applicable requirements and new BACT limits. Emissions stack testing that is required by this permit shall be performed to show compliance with all new applicable BACT limits. Therefore, the air operation permit will be issued based on this revised permit. **[Rule 62-210.300(2), F.A.C.]** A revision of the Title V operating permit application pursuant to Chapter 62-213 F.A.C. shall be submitted to the DEP District office in Tampa.

1.7 Applicable Regulations: This facility is subject to the following regulations: Florida Administrative Code Chapters 62-4; 62-103; 62-204, 62-210, 62-212, 62-296, 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. **[Rule 62-210.300 , F.A.C.]**

2.0 EMISSION LIMITING STANDARDS

2.1 General Visible Emissions Standard: **[Rule 62-296.320(4)(b), F.A.C.]** Unless otherwise specified by rule or permit, 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 20% opacity.

- Visible emissions of all minor sources controlled by baghouses indicating no visible emissions (5% opacity) may be submitted in lieu of a particulate stack test.

2.2 Unconfined Emissions of Particulate Matter **[Rule 62-296.320(4)(c), F.A.C.]**

(a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, 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 emission.

(b) Reasonable precautions shall include the following:

- Paving and maintenance of roads, parking areas and yards.
- Application of water 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.

NOTE: Facilities that cause frequent, valid complaints may be required by the Southwest District office in Tampa to take these or other reasonable precautions. In determining what constitutes reasonable precautions for a particular source, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

2.3 General Pollutant Emission Limiting Standards: **[Rule 62-296.320, F.A.C.]**

(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.

(b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [F.A.C. 62-212.198(123)]

3.0 Operation and Maintenance

3.1 Summary of Sources: The following is a summary of the sources, emission control equipment, limitations on production and hours of operation for this facility:

Source	Control Device	Operating Hours
COMMON STACK AFI No. 1 & 2		
Defluor. Tanks	Wet Scrubber	8,760
Reactor/Granulator/ Materials Handling	Dryer Scrubber	8,760
DE SILO	Baghouse	8,760
LIMESTONE SILO	Baghouse	8,760
AFP LOADOUT SYSTEM	Baghouse	3,500

Production Limitation (Combined AFI No. 1 & 2): 1160 tons/day and 300,000 tons/year.

3.2 Changes/Modifications: 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 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. **[Rule 62-4.030, 62-210.300, 62-210(185) and 62-4.070(3), F.A.C.]**

3.3 Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the owner or operator shall notify the HCEPC office in Tampa as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. **[Rule 62-4.130, F.A.C.]**

3.4 Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. **[Rules 62-210.650, F.A.C.]**

3.5 Excess Emissions Requirements **[Rule 62-210.700, F.A.C.]**

(a) Excess emissions resulting from start-up, shutdown or malfunction of these emissions units shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized, but in no case exceed two hours in any 24 hour period unless specifically authorized by the Southwest District office for longer duration. **[Rule 62-210.700(1), F.A.C.]**

(b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. **[Rule 62-210.700(4), F.A.C.]**

(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 . **[Rule 62-210.700(6), F.A.C.]**

4.0 MONITORING OF OPERATIONS

4.1 Determination of Process Variables

(a) The permittee shall install, operate, and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. **[Rule 62-297.310(5), F.A.C]**

5.0 Test Requirements

5.1 Test Performance: During each federal fiscal year (October 1- September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard. **[Rule 62-297.310 (7), F.A.C.]**

5.2 Test procedures: Testing of emissions shall be conducted with the source operating at permitted capacity. Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. A compliance test submitted at a rate less than 90% of the rate specified above will automatically constitute an amended permit rate at that lesser rate plus 10%. Within 30 days of that lower amended permitted rate being exceeded by more than 10%, a new compliance test shall be conducted at the higher rate. The test results shall be submitted to the HCEPC office in Tampa within 45 days of testing. Acceptance of the test by the Department will automatically constitute an amended permit at the higher tested rate plus 10%, but in no case shall the maximum permitted rate be exceeded. Failure to submit records of the production rate during the test period, along with the test report, may invalidate the test and fail to provide reasonable assurance of compliance. **[Rule 62-4.070 (3), F.A.C.]**

5.3 Test Notification: The owner or operator shall notify the HCEPC office in Tampa ,at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. **[Rule 62-297.310, F.A.C.]**

5.4 Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rule 62-204, 62-210, 62 -212, 62-296 and 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the HCEPC office in Tampa. **[Rule 62-297.310 F.A.C.]**

5.5 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with Rule **62-297.310 F.A.C.**.

