

Memorandum

Florida Department of Environmental Protection

TO: Trina Vielhauer

THRU: Al Linero *AAL 2/11*

FROM: Syed Arif *Syed Arif*

DATE: February 11, 2004

SUBJECT: Cargill Fertilizer, Inc. – Riverview Plant
DEP File No. 0570008-044-AC, PSD-FL-336

Attached is the public notice package for Cargill to modify its existing No. 6 Granulation Plant (formerly EPP Plant). The No. 6 Granulation Plant is being modified to increase the ammoniated phosphates (AP) production rate, replace the reactor, dryer, and cooler, modify the control equipment configuration, and add a new stack that will be used along with the existing common plant stack. As a result of these changes, significant emission increases will occur for PM₁₀ and fluorides (F).

The project is therefore subject to the Prevention of Significant Deterioration (PSD) review for F and PM₁₀ in accordance with 62-212.400, F.A.C. A Best Available Control Technology (BACT) determination was conducted for these pollutants as required by Rules 62-212.400 and 62-296, F.A.C.

The BACT proposed by the applicant for PM/PM₁₀ and F were three medium-energy venturi scrubbers using scrubbing solution followed by an ammonia vaporizer and two tailgas scrubbers. The BACT limit established by the Department for F is the most stringent limit established to date for a MAP/DAP/GTSP plant.

February 11 is Day 6 for the project. The project is being ~~rushed through~~ ^{expedited} as requested by the applicant. Cargill is expecting this plant to start their turnaround cycle in the third week of March. They would like to start construction on this modification at that time. With a thirty days public notice period requirement, the Department accommodated Cargill's request by moving this project quickly. The Department will be in a position to issue the final permit prior to the start of the turnaround cycle if no adverse comments are received from the public.

I recommend your approval and signature.

AAL/sa

Attachments



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

P.E. Certification Statement

Permittee:
Cargill Fertilizer, Incorporated
Riverview Facility

DEP File No. 0570008-044-AC
Permit No. PSD-FL-336

Project type: The No. 6 Granulation Plant is being modified to increase the ammoniated phosphates (AP) production rate, replace the reactor, dryer, and cooler, modify the control equipment configuration, and add a new stack that will be used along with the existing common plant stack. As a result of these changes, significant emission increases will occur for PM_{10} and F. The BACT limit of 0.035 lb/ton P_2O_5 input proposed for fluorides by the Department is the most stringent limit established to date for a fertilizer plant that manufactures mono-ammonium phosphate, di-ammonium phosphate or granular triple super phosphate. An air quality impact analysis was required for particulate matter.

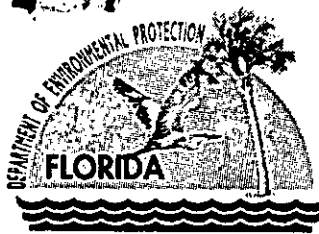
I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).

Syed Arif 2/11/04
Syed Arif, P.E. Date
Registration Number: 51861

Department of Environmental Protection
Bureau of Air Regulation
Permitting South Section
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Phone (850) 488-0114
Fax (850) 922-6979

"More Protection, Less Process"

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Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

February 11, 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. E. O. Morris
Vice President
Cargill Fertilizer, Incorporated
8813 U.S. Highway 41 South
Riverview, Florida 33569

Re: DRAFT Permit No. 0570008-044-AC (PSD-FL-336)
No. 6 Granulation Plant
Riverview Facility

Dear Mr. Morris:

Enclosed is one copy of the Draft Air Construction Permit for modification of the Riverview Facility, located at 8813 U.S. Highway 41 South, Riverview, Hillsborough County, Florida. The Technical Evaluation and Preliminary Determination, Best Available Control Technology, the Department's Intent to Issue PSD Air Construction Permit and the "PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT" are also included.

The "PUBLIC NOTICE" must be published one time only, as soon as possible, in the legal advertisement section of a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication 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, Permitting South Section at the above letterhead address. If you have any other questions, please contact Syed Arif, P.E., at 850/921-9528 or Mr. Linero at 850/921-9523.

Sincerely,

Trina L. Vielhauer., Chief,
Bureau of Air Regulation

TLV/sa

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an

Application for Permit by:

Mr. E. O. Morris, V.P. of Environment, Health & Safety
Cargill Fertilizer, Inc.
8813 U.S. Highway 41 South
Riverview, Florida 33569

DEP File No. 0570008-044-AC
Draft Permit No. PSD-FL-336
Riverview Facility
Hillsborough County

INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue a Prevention of Significant Deterioration (PSD) air construction permit (copy of DRAFT Permit attached) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Cargill Fertilizer, Inc., submitted an application on October 17, 2003 (complete on February 5, 2004) to the Department for a PSD permit to modify the EPP Plant (to be renamed the No. 6 Granulation Plant) at its phosphate fertilizer manufacturing facility located in Riverview. The facility is located at 8813 U.S. Highway 41 South, Riverview, Hillsborough County, Florida.

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 a review for the Prevention of Significant Deterioration (PSD), a determination of Best Available Control Technology (BACT) and a PSD permit are required for the proposed work.

The Department intends to issue this Air Construction Permit 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 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed "PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT." The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. 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. 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: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the Final PSD Permit in accordance with the conditions of the attached Draft PSD 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 a public meeting concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the Draft PSD Permit, the permitting authority shall issue a Revised Draft PSD Permit and require, if applicable, another Public 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., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes 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. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall 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 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 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

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. 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. Mediation is not available in this proceeding.

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.



Trina L. Vielhauer, Chief
Bureau of Air Regulation

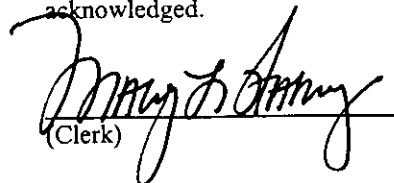
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE PSD PERMIT (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, Draft BACT Determination, and the DRAFT permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 2/13/04 to the person(s) listed:

E. O. Morris, Cargill Fertilizer, Inc.*
Gregg Worley, EPA
John Bunyak, NPS
Gerry Kisse, DEP-SWD
Jerry Campbell, HCEPC
David Buff, Golder Associates, Inc.

Clerk Stamp

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


(Clerk) 2/13/04
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP File No. 0570008-044-AC (PSD-FL-336)
Riverview Facility
Cargill Fertilizer, Incorporated
Hillsborough County

The Department of Environmental Protection (Department) gives notice of its intent to issue a Prevention of Significant Deterioration (PSD) air construction permit to Cargill Fertilizer, Inc. to modify an existing emissions unit at its Riverview Phosphate Fertilizer Facility located in Riverview, Florida. A Best Available Control Technology (BACT) determination was required for fluorides (F) and particulate matter less than or equal to 10 micrometers (PM₁₀) pursuant to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD). The applicant's name and address are Cargill Fertilizer, Inc., 8813 U.S. Highway 41 South, Riverview, Florida 33569.

Cargill applied on October 17, 2003 (application complete on February 5, 2004) to modify its existing No. 6 Granulation Plant (formerly EPP Plant). The No. 6 Granulation Plant is being modified to increase the ammoniated phosphates (AP) production rate, replace the reactor, dryer, and cooler, modify the control equipment configuration, and add a new stack that will be used along with the existing common plant stack. As a result of these changes as proposed by the applicant, significant emission increases will occur for PM₁₀ and F. The annual increases, adjusted for contemporaneous emission changes over the last five years, are approximately: 0 tons per year (TPY) Sulfur Dioxide (SO₂), 0 TPY NO_x, 93 TPY Carbon Monoxide (CO), 16 TPY PM, 16 TPY PM₁₀, 16 TPY Volatile Organic Compounds, 7 TPY Total Reduced Sulfur, 0 TPY Sulfuric Acid Mist, and 4 TPY F.

The Department proposes the following as BACT for this project:

No. 6 Granulation Plant [formerly Enhanced Phosphates Products (EPP) Plant]

PM/PM ₁₀	12.9 lb/hr, 56.4 TPY for AP Mode; 6.4 lb/hr, 27.8 TPY for GTSP Mode	0.15 lb/ton P ₂ O ₅ input	(3) Medium-energy Venturi scrubbers using scrubber solution followed by an ammonia vaporizer and (2) tailgas scrubbers
VE	20% opacity	Prior Permits	
F	3.0 lb/hr, 13.2 TPY for AP Mode; 1.5 lb/hr, 6.5 TPY for GTSP Mode	0.035 lb/ton P ₂ O ₅ input	(3) Medium-energy Venturi scrubbers using scrubber solution followed by an ammonia vaporizer and (2) tailgas scrubbers

The BACT limit of 0.035 lb/ton P₂O₅ input proposed for fluorides by the Department is the most stringent limit established to date for a fertilizer plant that manufactures mono-ammonium phosphate, di-ammonium phosphate or granular triple super phosphate. This BACT limit will reduce the fluorides emissions increase below the PSD significant emission rate of 3 TPY.

An air quality impact analysis was conducted. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standards. The maximum predicted PM₁₀ annual PSD Class II increments in the vicinity of the project consumed by all sources in the area, including this project, will be as indicated below:

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

Averaging Time	Allowable Increment ($\mu\text{g}/\text{m}^3$)	Increment Consumed ($\mu\text{g}/\text{m}^3$)	Percent Consumed
PM ₁₀ Annual	17	<0	0

There were no significant impacts predicted for the PSD Class I Chassahowitzka National Wilderness Area located 86 km to the north-northwest. Based on the required increment analyses, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any PSD increment in the Class I or Class II areas.

The permitting authority has determined that a PSD Air Construction Permit is required. The Department will issue the Final PSD Air Construction Permit in accordance with the conditions of the Draft PSD Air Construction 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 a public meeting concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public 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., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes 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. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall 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 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 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

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. 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 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:

Dept. of Environmental Protection	Dept. of Environmental Protection	Hillsborough County
Bureau of Air Regulation	Southwest District	Environmental
Suite 4, 111 S. Magnolia Drive	3804 Coconut Palm Drive	Protection Commission
Tallahassee, Florida, 32301	Tampa, Florida 33619-8218	1900 Ninth Avenue
Telephone: 850/488-0114	Telephone: 813/744-6100	Tampa, Florida 33605
Fax: 850/922-6979	Fax: 813/744-6084	Telephone: 813/272-5960
		Fax: 813/272-5157

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, Permitting South Section at 111 South Magnolia Drive, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

CARGILL FERTILIZER, INC.
RIVERVIEW FACILITY
Hillsborough County, Florida

No. 6 Granulation Plant

DEP File No. 0570008-044-AC
PSD-FL-336

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation

February 11, 2004

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

I. Application Information

A. Applicant

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

Authorized Representative: Mr. E. O. Morris, Vice President of Environment, Health and Safety

B. Request

The Department received a complete application on February 5, 2004, to modify the existing Enhanced Phosphates (EPP) Plant at its phosphate fertilizer manufacturing facility located in Riverview, Florida. The plant will be renamed the No. 6 Granulation Plant. The proposed changes will include:

- Increase in ammoniated phosphates (AP) process rate from 1,104 TPD to 2,060 TPD P_2O_5 input.
- Replacement of Nos. 1 and 2 reactors with a new larger reactor.
- Replacement of the existing rotary cooler with a modified cooler.
- Convert the existing reactor/granulator, cooler, and equipment vents (RGCV) tailgas scrubber into a dryer tailgas scrubber.
- A new ammonia vaporizer will scrub the RGV exit gases in lieu of a tailgas scrubber.
- Addition of a new dryer venturi scrubber.
- Addition of a new cooler venturi scrubber.
- Convert the existing dryer tailgas scrubber into a cooler tailgas scrubber.
- Add one new stack, in addition to the existing stack.
- Addition of sulfuric acid to the reactor and granulator.
- Addition of a sulfur feed tank inside the EPP Plant building, evacuated to the RGV scrubber system. Cargill applied for, and was approved for installation of this sulfur feed tank in Permit No. 0570008-036-AC. It was planned to install the sulfur feed tank outside of the EPP Building. Cargill is now planning to install it inside instead and vent it through the RGV scrubber.
- The EPP Plant will be renamed the No. 6 Granulation Plant.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

C. Facility Location

The applicant's facility is located at 8813 U.S. Highway 41 South, Riverview, Hillsborough County, Florida. Latitude and longitude are 27/51/28 and 82/23/15 respectively. UTM coordinates of the site are: Zone 17, 362.9 km E and 3082.5 km N.

Facility Identification Code (SIC): Major Group No. 28, Industry Group No. 2874.

D. Reviewing and Process Schedule

10-17-2003: Date of receipt of Application
11-05-2003: DEP's 1st Completeness Request
11-14-2003: DEP's 2nd Completeness Request
02-05-2004: Applicant's response to DEP's 1st and 2nd Completeness Request
02-05-2004: Application Complete

E. Facility Description

This existing facility consists of one phosphoric acid plant (two trains), one diammonium phosphate (DAP) plant, one GTSP/DAP plant, two monoammonium phosphate (MAP) plants, three sulfuric acid plants, one sodium silicofluoride/sodium fluoride plant, two GTSP storage buildings, one material handling system, one phosphate rock unloading, drying and grinding system, one auxiliary boiler, one animal feed plant, and a molten sulfur storage and handling system.