5.6 Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Air Regulation of the Florida Department of Environmental Protection in accordance with the procedures specified in **Rule 62-297.620, F.A.C.**

6.0 REPORTS AND RECORDS

6.1 Duration: All reports and records required by this permit shall be kept for at least (5) years from the date the information was recorded. **[62-213.440(1)(b)2,F.A.C.]**

6.2 Emission Compliance Stack Test Reports:

(a) A test report indicating the results of the required compliance tests shall be filed with the HCEPC office in Tampa as soon as practical, but no later than 45 days after the last sampling run is completed. **[Rule 62-297.310 F.A.C.]**

(b) The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the HCEPC to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in **Rule 62-297.310 F.A.C.**

6.3 Annual Operating Report for Air Pollutant Emitting Facility: Before March 1st of each year, the owner or operator shall submit to the Department this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. **[Rule 62-210.370(2),F.A.C.]**

SUBSECTION A. COMMON CONDITIONS: 40 CFR 60 SUBPART A, GENERAL PROVISIONS

EMISSION UNITS

This permit addresses the following emission units.

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
078	Common Stack Animal Feed Plant No. 1
079	Diatomaceous Earth Silo
080	Limestone Silo
081	Animal Feed Plant Loadout System
103	Common Stack Animal Feed Plant No. 2

SUBSECTION B. SPECIFIC CONDITIONS:

The following Specific Conditions apply to the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
078	Common Stack Animal Feed Plant No. 1
103	Common Stack Animal Feed Plant No. 2

EMISSION LIMITATIONS

B.1 The emissions from these emission units shall not exceed the allowable emission rates listed in Table 1-1 Air Pollutant Standards and Terms (attached).

B.2 In order to minimize excess emissions during startup/shutdown/malfunction these emission units shall adhere to best operational practices. **[Rule 62-210.700,F.A.C.]**

CONTROL EQUIPMENT

B.3 The BACT determination requires the installation of a packed crossflow scrubber for control of gaseous fluoride and particulate matter emissions. The permittee shall submit the necessary scrubber efficiency calculations and drawings to the Department for approval prior to modifying the existing scrubber. **[Rule 62-212.400(6).,F.A.C.]**

B.4 The following scrubber operating parameters shall be monitored during any compliance test and a summary of this data shall be included in any emissions test report. **[Rule 62-4.070(3), F.A.C.]**

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

B.5 To provide reasonable assurance of compliance with Specific Condition B.1, Cargill shall create and keep a record log of the scrubber operating parameters. 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. A record log entry shall be made at least once for every 8 hour shift that the animal feed ingredient plants operate. The record log shall be maintained at the facility and shall be retained at least three years from the date of the measurement. **[Rule 62-4.070(3), F.A.C.]**

B.6 Cargill may, at its option, substitute continuous monitoring and strip chart recordings for the manual recordkeeping required by Specific Condition B.5. If this option is exercised, then all calibration and maintenance records and recorded data shall be retained at least three years. **[Rule 62-4.070(3), F.A.C.]**

OPERATIONAL LIMITATIONS

B.7 Animal Feed Plant No. 1 and No. 2 is allowed to operate continuously (8760 hours/year) **[Rule 62-210.200, F.A.C. Definitions-Potential to emit (PTE)].**

Process operating rates:

B.8 The combined maximum production rates for Animal Feed Plants No. 1 and No. 2 shall not exceed 1160 TPD and 300,000 TPY **[Rule 62-210.200, F.A.C.,(PTE)]**