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 TPY.

This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions from the facility are greater than 100 TPY for at least one criteria pollutant, the facility is also a major facility with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD). PSD Review and a BACT determination are required for each pollutant emitted in excess of the Significant Emission Rates listed in Table 62-212.400-2, F.A.C. These values are: 3 TPY for Fluoride, 40 TPY for NO_x, SO₂, and VOC; 25/15 TPY of PM/PM₁₀; 7 TPY of Sulfuric Acid Mist (SAM); and 100 TPY of CO.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

II. Project Description/Emissions

The existing Enhanced Phosphates Plant (EPP) will be modified by making changes to the reactor and cooler systems. A pipe reactor will be installed to operate in parallel with the new reactor. Sulfuric acid will be added to the reactor and granulator for the production of AP fertilizers with sulfur. The existing rotary dryer will be converted to a rotary cooler. A molten sulfur feed tank (5,000 gallon) is also being added inside of the No. 6 Granulation Plant building that will evacuate to the RGV scrubber system. Molten sulfur will be fed at a maximum rate of 15 TPH.

Cargill is modifying the existing control equipment and stack configuration. The existing common plant stack will be operated in conjunction with a new stack.

Cargill is also increasing the AP process rate from 1,104 tons per day (TPD) to 2,060 TPD P_2O_5 input, equivalent to production rates of 2,400 and 4,478 TPD AP, respectively. The maximum GTSP process rate of 1,016 TPD P_2O_5 input, equivalent to a GTSP production rate of 2,208 TPD, will not change.

The plant will be renamed the No. 6 Granulation Plant.

A. Project Emissions

The following table compares the current actual emissions to the applicant's proposed maximum emissions in tons/year:

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Table 3-3. Contemporaneous and Debottlenecking Emissions Analysis and PSD Applicability

Source Description	Pollutant Emission Rate (TPY)								
	SO ₂	NO _x	CO	PM	PM ₁₀	VOC	TRS	SAM	Fluoride
<u>Potential Emissions From Modified/New/Affected Sources</u>									
Phosphoric Acid Plant ^b	--	--	--	--	--	--	--	--	8.90
Modified No. 6 Granulation Plant (EPP Plant) ^a	8.11	35.04	29.43	56.39	56.39	1.93	--	0.14	15.04
Material Handling System ^b	--	--	--	19.82	19.58	--	--	--	--
Molten Sulfur Tank ^b	0.66	--	--	0.85	0.85	0.47	0.32	--	--
<u>Total Potential Emission Rates</u>	8.77	35.04	29.43	77.06	76.82	2.40	0.32	0.14	23.94
<u>Actual Emissions from Current Operations^c</u>									
Phosphoric Acid Plant	--	--	--	--	--	--	--	--	8.90
EPP Plant	8.11	35.04	29.43	52.60	52.60	1.93	--	0.14	10.80
Material Handling System	--	--	--	7.83	7.60	--	--	--	--
Molten Sulfur Tank	0.66	--	--	0.85	0.85	0.47	0.32	--	--
<u>Total Actual Emission Rates</u>	8.77	35.04	29.43	61.28	61.05	2.40	0.32	0.14	19.70
TOTAL CHANGE DUE TO PROPOSED PROJECT	0.00	0.00	0.00	15.78	15.77	0.00	0.00	0.00	4.24
<u>Contemporaneous Emission Changes</u>									
A. MAP Plant Expansion (May 1998)	--	--	0.56	--	--	0.04	0.00	--	--
B. DAP Plant Cooler Upgrade (August 1998) ^d	--	--	0.00	--	--	0.00	0.00	--	--
C. Reconstruction of Molten Sulfur Tank No. 1 (February 1999)	--	--	0.00	--	--	2.01	1.35	--	--
D. Molten Sulfur Increase/Truck Loadout (pending)	--	--	0.00	--	--	0.23	0.15	--	--
E. Facility Expansion (November 2001)	e	e	92.18	e	e	14.05	5.31	e	e
<u>Total Contemporaneous Emission Changes</u>	0.00	0.00	92.74	0.00	0.00	16.33	6.81	0.00	0.00
TOTAL NET CHANGE	0.00	0.00	92.74	15.78	15.77	16.33	6.81	0.00	4.24
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	40	10	7	3
PSD REVIEW TRIGGERED?	No	No	No	No	Yes	No	No	No	Yes

Footnotes:

^a Total future potential emissions from Tables 2-1 and 2-3.

^b Debottlenecking analysis revealed that actual emissions from these sources could potentially increase as part of this project.

^c Refer to Table 2-4.

^d Project was determined to not result in an increase in emissions of any pollutant.

^e Denotes that PSD review was triggered for this pollutant; therefore any previous contemporaneous increases/decreases are wiped clean.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

III. Rule Applicability

A. Prevention of Significant Deterioration

The proposed project was reviewed under Rule 62-212.400(5), F.A.C., New Source Review (NSR) for Prevention of Significant Deterioration (PSD), because it will be a modification to a major stationary source resulting in a significant increase in PM₁₀ and fluoride emissions. This review consisted of a determination of Best Available Control Technology (BACT) and an analysis of the air quality impact of the increased emissions. The review also includes an analysis of the 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 PSD permit shall comply with all applicable provisions of the Florida Administrative Code 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 Deterioration Areas
Rule 62-204.800	Federal Regulations Adopted By Reference
Rule 62-210.200	Definitions
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
Chapter 62-213	Operation Permits for Major Sources of Air Pollution
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.400	Compliance Test Methods

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

B. Federal and State Emission Standards

The proposed project is subject to the applicable provisions of Chapter 403, Florida Statutes, Chapters 62-212 and 62-4, Florida Administrative Code (F.A.C.), and 40 CFR 60. The facility is located in an area designated attainment or maintenance for all criteria pollutants in accordance with F.A.C. Rule 62-275.400.

The No. 6 Granulation Plant is also subject to federal NSPS under 40 CFR 60, Subpart V and W. Subpart V regulates F emissions from DAP plants. Subpart W regulates F emissions from GTSP plants. The No. 6 Granulation Plant is also subject to the emission limitations of Rule 62-296.403(1)(d)(2) F.A.C. and Rule 62-296.403(1)(f) pertaining to fluoride emissions from phosphate processing plants. The MACT requirements of 40 CFR 63, Subpart BB applies to the No. 6 Granulation Plant. Subpart BB regulates F emissions from Phosphate Fertilizer Plants.

IV. Air Quality Analysis

Introduction

According to the application, the proposed project will increase emissions of two pollutants in excess of PSD significant amounts: PM_{10} and fluorides. PM_{10} is a criteria pollutant that has national and state ambient air quality standards (AAQS) and PSD increments defined for it. Fluorides is not a criteria pollutant and has no AAQS or PSD increments defined for it. Therefore, no AAQS or PSD increment air quality impact analysis was required for fluorides. Instead, the BACT determination will establish the fluoride emission limits for this project. For this project, the department's proposed BACT limit, which is the most stringent BACT limit to date for a MAP/DAP/GTSP plant, will reduce the fluorides emissions increase below the PSD significant emission rate. The PSD regulations require the following air quality analyses for this project:

- Significant impact analysis for PM_{10}
- PSD increment analysis for PM_{10}
- Ambient Air Quality Standards (AAQS) Analysis for PM_{10}
- Analysis of impacts on soils, vegetation, wildlife, visibility and growth-related air quality impacts for PM_{10} and fluorides.

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 significantly contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is

Cargill Fertilizer, Inc.
No. 6 Granulation Plant

DEP File No. 0570008-044-AC
PSD-FL-336

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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.

B. 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. The monitoring requirement may be satisfied by using 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 minimis* concentration. In addition, if EPA has not established an acceptable monitoring method for the specific pollutant, 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 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 predicted F impacts from the project are predicted to be above the *de minimis* level. Preconstruction ambient air quality monitoring would therefore be required for F. However, since there are no known existing F monitors in the vicinity of Cargill's Riverview facility and no AAQS for F emissions has been promulgated, pre-construction monitoring data is not required for F. Also as stated in the introduction to the air quality analysis, the department's proposed BACT determination will establish the lowest BACT limit for a MAP/DAP/GTSP plant to date, which will result in the F emissions increase being less than the PSD significance emission rate. Preconstruction ambient air quality monitoring is not required for PM₁₀. However,

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

background concentrations for PM₁₀ are presented to support the air modeling analysis. Existing monitoring data in the vicinity of the plant was used for this purpose. A PM₁₀ background concentration of 25 µg/m³ for the annual averaging time was established from these previously existing air quality data for use in the AAQS analysis required for PM₁₀.

**Maximum Project Air Quality Impacts for Comparison
to De Minimis Ambient Levels**

Pollutant	Avg. Time	Max Predicted Impact (µg/m ³)	De Minimis Level (µg/m ³)	Impact Above De Minimis?
PM ₁₀	24-hour	4.4	10	No
F	24-hour	1.1	0.25	Yes

Models and Meteorological Data Used in the Air Quality Impact Analysis

The applicant and the Department used the EPA-approved Industrial Source Complex Short-Term (ISCST3) dispersion model to evaluate the pollutant emissions from the proposed project. 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. Direction-specific downwash parameters were used for all sources for which downwash was considered.

Meteorological data used in the ISCST3 model consisted of a consecutive 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 1991 through 1995. 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.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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 in the 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.

Significant Impact Analysis

Initially, the applicant conducts modeling using only the proposed project's emissions changes. If this modeling shows significant impacts, further modeling is required to determine the project's impacts on the AAQS or PSD increments. To determine the PM₁₀ significant impact area for the proposed project, concentrations were predicted using a Cartesian grid, which consisted of the following:

- Property boundary receptors, spaced at 100-m intervals;
- Receptors from the property boundary to 1.5 km, spaced at 100-m intervals;
- Receptors from 2 to 5 km, spaced at 250-m intervals; and
- Receptors from 5 to 10 km, spaced at 500-m intervals.

All receptor locations are relative to the No. 9 Sulfuric Acid Plant stack location, an origin which has been used for this facility since the 1993 PSD report for the No. 9 Sulfuric Acid Plant. Cargill will take measures to ensure that all property boundaries are properly fenced or have other physical barriers (equivalent to a fence), and are properly posted and patrolled.

Thirteen discrete receptors were located in the Chassahowitzka National Wilderness Area (CNWA) which is a PSD Class I 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 compares maximum predicted impacts due to the project with PSD significant impact levels to determine whether significant impacts due to the project are predicted in the vicinity of the facility or in the CNWA. The tables below show the results of this modeling. A significant impact was predicted in the Class II area in the vicinity of the project for PM₁₀ for the annual averaging time only. Therefore, further annual average PM₁₀ AAQS and PSD increment analyses in the vicinity of the project were required for this project. All maximum predicted

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

PM₁₀ impacts were below the significant impact levels at the PSD Class I area. Therefore, a full PSD Class I incremental analysis was not required for this project.

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

Pollutant	Averaging Time	Maximum Predicted Impact (µg/m ³)	Significant Impact Level (µg/m ³)	Significant Impact
PM ₁₀	Annual	4.5	1	Yes
	24-hour	4.4	5	No

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

Pollutant	Averaging Time	Maximum Predicted Impact (µg/m ³)	Significant Impact Level (µg/m ³)	Significant Impact
PM ₁₀	Annual	0.00025	0.2	No
	24-hour	0.0135	0.3	No

AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding "background" concentrations to the maximum modeled concentrations for each pollutant and averaging time. The maximum modeled concentrations are based on the maximum allowable emissions from facility sources and all other sources in the vicinity of the facility. These "background" concentrations take into account all sources of a particular pollutant that are not explicitly modeled. The results of the AAQS analysis for annual average PM₁₀ 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 any AAQS.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Ambient Air Quality Impacts

Pollutant	Averaging Time	Modeled Sources Impact ($\mu\text{g}/\text{m}^3$)	Background Conc. ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	Florida AAQS ($\mu\text{g}/\text{m}^3$)	Total Impact Greater Than AAQS
PM ₁₀	Annual	20.1	25	45.1	50	No

PSD Class II Analysis

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant from a baseline concentration which was established in 1977 for PM₁₀ and SO₂ (the baseline year was 1975 for existing major sources of PM₁₀ and SO₂), and 1988 for NO₂ (the baseline year was 1988 for existing major sources of NO₂). The emission values that are input into the model for predicting increment consumption are based on maximum potential emissions from increment-consuming facility sources and all other increment-consuming sources in the vicinity of the facility. The maximum predicted PSD Class II area annual average PM₁₀ increments consumed by this project and all other increment-consuming sources in the vicinity of the facility are shown below.

PSD Class II Increment Analysis

Pollutant	Averaging Time	Maximum Predicted Impact ($\mu\text{g}/\text{m}^3$)	Allowable Increment ($\mu\text{g}/\text{m}^3$)	Impact Greater Than Allowable Increment
PM ₁₀	Annual	<0	17	No

There has been considerable PM₁₀ increment expansion in the area of the facility, therefore, the maximum projected impacts of this project along with all of the other increment-consuming sources in the area is still less than zero.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

PSD Class I Analysis

The proposed project's impacts were predicted to be less than the EPA proposed 24-hour and annual Class I significant impact levels for PM₁₀ at the CNWA PSD Class I area. A PSD Class I increment consumption analysis was therefore not required for PM₁₀. The table below shows the results of the PSD Class I significant impact modeling.