B.9 The dryers for each Animal Feed Plant shall be fired with natural gas as primary fuel or with new No. 2 fuel oil having a maximum sulfur content not to exceed 0.5% by weight as standby during natural gas curtailment at a maximum of 400 hours/year. The maximum natural gas usage for the two dryers combined shall not exceed 93,000 cubic feet/hour (annual avg.). The maximum new No. 2 fuel oil usage for the two dryers combined shall not exceed 662 gallons/hour (daily avg.). Use of fuels other than those listed above is prohibited **[Rule 62-210.200, F.A.C.,(PTE)]**

TEST METHODS AND PROCEDURES

B.10 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. Compliance Requirements (attached). **[Rules 62-204.800, 62-297.400, and 62-297.401, F.A.C.]**

B.11 In conducting the initial or annual compliance tests, the permittee shall use as reference methods and procedures the test methods in Rule 62-297.401, F.A.C., or other methods and procedures as specified in this permit. No other test method shall be used unless approval from the Department has been received in writing **[Rules 62-297.400, and 62-297.620, F.A.C.].**

B.12 Compliance with the particulate matter, fluoride and nitrogen oxides standards contained in Table 1 (attached) shall be determined using EPA Method 5, EPA Methods 13A, 13B or the modified 13B and EPA Method 7E respectively. **[Rules 62-204.800 and 62-297.401, F.A.C.].**

B.13 The initial compliance test for fluoride shall be conducted by performing nine test runs (3 tests). The first three runs shall be completed within five hours of adding DE to the batch tank. The remaining six runs shall be evenly spaced for the remainder of the batch cycle. The three consecutive runs will be averaged (3 data points for the nine runs) to demonstrate compliance with the proposed fluoride emissions limit.

The test run frequency may be reduced after the initial compliance test, if justified, based on the results of the initial compliance test. **[Rule 62-297.310, F.A.C.].**

B.14 The visible emissions test shall be conducted by a certified observer and be a minimum of 30 minutes in duration. **[Rule 62-297.310 (7), F.A.C.]**

B.15 Test results will be the average of three valid one-hour runs. The HCEPC office in Tampa will be notified at least 15 days in writing in advance of the compliance test(s). The notification shall include the compliance test date, time, and place of such test, and the facility contact person for the test. **[Rule 62-297.310 F.A.C.]**

B.16 Operating procedures shall include good combustion practices. The good combustion practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. **[Rule 62-4.070(3), F.A.C.].**

RECORDKEEPING AND REPORTING REQUIREMENTS

B.17 The following fuel records shall be maintained and made available upon request:

1. Liquid Fuels

(a) The fuel type (number) and usage rate in gal/day;
(b) Records of the sulfur content and heating value (Btu/gal) of each oil shipment based upon analysis of a sample representative of the shipment

2. Natural Gas

(a) The fuel usage rate in cubic feet per day.

B.18 Two copies of the results of the emission tests for the pollutants listed in Condition B.1 for these emission units shall be submitted within forty-five days of the last sampling run to the HCEPC office in Tampa. Reports shall be in a format consistent with and shall include the information in accordance with Rule 62-297.310 (8), F.A.C. **[Rule 62-.297.310(8), F.A.C.]**

Daily Operation and Maintenance (O&M) Log:

B.19 This facility shall maintain a file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily O&M log to include, at a minimum, the following information

- the data collected from in-stack monitoring instruments;
- the records on daily feed rates and production rate;
- the amount and type of fuel burned per affected unit;
- the results of all source tests; and,
- Fuel analysis data.

All measurements, records, and other data required to be maintained by Cargill, shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. The HCEPC office in Tampa shall be notified in writing at least 15 days prior to the testing (auditing) of any instrument required to be operated by these specific conditions of certification in order to allow witnessing by authorized personnel **[Rule 62-4.070(3), F.A.C.]**

SUBSECTION C. SPECIFIC CONDITIONS:

The following Specific Conditions apply to the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
079	Diatomaceous Earth Silo
080	Limestone Silo
081	Animal Feed Plant Loadout System

EMISSION LIMITATIONS

C.1 The emissions from these emission units shall not exceed the allowable emission rates listed in Table 1-1 Air Pollutant Standards and Terms (attached). Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, and because these sources are equipped with a baghouse control device, the Department, pursuant to the authority granted under Rule 62-296.711(3)(c), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test. **[Rule 62-296.711(3)(c), F.A.C]**

C.2 In order to minimize excess emissions during startup/shutdown/malfunction this emission units shall adhere to best operational practices. **[Rule 62-210.700,F.A.C.]**

OPERATIONAL LIMITATIONS

C.3 The Diatomaceous Earth Silo and the Limestone Earth Silo are allowed to operate continuously (8760 hours/year). Animal Feed Plant Loadout System is allowed to operate 3500 hours/year **[Rule 62-210.200, F.A.C. Definitions-Potential to emit (PTE)]**

TEST METHODS AND PROCEDURES

C.4 The visible emissions test shall be conducted by a certified observer and be a minimum of 30 minutes in duration. **[Rule 62-297.310 (7), F.A.C.]**

SECTION III. EMISSION UNITS SPECIFIC CONDITIONS

Daily Operation and Maintenance (O&M) Log:

C.5 This facility shall maintain a file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily O&M log to include, at a minimum, the following information

- the results of all source tests;
- calibration logs for all instruments required by Common Specific Condition 4.1 and ;
- maintenance/repair logs for any work performed on equipment or instrument which is subject to this permit.

All measurements, records, and other data required to be maintained by Cargill, shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. **[Rule 62-4.070(3), F.A.C].**

Table 1-1. Air Pollutant Standards and Terms.

FACILITY ID NUMBER: 0570008

Permittee:
Cargill Fertilizer, Inc.
Animal Feed Ingredient Plant

DRAFT Permit No.: 0570008-013-AC

Emission Unit 078/103 - AFI No. 1/AFI No. 2
Emission Unit 079/080/081 - DE Silo/Limestone Silo/Loadout System

E.U. ID#	Description	Pollutant ID	Fuel(s)	gr/dscf	lb/ton P_2O_5	lb/hr	TPY	Regulation(s)
078	AFI No. 1	PM/PM_{10}	Gas/Oil	N/A	N/A	6.00	26.28	Rule 62-212.410, F.A.C.
078	AFI No. 1	F	Gas/Oil	N/A	0.04	7.70 lb/batch	1.63	Rule 62-212.410, F.A.C.
078	AFI No. 1	NO_x	Gas/Oil	N/A	N/A	6.50	28.42	Rule 62-212.410, F.A.C.
078	AFI No. 1	20% VE	Gas/Oil	N/A	N/A	N/A	N/A	Rule 62-204.800, F.A.C.
103	AFI No. 2	PM/PM_{10}	Gas/Oil	0.01	N/A	6.00	26.28	Rule 62-212.410, F.A.C.
103	AFI No. 2	F	Gas/Oil	N/A	0.04	7.70 lb/batch	1.63	Rule 62-212.410, F.A.C.
103	AFI No. 2	NOx	Gas/Oil	N/A	N/A	6.50	28.42	Rule 62-212.410, F.A.C.
103	AFI No. 2	20% VE	Gas/Oil	N/A	N/A	N/A	N/A	Rule 62-204.800, F.A.C.
079	DE Silo	5% VE	N/A	0.02	N/A	0.09	0.39	Rule 62-297.620(4), F.A.C.
080	Limestone Silo	5% VE	N/A	0.02	N/A	0.12	0.52	Rule 62-297.620(4), F.A.C.
081	Loadout System	5% VE	N/A	0.02	N/A	2.22	3.89	Rule 62-297.620(4), F.A.C.

ALLOWABLE OPERATING RATES

		AFI No.1	AFI No. 2	DE Silo	LIMESTONE Silo	LOADOUT System
Hours of operation	hr	8760	8760	8760	8760	3500
Production rate	TPD	580	580	N/A	N/A	N/A

Table 2-1. Compliance Requirements.