PSD Class I Significant Impact Analysis

Pollutant	Averaging Time	Maximum Predicted Impact ($\mu\text{g}/\text{m}^3$)	Proposed Significance Level ($\mu\text{g}/\text{m}^3$)	Impact Greater Than Significance Level?
PM ₁₀	24-hour	0.0135	0.3	No
	Annual	0.00025	0.2	No

Additional Impact Analysis

Impact Analysis Impacts On Soils, Vegetation, And Wildlife

The maximum ground-level concentrations predicted to occur from PM₁₀ emissions as a result of the proposed project, including background concentrations and all other nearby sources, were below the significant impact levels for 24-hour average PM₁₀ and less than the associated AAQS and PSD Class II increment levels for annual average PM₁₀. 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 due to PM₁₀.

There are no AAQS or PSD increment levels for F. However, F impacts were quantitatively predicted for comparison to vegetation injury levels. The predicted F concentrations were less than 1 percent of those that cause injury to the most sensitive plant species. In addition, since the predicted F concentrations are very low, no measurable accumulation of F will occur in vegetation that would be the prime forage of wildlife. Therefore, no significant adverse effects to wildlife will occur. No significant impact on soils is expected due to the low sensitivity of the soil types in the vicinity of the plant along with the extremely low ground-level concentrations

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

of F. As such, this project is not expected to have a harmful impact on vegetation, wildlife, or soils due to F emissions.

Impact On Visibility

A regional haze analysis was used to assess the potential for a significant increase in regional haze in the Class I CNWA due to this source's projected increase in emissions. A regional haze analysis to determine visibility impacts in the Class I area was required by the federal land manager. The results indicate that the impact of this project on visibility in the Class I area is insignificant.

Growth-Related Air Quality Impacts

The proposed modification will not significantly change employment, population, housing or commercial/industrial development in the area to the extent that a significant air quality impact will result.

V. Conclusion

Based on the foregoing technical evaluation of the application and additional information submitted by Cargill Fertilizer, Inc., the Department has made a preliminary determination that the proposed project will comply with all applicable state air pollution regulations provided that 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: Syed Arif, P.E. II
Meteorologist: Cleve Holladay

PERMITTEE:

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

File No.	0570008-044-AC
Permit No.	PSD-FL-336
SIC No.	2874
Project:	No. 6 Granulation Plant Modification
Expires:	December 1, 2006

Authorized Representative:

Mr. E. O. Morris
Vice President of Environmental, Health and Safety

PROJECT AND LOCATION:

Permit for increased ammoniated phosphates (AP) production rate and modification of the Enhanced Phosphates Products (EPP) Plant (to be renamed the No. 6 Granulation Plant). The project is located at the Cargill Fertilizer facility, 8813 US Highway 41 South, Riverview, Hillsborough County. UTM coordinates are 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, and 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 ARE MADE A PART OF THIS PERMIT:

- Appendix BD BACT Determination
- Appendix GC Construction Permit General Conditions

Michael G. Cooke, Director
Division of Air Resource
Management

SECTION I - FACILITY INFORMATION

FACILITY DESCRIPTION

Cargill Fertilizer, Inc. operates a phosphate fertilizer manufacturing facility near Riverview, Hillsborough County, Florida, producing sulfuric acid, wet-process phosphoric acid, ammoniated phosphate fertilizers and related products. The company has applied to increase the AP production rate and modify the existing Enhanced Phosphates Products (EPP) Plant (to be renamed the No. 6 Granulation Plant). As a result of these changes, increases in the actual particulate matter (PM), PM with an aerodynamic diameter of 10 microns or less (PM₁₀), and fluoride (F) will occur.

REGULATORY CLASSIFICATION

The Cargill Riverview Plant is classified as a "Major or Title V Source" per Rule 62-210.200, F.A.C., because it has the potential to emit at least 100 tons per year of particulate matter when potential fugitive emissions are included with potential controlled emissions.

Phosphate rock processing plants are listed as a Major Facility Category in Table 62-212.400-1, F.A.C., "Major Facility Categories." Therefore, stack and fugitive emissions of over 100 TPY of a regulated pollutant are sufficient to classify the installation as a "Major Facility" per the definitions in Rule 62-210.200, F.A.C., subject to the Significant Emission Rates given in Table 62-212.400-2, F.A.C. and the requirements of Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) and Best Available Control Technology (BACT).

The Cargill Riverview Facility is also classified as a "Major Source" per 40 CFR 63.2, Definitions (adopted and incorporated by reference by the Department at Paragraph 62-204.800(11)(d)) because it consists of a group of stationary sources located within a contiguous area and under common control that emit or have the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

The No. 6 Granulation Plant is subject to federal NSPS under 40 CFR 60, Subpart V and W. Subpart V regulates F emissions from DAP plants. Subpart W regulates F emissions from GTSP plants. The No. 6 Granulation Plant is also subject to the emission limitations of Rule 62-296.403(1)(d)(2) F.A.C. and Rule 62-296.403(1)(f) pertaining to fluoride emissions from phosphate processing plants. The MACT requirements of 40 CFR 63, Subpart BB applies to the No. 6 Granulation Plant. Subpart BB regulates F emissions from Phosphate Fertilizer Plants.

PERMIT SCHEDULE:

- 10-17-2003: Original Application Received
- 02-05-2004: Application Complete
- 02-xx-2004: Mailed Intent to Issue Permit
- 02-xx-2004: Notice published in the _____

SECTION I – FACILITY INFORMATION

RELEVANT DOCUMENTS:

The documents listed below are specifically related to this permitting action and form the basis of the permit. They are on file with the Department:

- Application received October 17, 2003
- Department's incompleteness letters dated November 5 and November 14, 2003
- Applicant's submittal received February 5, 2004
- Technical Evaluation and Preliminary Determination dated February 11, 2004
- Best Available Control Technology Determination (issued concurrently with permit)