FACILITY ID NUMBER:	0570008

Permittee:
Cargill Fertilizer, Inc.
Animal Feed Ingredient Plant

DRAFT Permit No.: No.: 0570008-013-AC

E.U. ID#	Description	Pollutant Name or parameter	Fuel(s)	EPA/Reference Method *	Testing Time Frequency	Min. Compliance Test Duration
078 & 103	AFI No.1 & No.2	PM/PM_{10}	Gas/Oil	5	initial/annual	3hr
078 & 103	AFI No.1 & No.2	VE	Gas/Oil	9	annual	1/2 hr
078 & 103	AFI No.1 & No.2	NO_x	Gas/Oil	7E	initial	3hr
078 & 103	AFI No.1 & No. 2	F	Gas/Oil	13A or B or Mod. 13B	initial/annual	3hr
079	DE Silo	VE	N/A	9	initial/annual	1/2 hr
080	Limestone Silo	VE	N/A	9	initial/annual	1/2 hr
081	Loadout System	VE	N/A	9	initial/annual	1/2 hr

Notes:

[1] Testing of emissions shall be conducted while burning natural gas.
[2] Both AFI plants are allowed to burn No. 2 fuel oil with a maximum sulfur content of 0.5% by weight for 400 hours as auxiliary fuel. See specific condition No. B9.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

DRAFT

CARGILL FERTILIZER, INC.
ANIMAL FEED INGREDIENT PLANT
PSD-FL-234 and 0570008-013-AC
Hillsborough County

The applicant, Cargill Fertilizer, Inc.,(Cargill) requested to revise the allowable emissions limits for particulate matter (PM/PM_{10}) at their existing Animal Feed Ingredient (AFI) Plant No. 1. Cargill also requested to construct a second AFI plant, designated as AFI Plant No. 2, which will increase the production rate of the AFI plant from 150,000 tons/year (TPY) to 300,000 TPY. The original AFI project constituted a minor modification to an existing major source. Since an alteration in federally enforceable permit restrictions is being requested, air permitting source applicability is determined as though construction had not yet commenced on the AFI plant [Rule 62-212.500(2)(d)5]. The proposed modification at Cargill will result in significant net emissions increase for particulate matter/particulate matter less than or equal to 10 micrometers (PM/PM_{10}), fluorides (F) and nitrogen oxides (NO_x), and prevention of significant deterioration (PSD) new source review will be required for these pollutants.

This facility has a maximum combined production rate of 1160 ton per day (AFI No. 1 & 2) of animal feed product (AFP). This facility consists of defluorinated acid batch tanks (3), pug mill, dryer and cooler/classifier along with diatomaceous earth and limestone unloading systems, and the AFI loadout system. A process description is included in the Technical Evaluation and Preliminary Determination.

Following is the BACT determination proposed by the applicant:

BACT DETERMINATION REQUESTED BY THE APPLICANT:

POLLUTANT	EMISSION LIMIT
PM/PM10 (Material Handling Sources)	0.02 gr/dscf by baghouses
PM/PM10 (Process Equipment)	6.0 lb/hr by wet scrubber
F	0.04 lb/ton P_2O_5 input
NO_x	Low nitrogen containing fuels Combustion Control

The animal feed plant uses a combination of baghouses, cyclones and wet scrubbers to control PM/PM_{10} emissions. Baghouses are used to control all raw material (diatomaceous earth and limestone) handling operations, as well as product loadout operations. PM/PM_{10} emissions from the

animal feed dryers and cooler/classifier systems are controlled by cyclones followed by a wet scrubber.

Fertilizer Manufacturing plants are among the major facilities listed in Florida Administrative Code (F.A.C.) Chapter 62-212, Prevention of Significant Deterioration (PSD), Table 212.400-1, "Major Facilities Categories." A BACT determination is required for each pollutant exceeding the significant emission rates in Table 212.400-2, "Regulated Air Pollutants Significant Emissions Rates," which in this case are particulate matter (PM/PM10), fluoride (F) and nitrogen oxides (NO_x).

DATE OF RECEIPT OF A BACT APPLICATION:

July 17, 1996

REVIEW GROUP MEMBERS:

Syed Arif and A. A. Linero of the New Source Review Section.

BACT Determination Procedure

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determination of any other state.

(d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically infeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from this facility can be grouped into categories based upon the control equipment and techniques that are available to control emissions from these emission units. Using this approach, the emissions can be classified as follows:

- Combustion Products (e.g., SO_2, NO_X, PM). Controlled generally by good combustion of clean fuels, reactions with clinker and raw materials, removal in add-on control equipment.

- Products of Incomplete Combustion (e.g., CO, VOC). Control is largely achieved by proper combustion techniques.

- Emissions from materials handling, conveyance, and storage (primarily PM). Controlled generally by fabric filters and reasonable precautions.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "non-regulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., PM, SO_2, H_2SO_4, fluorides, etc.), if a reduction in "non-regulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

Particulate Matter (PM, PM_{10})

Particulate Matter is generated by the material handling sources and process equipment from this facility. Baghouses are used to control all raw material (diatomaceous earth and limestone) handling operations, as well as product loadout operations. Baghouse technology represents the state of the art in control of PM/PM_{10} emissions for material handling sources. Baghouses are highly efficient and allow collected PM to be recovered as product. Baghouse technology is proposed as BACT for the material handling sources within the animal feed plants. ***The proposed BACT emission level for the material handling sources is 0.02 gr/dscf for each baghouse.***

PM emissions from the animal feed dryers and cooler/classifier systems are controlled by cyclones followed by a wet scrubber. This combination provides for a high overall PM collection efficiency. The cyclones allow for recovery of product in a dry form, with subsequent recycling back to the process. The wet venturi scrubber control is an efficient control device and is the most appropriate technology for gas streams that contain a significant amount of moisture. ***The proposed BACT emission level for the process equipment is 6.0 lb/hr for the wet venturi scrubber.***

Common control devices include settling chambers, inertial separators, impingement separators, wet scrubbers, fabric filters, and electrostatic precipitators. Fabric filters (baghouses) and electrostatic precipitator (ESPs) are generally considered equivalent for particulate control. Both types of devices can achieve removal efficiencies of over 99%. Both types of control equipment provide for the recovery/recycling of collected dust back into the process stream. Baghouses are also used to control particulate emissions from most other material processing operations at fertilizer manufacturing plants.

Common controls to limit particulate emissions from fugitive sources (such as roadways, stockpiles, and material processing and conveying equipment) include wet suppression, sweeping, application of surfactants, paving of roads and covering of stockpiles to reduce wind erosion. Wet suppression of fugitive particulate emissions is considered as BACT for most material handling operations and unpaved roads. Dust from stockpiles can be minimized by relatively high material moisture content with additional water spraying as necessary.

A review of the BACT Clearinghouse shows that baghouses and scrubbers are widely used to control particulate matter from process emission units at fertilizer manufacturing plants. They are commonly accepted as BACT.

Fluorides (F)

AFI Plant No. 1, when originally permitted in 1994, was subject to Rule 62-296.403(1)(I), which requires BACT for fluorides. Consequently, AFI Plant No. 1 underwent a BACT determination. The resulting BACT was determined to be a wet cross-flow scrubbers/demisters utilizing pond water as the scrubbing medium and discharging to a common stack. The BACT emission limit from the defluorination systems, reactor/granulation system and the dryer was 0.04 lb/ton of phosphate pentoxide (P_2O_5) input (0.53 lb/hr or 1.63 TPY).

AFI Plant No. 2 is proposing to add a third acid batch tank and an additional acid heater to meet a fluoride emission limit identical to AFI Plant No. 1. The existing AFI Plant No. 1 scrubber will be modified to accomodate two batch tanks defluorinating acid at any one time. ***The BACT emission limit from the defluorination systems, reactor/granulation system and the dryer***

discharging to a common stack for AFI Plant No. 1 is 0.04 lb/ton of P_2O_5 input (0.53 lb/hr or 1.63 TPY).