SECTION II – ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department's Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8218. All applications for permits to construct or modify an emissions unit(s) *subject to the Prevention of Significant Deterioration or Nonattainment (NA) review requirements* should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), 2600 Blair Stone Road, MS 5505, Tallahassee, Florida 32399-2400 (phone number 850/488-0114).
2. General Conditions: The owner and operator is subject to and shall 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.]
3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-110, 62-204, 62-212, 62-213, 62-296, 62-297 and the Code of Federal Regulations Title 40, Part 60, adopted by reference in the Florida Administrative Code (F.A.C.) regulations. 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. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. Expiration: This air construction permit shall expire on December 1, 2006 [Rule 62-210.300(1), F.A.C.]. The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Department's Southwest District Office of any delays in completion of the project which would affect the startup day by more than 90 days. [Rule 62-4.090, F.A.C.]
6. Application for Title V Permit: An application for a Title V operating permit must be submitted ninety days before expiration of this construction permit, but no later than 180 days after commencing operation to the Department's Southwest District Office. [Chapter 62-213, F.A.C.]
7. Permit Approval: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21(r)(2)].
8. BACT Determination: In conjunction with extension of the 18 month periods to commence or continue construction, or extension of the permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determination of best available control technology for the source. [40 CFR 52.21(j)(4)]

AIR CONSTRUCTION PERMIT PSD-FL-336 (0570008-044-AC)
SECTION II – ADMINISTRATIVE REQUIREMENTS

9. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports using DEP Form 62-210.900(4) shall be sent to the DEP's Southwest District office by March 1st of each year.
10. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
11. Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7 (a)(7) (c) (1997 version), shall be submitted to the DEP's Southwest District office.
12. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

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**AIR CONSTRUCTION PERMIT PSD-FL-336 (0570008-044-AC)
SECTION III - EMISSION UNIT(S) SPECIFIC CONDITIONS**

The Specific Conditions listed in this section apply to the following emission unit:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
007	No. 6 Granulation Plant (formerly EPP Plant)

1. a. The process rate for the No. 6 Granulation Plant shall not exceed 1,016 tons per day of P₂O₅ input or 2,208 tons per day of GTSP (granular triple super phosphate) production. [Rule 62-210.200, F.A.C.]
- b. The process rate for the No. 6 Granulation Plant shall not exceed 2,060 tons per day of P₂O₅ input or 4,478 tons per day of AP (ammoniated phosphates) production. [Rule 62-210.200, F.A.C.]
2. The heat input rate to the rotary dryer shall not exceed 80 MMBtu/hr (daily average). [Rule 62-210.200, F.A.C.]
3. The No. 6 Granulation Plant rotary dryer shall be fired with natural gas only, except that No. 2 fuel oil with a maximum sulfur content of 0.5% by weight is allowed as back-up fuel. No. 2 fuel oil shall be fired for no more than 400 hr/yr. [Permit No. 0570008-014-AV]
4. The No. 6 Granulation Plant may operate up to 8,760 hours per year. [Rule 62-210.200, F.A.C.]
5. Particulate emissions from the No. 6 Granulation Plant shall not exceed the following [Rule 62-212.400, F.A.C.]:

Production Mode	lb/ton P ₂ O ₅ input	lb/hr	TPY
GTSP	0.15	6.35	27.81
AP	0.15	12.88	56.39

6. Fluoride emissions from the No. 6 Granulation Plant shall not exceed the following [Rule 62-212.400, F.A.C.]:

Production Mode	lb/ton P ₂ O ₅ input	lb/hr	TPY
GTSP	0.035	1.48	6.49
AP	0.035	3.00	13.16

AIR CONSTRUCTION PERMIT PSD-FL-336 (0570008-044-AC)
SECTION III - EMISSION UNIT(S) SPECIFIC CONDITIONS

7. Visible emissions from the No. 6 Granulation Plant shall not exceed 20% opacity. **[Rules 62-296.705(2)(a) and 62-296.320(4)(b)(1), F.A.C.]**
8. The compliance test procedures for particulates shall be in accordance with EPA Reference Methods 5 or 5A as published in 40 CFR 60, Appendix A. **[Rule 62-297.401(5), F.A.C.]**
9. The compliance test procedures for fluorides shall be in accordance with EPA Reference Methods 13A or 13B as published in 40 CFR 60, Appendix A. **[Rule 62-297.401(13), F.A.C.]**
10. Before this construction permit expires, and annually, the subject emissions unit shall be tested for compliance with the applicable emission limits. For the duration of all tests the emission units shall be operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the emission unit may be tested at less than permitted capacity (i.e., 90% of the maximum operating rate allowed by the permit); in this case, subsequent emission unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit. **[Rule 62-297.310, F.A.C.]**
11. The Department's Southwest District office shall be notified in writing at least 15 days prior to source testing. Written reports of the test results shall be submitted to that office within 45 days of test completion. **[Rule 62-297.310, F.A.C.]**
12. The compliance test procedures shall be in accordance with EPA Reference Methods 5, 9, and 13A or 13B, as appropriate, as published in 40 CFR 60, Appendix A, or as otherwise specifically authorized by the Department **[Rules 62-204.800 and 62-297.310(7)(c), F.A.C.]**
13. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. **[Rule 62-296.320, F.A.C.]**
14. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. **[Rule 62-210.650, F.A.C.]**
15. The subject emissions units shall be subject to the following:
 - Excess emissions resulting from startup, shutdown or malfunction of any source 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

AIR CONSTRUCTION PERMIT PSD-FL-336 (0570008-044-AC)
SECTION III - EMISSION UNIT(S) SPECIFIC CONDITIONS

no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700, F.A.C.]

- 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 startup, shutdown, or malfunction shall be prohibited. [Rule 62-210.700, F.A.C.]
 - Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest. [Rule 62-210.700, F.A.C.]
 - In case of excess emissions resulting from malfunctions, each source 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, F.A.C.]
16. Unless otherwise indicated, the modification/construction and operation of the No. 6 Granulation Plant shall be in accordance with the capacities and specifications stated in the application. [Rule 62-210.300, F.A.C.]

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Cargill Fertilizer, Inc.
No. 6 Granulation Plant Modification
PSD-FL-336/0570008-044-AC
Riverview, Hillsborough County

Cargill Fertilizer, Inc. has applied to modify an existing emission unit at its phosphate fertilizer manufacturing facility located in Riverview, Florida. The proposed changes will include increased AP production rate and modification of the EPP Plant (to be renamed the No. 6 Granulation Plant). As a result of this project, increases in emissions of fluoride (F), particulate matter (PM), and particulate matter less than or equal to 10 micrometers (PM₁₀) from the proposed modifications may occur.

The increases in emissions of F and PM₁₀ will exceed the significant emission rates listed in Table 212.400-2 of Rule 62-212.400, Florida Administrative Code (F.A.C.). The project is therefore subject to Prevention of Significant Deterioration (PSD) review for F and PM₁₀ in accordance with 62-212.400, F.A.C. A Best Available Control Technology (BACT) determination is part of the review required by Rules 62-212.400 and 62-296, F.A.C.

DATE OF RECEIPT OF COMPLETE BACT APPLICATION:

Original application received on October 17, 2003. BACT application was complete on February 5, 2004.

BACT DETERMINATION PROCEDURE:

In accordance with Chapter 62-212.400, 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:

- 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.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- 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 unfeasible 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.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

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 indicated below:

- **Fluorides** (primarily HF). Controlled generally by scrubbing with pond water.
- **Particulate Matter** (PM, PM₁₀). Controlled generally by wet scrubbing or filtration.
- **Combustion Products** (SO₂, NO_x). NO_x controlled generally by good combustion of clean fuels. SO₂ controlled generally by scrubbing when quantities are substantial.
- **Products of Incomplete Combustion** (CO, VOC). Controlled generally by proper combustion.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the pollutant control equipment 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, SO₂, H₂SO₄, 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.

In the case of the proposed project at Cargill, annual emissions of F and PM₁₀ are above significant emission rates triggering review for these pollutants. Therefore, since the proposed project involves physical modification to the plant the BACT analysis will address emissions of F and PM₁₀.

BACT EMISSION LIMITS PROPOSED BY APPLICANT:

No. 6 Granulation Plant

POLLUTANT	EMISSION LIMIT	LIMIT BASIS	CONTROL TECHNOLOGY
PM ₁₀	6.4 lb/hr for GTSP Mode 12.9 lb/hr for AP Mode	0.15 lb/ton P ₂ O ₅ input	(3) Medium-energy Venturi scrubbers using scrubbing solution followed by an ammonia vaporizer and (2) tailgas scrubbers
F	1.69 lb/hr for GTSP Mode 3.43 lb/hr for AP Mode	0.04 lb/ton P ₂ O ₅ input	(3) Medium-energy Venturi scrubbers using scrubbing solution followed by an ammonia vaporizer and (2) tailgas scrubbers

BACT DETERMINATION BY THE DEPARTMENT:

PARTICULATE MATTER (PM/PM₁₀)

The top-down approach for control of PM/PM₁₀ identified the following BACT options:

1. High-energy (> 30 inches w.c.) venturi scrubber.
2. Medium-energy (15 to 30 inches w.c.) venturi scrubber.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

A previous BACT determination for a DAP plant (IMC-Agrico-New Wales; PSD-FL-241) addressed alternatives for PM/PM₁₀ control. The alternatives addressed consisted of a high-energy (>30 inches w.c.) venturi scrubber and a medium energy (15 to 30 inches w.c.) venturi scrubber. The IMC Plant employs an existing medium-energy venturi scrubbing system. The high costs of adding a high-energy venturi scrubbing system was deemed economically infeasible with incremental costs effectiveness ranging from \$50,000 to \$75,000 per incremental ton of PM/PM₁₀ removed. As a result, the high-energy venturi scrubber option was found to be infeasible, and the existing medium-energy venturi scrubbers were selected as BACT. This cost impact would also exist for high-energy venturi scrubbers employed at the No. 6 Granulation Plant as described below, and is considered economically infeasible.

To evaluate the incremental cost effectiveness of high-energy venturi scrubbers applied to the No. 6 Granulation Plant, cost estimates were developed for medium- and high-energy venturi scrubbers. Vendor quotes and Cargill Riverview experience were utilized in developing the economic analysis. The capital cost analysis includes the costs associated with complete systems, including the venturi scrubber, mist eliminator, fan and motor, recycle pump, and installation costs. Operational costs include labor for the operator and supervisor, maintenance, and the energy requirement associated with the operation of the scrubber fan. There is a considerable difference in the energy requirements between the medium-energy and high-energy scrubbers due to the operation of the fan and motor. For this analysis, the medium-energy scrubber fans require 199 kW to 299 kW of energy, while the high-energy scrubbers require 543 kW to 815 kW of energy.

Baseline PM emissions were specified as 52.6 TPY, which is based on the proposed maximum emissions. The maximum PM emissions with the use of the high-energy venturi scrubbers were specified as 10 TPY. This is based on uncontrolled emissions that were calculated based on the maximum production rate and an uncontrolled emission factor from AP-42 and a control efficiency of 99.5-percent. Capital recovery costs were based on 7-percent interest and a 20-year equipment life.

The annualized cost for the proposed project was estimated and was presented in Table 5-4 of the application. Since Cargill is proposing to add two new medium-energy venturi scrubbers, a dryer venturi, and a cooler venturi scrubber, and utilize the existing RGV venturi scrubber, the cost estimate included capital costs for two new medium-energy venturi scrubbers and operating costs for three medium-energy venturi scrubbers. The total annualized cost for the proposed project is \$683,900.

The annualized cost of utilizing high-energy venturi scrubbers at the No. 6 Granulation Plant was estimated and was presented in Table 5-5 of the application. Since the existing venturi scrubbers are medium-energy, this cost analysis included the installation of three new high-energy venturi scrubbers and all associated operating costs. The incremental annualized cost of high-energy venturi scrubbers applied to the No. 6 Granulation Plant was estimated by taking the difference between the annualized cost of medium-energy venturi scrubbers and the annualized cost of high-energy scrubbers applied to the No. 6 Granulation Plant. The incremental cost effectiveness was estimated from the incremental annualized cost and the incremental reduction in PM emissions that would result from installing high-energy venturi scrubbers. Based on uncontrolled emissions of PM of 2,029 TPY, and assuming 99.5-percent control efficiency with the use of high-energy venturi scrubbers, the maximum PM emissions are 10.1 TPY, and the incremental PM removed is 42.5 TPY. The resulting incremental cost effectiveness is \$31,366 per ton of PM removed. This

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

cost is considered to be unreasonable and infeasible for the proposed project. As a result, high-energy venturi scrubbers for PM/PM₁₀ control were not considered further.

The BACT proposed by the applicant for PM/PM₁₀ is based on the following:

- One existing medium-energy venturi scrubber using scrubber solution (weak phosphoric acid) followed by a new ammonia vaporizer for the reactor, granulator, and equipment vents (RGV),
- One new medium-energy venturi scrubber using scrubber solution (weak phosphoric acid) followed by an existing packed-bed tailgas scrubber using pond water for the dryer, and
- One new medium-energy venturi scrubber using scrubber solution (weak phosphoric acid) followed by a new packed-bed tailgas scrubber using pond water for the cooler.

From the applicant's review of previous BACT determinations, it is evident that PM/PM₁₀ BACT determinations for GTSP, MAP, and DAP manufacturing facilities have been based on wet scrubber technology. BACT determinations have been in the range of 0.15 to 0.41 lb/ton P₂O₅ for PM/PM₁₀ emissions. The most recent determinations are in the range of 0.15 to 0.18 lb/ton P₂O₅.

The proposed maximum PM/PM₁₀ emission rate for the No. 6 Granulation Plant is 0.15 lb/ton P₂O₅, equivalent to 12.88 lb/hr and 56.39 TPY when producing AP and 6.35 lb/hr and 27.81 TPY when producing GTSP.

According to the applicant's test data, proposed limit is justified to provide certainty that the proposed emission level will be achievable on a continuous basis. As shown by stack test data from the last three years, actual PM emissions from the No. 6 Granulation Plant ranged from 0.199 to 0.215 lb/ton P₂O₅. To be able to meet the lower PM limit of 0.15 lb/ton P₂O₅, the applicant is installing new pollution control equipment as part of the proposed project. The applicant is also proposing to increase the AP process rate.

Consequently, the Department proposes 0.15 lb PM/ton P₂O₅ input as the new BACT emission limit for the No. 6 Granulation Plant.

FLUORIDES

The top-down approach for control of F identified the following BACT options:

1. Packed scrubber using once-through fresh water.
2. Packed scrubber using neutralized water from a dedicated pond (fresh water makeup).
3. Packed scrubber using process cooling pond water.

A previous BACT determination for a DAP plant (IMC-Agrico-New Wales) addressed alternatives for F control. The alternatives included a packed scrubber using either once-through fresh water, neutralized water from a dedicated pond (fresh water makeup), or process cooling pond water. The first option was dismissed due to concern over fresh water usage and plant water balance problems. The second option was dismissed based on economics, with the cost effectiveness estimated at \$14,000 per ton of F removed. In Cargill's case, the first two options can be dismissed based on similar considerations. This leaves the third option, using process (cooling pond) water, as BACT.

The BACT proposed by the applicant for F is based on the following:

APPENDIX BD

BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

- One existing medium-energy venturi scrubber using scrubber solution (weak phosphoric acid) followed by a new ammonia vaporizer for the reactor, granulator, and equipment vents (RGV),
- One existing medium-energy venturi scrubber using scrubber solution (weak phosphoric acid) followed by an existing packed-bed tailgas scrubber using pond water for the dryer, and
- One new medium-energy venturi scrubber using scrubber solution (weak phosphoric acid) followed by a new packed-bed tailgas scrubber using pond water for the cooler.

From the applicant's review of previous BACT determinations, it is evident that F BACT determinations for GTSP, MAP, and DAP manufacturing facilities have all been based on wet scrubber technology. With one exception, BACT determinations have been in the range of 0.037 to 0.06 lb/ton P₂O₅ of F emissions. The most recent determinations are in the range of 0.037 to 0.041 lb/ton P₂O₅. The lowest emission limit of 0.019 lb/ton P₂O₅ was for a prilled MAP plant, which is a different process compared to Cargill's granular MAP/DAP plants. The next lowest emission limit from previous BACT determinations was 0.037 lb/ton P₂O₅.

The applicant's proposed maximum F emission rate for the No. 6 Granulation Plant is 0.04 lb/ton P₂O₅, equivalent to 3.43 lb/hr and 15.04 TPY when producing AP and 1.69 lb/hr and 7.42 TPY when producing GTSP.

According to the applicant's test data, the F emissions test data for the No. 6 Granulation Plant have ranged from 0.014 to 0.041 lb/ton P₂O₅. Test data from Cargill's Green Bay facility North MAP/DAP Plant, which is configured similarly to the modified No. 6 Granulation Plant, have ranged from 0.006 to 0.036 lb/ton P₂O₅. To meet the requested F limit, the applicant is proposing to add pollution control equipment at the No. 6 Granulation Plant. The applicant is also proposing to increase the AP process rate. Based on the F emission levels achieved at the similar Green Bay facility North MAP/DAP Plant, the Department proposes 0.035 lb F/ton P₂O₅ input as the new BACT emission limit for the No. 6 Granulation Plant. The applicant accepted the lower BACT limit as proposed by the Department. **To date, this is the most stringent fluoride BACT limit established for MAP/DAP/GTSP Plant.**

The above BACT determinations are summarized in the following table:

No. 6 Granulation Plant

POLLUTANT	EMISSION LIMIT	LIMIT BASIS	CONTROL TECHNOLOGY
PM/PM ₁₀	6.4 lb/hr for GTSP Mode 12.9 lb/hr for AP Mode	0.15 lb/ton P ₂ O ₅ input	(3) Medium-energy Venturi scrubbers using scrubbing solution followed by an ammonia vaporizer and (2) tailgas scrubbers
F	1.5 lb/hr for GTSP Mode 3.0 lb/hr for AP Mode	0.035 lb/ton P ₂ O ₅ input	(3) Medium-energy Venturi scrubbers using scrubbing solution followed by an ammonia vaporizer and (2) tailgas scrubbers

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

COMPLIANCE PROCEDURES

Compliance with the emission limits shall be in accordance with the following EPA Reference Methods as contained in 40 CFR 60, Appendix A or as otherwise approved by the Department:

EMISSION UNIT	POLLUTANT	EPA REFERENCE METHOD
No. 6 Granulation Plant	PM	5
	FL	13A or 13B
	VE	9

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

Syed Arif, Permit Engineer
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road, MS 5505
Tallahassee, Florida 32399-2400

Recommended By:

Approved By:

Trina L. Vielhauer, Chief
Bureau of Air Regulation

Michael G. Cooke, Director
Division of Air Resource Management

Date:

Date:

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4-160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), F.S. the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- a. Have access to and copy any records that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
- Reasonable time may depend on the nature of the concern being investigated.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4-160]

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- a. a description of and cause of non-compliance; and
 - b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.
- The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Rules 62-4.120, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (X) Determination of Best Available Control Technology (BACT)
 - (X) Determination of Prevention of Significant Deterioration (PSD)
 - (X) Compliance with New Source Performance Standards (NSPS)
- G.14 The permittee shall comply with the following:
- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4-160]

- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

MR. E. G. MORRIS
 VICE PRESIDENT
 CARGILL FERTILIZER, INCORPORATED
 8813 U.S. HIGHWAY 41 SOUTH
 RIVERVIEW, FLORIDA 33569

2. Article Number (Copy from service label)

7000 2870 0000 7028 3963

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly) B. Date of Delivery

Shirley Stur 12-17-04

C. Signature

X Shirley Stur

Agent

Addressee

D. Is delivery address different from item 1?

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If YES, enter delivery address below:

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3. Service Type

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C.O.D.

4. Restricted Delivery? (Extra Fee)

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CERTIFIED MAIL RECEIPT**

(Domestic Mail Only; No Insurance Coverage Provided)

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Return Receipt Fee (Endorsement Required)	
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Total Postage & Fees	\$

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Sent To
MR. E. G. MORRIS
 Street, Apt. No., or PO Box No.
8813 U.S. Highway 41 South
 City, State, ZIP+4
Riverview, FL - 33569

PS Form 3800, May 2000

See Reverse for Instructions