Nitrogen Oxides (NOx)

In the animal feed plant, NO_x is created during the combustion of natural gas, the primary fuel, or No. 2 fuel oil, the backup fuel. The fuel combustion takes place in the rotary dryer, which dries the wet granulated animal feed product. The use of natural gas, which contains no fuel bound nitrogen, and No. 2 fuel oil, which contains low fuel bound nitrogen levels, result in low NO_x emissions relative to burning of other types of fossil fuel, such as No. 6 fuel oil or coal. Good combustion practices are implemented to achieve the highest combustion efficiency. While this reduces fuel consumption and lowers carbon monoxide and volatile organic compounds emissions, higher NO_x emissions can result. However, the level of NO_x emissions (57 TPY) are relatively low, and do not warrant further reduction.

Phosphate fertilizer plants typically have several rotary dryers located throughout the plant, such as those associated with DAP, MAP and GTSP production. Although several add-on NO_x control technologies are potentially available for application to rotary dryers, these are not known to have been applied in the phosphate industry. These technologies include flue gas recirculation, selective non-catalytic reduction (SNCR by ammonia or urea injection), and selective catalytic reduction (SCR).

Based on the low NO_x emissions from the expanded animal feed plant, the use of low nitrogen containing fuels (natural gas and No. 2 fuel oil) and good combustion practices are proposed as BACT for NO_x emissions.

BACT Determination by DEP:

Based on the information provided by the applicant and the information searches conducted by the Department, a top-down BACT approach for PM/PM_{10}, F and NO_x was employed.

For **PM/PM_{10}** emissions, the Department accepts the applicant proposed 0.02 gr/dscf for material handling sources utilizing baghouses, and 6.0 lb/hr for process equipment utilizing venturi scrubber.

For **F** emissions, the Department is accepting the revised design as proposed by the applicant in a letter dated March 13, 1997. Based on the letter, the total fluoride emissions are calculated as 5.72 lb per batch for the 17-hour batch and 7.70 lb per batch for a 30-hour batch. Approximately 91 percent of the fluoride evolution from the batch tank occurs during the first 5 hours after the diatomaceous earth is added to the batch tank, with the remainder 9 percent being evolved over the

remaining hours of the batch. Using this basis and 7.70 lb per batch or 15.40 lb/2 batches, proper operation of the scrubber would be demonstrated if fluoride emissions during the stack test do not exceed 1.4 lb/hr/batch or 2.8 lb/hr/2 batches (average of first five hours after adding DE to a batch tank). In order to demonstrate compliance with **F** emissions, the Department is proposing a 9 test runs for the initial compliance test. The first 3 runs will be conducted in the first five hours after adding DE to a batch tank, and the remaining 6 runs will be evenly spaced for the remainder of the batch cycle. Each consecutive three runs will be averaged to constitute a test average. The test run frequency may be reduced after the initial compliance test, if justified, based on the results of the initial compliance test. The applicant is also required to submit the necessary scrubber efficiency calculations and drawings to the Department for approval prior to modifying the existing scrubber.

For **NO_x** emissions, the Department accepts the applicant proposed use of low nitrogen containing fuels and good combustion practices.

The BACT emission levels established by the Department are as follows:

Source	Pollutant Emission Limit
Common Stack (PM/PM10) AFI No. 1 or AFI No. 2 plant	6.0 lb/hr (26.28 TPY)
Common Stack (F) AFI No.1 or AFI No.2 plant	0.04 lb/ton of P_2O_5 input 1.4 lb/hr/batch or 2.8 lb/hr/2 batches (average of first 5 hours after DE addition) 7.70 lb/batch or 15.40 lb/2 batches
Common Stack (VE)	Visible emissions not to exceed 20% opacity
Minor points sources with baghouses	Visible emissions not to exceed 5% opacity

Compliance with the particulate emission limitations shall be in accordance with the EPA Reference Method 5 as contained in Appendix A, 40 CFR 60.

Compliance with the F limitations shall be in accordance with the EPA Reference Method 13A, 13B or Modified 13B as contained in Appendix A, 40 CFR 60.

Compliance with opacity standards (minor sources controlled by baghouses) shall be determined by conducting observations in accordance with 40 CFR 60, Appendix A, Method 9.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

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Recommended By:

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Date:

Approved By:

Howard L. Rhodes, Director
Division of Air Resources Management

Date: