



Department of Environmental Protection

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

September 21, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David B. Jellerson, P.E.
Environmental Superintendent
Cargill Fertilizer, Inc.
8813 US Highway 41 South
Riverview, Florida 34221

Re: DEP File No. 0570008-024-AC (PSD-FL-247)
Nos. 5, 7 & 9 Phosphate Rock Grinding/Drying Mills

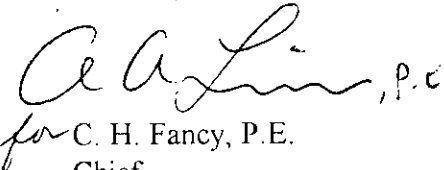
Dear Mr. Jellerson:

Enclosed is one copy of the Draft Air Construction Permit for the Nos. 5, 7 & 9 Phosphate Rock Grinding/Drying Mills located at Cargill Fertilizer, US Highway 41 South, in Riverview, Hillsborough County. The Department's Intent to Issue Air Construction Permit and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" must be published in the legal section of a newspaper of general circulation in Hillsborough County. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please call John Reynolds at 850/921-9536.

Sincerely,


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

CHF/aal

Enclosures

In the Matter of an
Application for Permit by:

Mr. David B. Jellerson, P.E.
Cargill Fertilizer, Inc.
8813 U.S. Highway 41 South
Riverview, Florida 33569

DEP File No. 0570008-024-AC
Draft PSD Permit No. PSD-FL-247
Nos. 5, 7 & 9 Phosphate Rock Grinding/Drying Mills
Hillsborough County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of DRAFT Permit attached) for the proposed project, as detailed in the application specified above and attached Technical Review and Preliminary determination, for the reasons stated below.

The applicant, Cargill Fertilizer, Inc. submitted a request on September 8, 1998 to the Department to process without further information its application for a construction permit to add a third 25 tons per hour phosphate rock grinding/drying system and equipment to improve the quality of clarified phosphoric acid at its phosphate fertilizer facility located at US Highway 41 South, Riverview, Hillsborough County.

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 an air construction permit, including a review for the Prevention of Significant Deterioration and a determination of Best Available Control Technology for the control of particulate matter and fluorides, is required to conduct the 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 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. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). The Department suggests that you publish the notice within thirty days of receipt of this letter. 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 or other authorization. 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 permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of "Public Notice of Intent to Issue 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.

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, as well as the rules and statutes which entitle the petitioner to relief; and (f) A demand for relief.

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.


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


CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE AIR CONSTRUCTION PERMIT (including the PUBLIC NOTICE, and DRAFT permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 9-23-98 to the person(s) listed:

Mr. David B. Jellerson, Cargill*
Mr. Brian Beals, EPA
Mr. John Bunyak, NPS
Mr. David Buff, P.E., Golder Assoc.
Mr. Bill Thomas, SWD
Mr. Ivan Choronenko, EPCHC

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) 9-23-98
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0570008-024-AC (PSD-FL-247)

Cargill Fertilizer Nos. 5, 7 & 9 Phosphate Rock Drying/Grinding System
Hillsborough County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Cargill Fertilizer, Inc. to add a third 25 tons per hour phosphate rock drying and grinding system (No. 7 Rock Mill) at its fertilizer facility located on U.S. Highway 41 South in Riverview, Hillsborough County. The applicant's name and address are: Cargill Fertilizer, Inc., 8813 U.S. Highway 41 South, Riverview, Florida 33569.

The three drying and grinding mills (Nos. 5, 7 & 9) will provide phosphate rock primarily to the granular triple superphosphate process (GTSP). A smaller portion of the dried and ground rock will be used to further purify clarified phosphoric acid at the facility. This permit covers all three rock drying/grinding mills and new equipment for reacting ground phosphate rock with clarified phosphoric acid to remove impurities from the acid.

The permit will increase the allowable rock drying rate from 50 to an average of 52 tons per hour with a provision for up to 75 tons per hour during infrequent periods of "fast recharging" of the rock storage bin. The new mill was required because the recently installed mills Nos. 5 & 9 did not meet the plant's requirement for ground rock. The No. 7 mill will allow the GTSP plant to operate at the capacity permitted by its most recent BACT determination and PSD permit (under which it still operates). The Department has determined that, besides the rock mills, only the clarified acid purification unit requires PSD review and a BACT determination.

Control of particulate emissions is accomplished by high-efficiency baghouses capable of achieving 0.012 grains per dry standard cubic foot and 5 percent opacity. Emissions from the acid purification step will be controlled by a packed bed scrubber designed to achieve over 99 percent removal of fluorides.

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 PSD Class II increments consumed by all sources in the area, including this project, will be as follows:

Averaging Time	Allowable Increment ($\mu\text{g}/\text{m}^3$)	Increment Consumed ($\mu\text{g}/\text{m}^3$)	Percent Consumed
24-hour	30	11	37
Annual	17	0.2	1

The project has no significant impact on the PSD Class I Chassahowitzka National Wilderness Area.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of "Public Notice of Intent to Issue 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 of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and (f) A demand for relief.

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.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection	Department of Environmental Protection	Hillsborough County Environmental Protection Commission
Bureau of Air Regulation	Southwest District Office	1410 North 21 Street
111 S. Magnolia Drive, Suite 4	3804 Coconut Palm Drive	Tampa, Florida 33605
Tallahassee, Florida 32301	Tampa, Florida 33619-8218	Telephone: 813/272-5530
Telephone: 850/488-0114	Telephone: 813/744-6100	Fax: 813/272-5605
Fax: 850/922-6979	Fax: 813/744-6084	

The complete project file includes the Draft Permit, the application, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

Technical Evaluation
and
Preliminary Determination

Cargill Fertilizer, Inc.
Riverview Facility
Hillsborough County, Florida

Nos. 5, 7 & 9 Rock Drying/Grinding Mills

Construction Permit No. 0570008-024-AC
PSD-FL-247

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

September 21, 1998

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

I. GENERAL INFORMATION

A. Name and Address of Applicant

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

B. Reviewing and Process Schedule

Date of Receipt of Application:	April 3, 1998
First Request for Additional Information:	April 7, 1998
Application Completeness Date:	September 8, 1998*

*Applicant requested processing pursuant to Rule 62-4.055, F.A.C.

C. Facility Location

This facility is located at 8813 U.S. Highway 41 South, Riverview, Hillsborough County, Florida. The UTM coordinates are Zone 17, 362.9 km east and 3082.5 km north.

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

II. TECHNICAL EVALUATION

A. Project Description

The applicant proposes to construct a third rock drying/grinding mill (No. 7) adjacent to the two existing rock grinding/drying mills (Nos. 5 & 9) at the applicant's Riverview location. The applicant stated that the reason for installing the third mill is to make up for the lower than projected production capacity of the Nos. 5 & 9 mills. These mills are integral rock drying/grinding units that accomplish both the grinding and drying steps in a single unit.

The dried ground rock will be used primarily for the manufacture of granular triple super-phosphate (GTSP). The average production rate of the three rock mills will be limited to a total of 52 tons of phosphate rock (dry basis @ 1% moisture) per hour which is slightly above the current permitted capacity of 50 tons per hour for the Nos. 5 & 9 mills. Approximately 8 tons of rock per hour will be used for improving the quality of clarified phosphoric acid product by mixing it with the acid in a "sulfation step" elsewhere at the facility. The three units will be capable of processing wet or dry phosphate rock. Air pollution control equipment will consist of a new packed crossflow scrubber for control of fluorides from the sulfation unit and a new bag collector for controlling PM/PM10 emissions from the new mill.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

B. Process Description

Phosphate rock containing up to 15% moisture is received from the wet rock surge bin and ground to approximately 90 percent minus 200 mesh while being contacted with flue gases from the dryer burner. The moisture content is reduced to 1 percent or below as the rock is ground. Fuel for the dryer burner consists of natural gas with No. 2 fuel oil (0.5% sulfur) used as backup.

Dryer gases mixed with recirculated air carry the ground rock to a cyclone which separates the majority of the ground rock from the gas stream and discharges it into the ground rock surge bin. The gas stream exits the top of the cyclone and is recirculated through the mill by a recirculation fan. A negative pressure is maintained on the entire system by the exhaust fan which pulls a purge stream of gases through the baghouse before discharging them through the stack.

C. Project Emissions

Annual emissions proposed by the applicant for the three mills are summarized in the following table:

Pollutant	PSD Level ¹	Actual Emissions ²	Current Allowables	Proposed Emissions ³	Net Change ⁴	Subject to PSD Review?
F	3	N/A	N/A	T.B.D. ⁵	T.B.D. ⁵	Yes
PM/PM ₁₀	25/15	8.3	20.2	31.2	22.9	Yes
NO _x	40	3.9	N/A	23.9	20.0	No
SO ₂	40	0.02	N/A	4.1	4.0	No
CO	100	1.0	N/A	6.0	5.0	No
VOC	40	0.1	N/A	0.5	0.4	No
VE	N/A	N/A	10%	20%	N/A	N/A

¹ Tons per year (Rule 212.400, F.A.C.)

² Calculated based on July 17, 1997 compliance test on Nos. 5 & 9 for PM/PM₁₀ and 7800 hrs.; AP-42 emission factors and 1995/1996 operating hours for SO₂, NO_x, CO and VOC emissions.

³ Proposed by applicant as additional allowable emissions.

⁴ Applicant's proposed allowable facility emissions minus current actuals determined by DEP.

⁵ To be determined

Emission limits proposed by the Department in the BACT determination are presented below:

POLLUTANT	EMISSION LIMIT	LIMIT BASIS
F	To be determined by test	To be determined by test
PM/PM ₁₀	1.56 lb/hr	0.012 gr/dscf (BACT limit for baghouses)
VE	5% opacity	BACT - wet rock processing
VE	0% opacity	BACT - dry rock grinding

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

III. RULE APPLICABILITY

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

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 particulate matter, sulfur dioxide and nitrogen oxides 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

The following account of events serves to explain how Cargill's permitting situation came about and documents the issues and decisions that were considered in the review.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- January 11, 1996 - SWD received Cargill's application to modify mills 5 & 9 by installing larger burners, a new wet rock bin and dry rock silo with new baghouses on the mills and silo. The application included a proposed alternate monitoring plan for a broken bag detector instead of an opacity monitor based on the \$60,000 installed cost of an opacity monitor and the complex nature of the dryer/grinder design.
- February 8, 1996 - Incompleteness letter mailed to Cargill. A separate letter sent to BAR for approval of an ASP for the broken bag detector.
- March 21, 1996 - Received additional information pursuant to incompleteness letter of February 8, 1996.
- April 16, 1996 - Incompleteness letter mailed pursuant to Cargill's response of March 21, 1996.
- May 6, 1996 - Cargill responded to SWD incompleteness letter of April 16, 1996.
- May 18, 1996 - SWD prepared permit 0570008-008-AC as a synthetic minor modification of No. 5 & 9 mills based on increase in actual emissions being less than significant for PSD. Modifications included changes allowing processing of wet rock and installation of 3 new dust collectors. NSPS, Subpart NN, applicability was established allowing use of a broken bag detector instead of an opacity monitor for mills 5 & 9.
- July 1, 1996 - BAR received Cargill's PSD application 0570008-011-AC/PSD-FL-234 requesting 8760 hours of operation for mills 5 & 9.
- July 19, 1996 - SWD issued permit 0570008-008-AC limiting hours of operation to 7800 to avoid PSD applicability. The SWD permit allowed Cargill to install and temporarily use a broken bag detector in place of the NSPS-required opacity monitor. For permanent approval, Cargill would have to submit records of test results and performance of the broken bag detector over the three year trial period.
- July 1996 - The EPCHC issued a notice to Cargill claiming that Cargill was engaging in "sham permitting" by submitting the PSD application. EPCHC told Cargill that the non-PSD permit would have to be surrendered or the PSD permit application withdrawn.
- July 29, 1996 - BAR issued first incompleteness letter for PSD application 0570008-011-AC, PSD-FL-234.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- July 29, 1996 - Cargill sent a letter to the SWD addressing EPCHC's claim of "sham permitting" and explaining Cargill's phased permitting approach of obtaining a synthetic minor permit to commence construction (with a limitation on operating hours to avoid PSD) followed by a subsequent removal of that restriction by the issuance of a PSD permit for the full 8760 hours. Cargill intended to further expand operations after installing BACT equipment. Cargill felt it would have up to 18 months to commence construction of the expansion and would be able to operate under the synthetic minor permit in the interim.
- August 6, 1996 - Cargill's legal staff had discussions with the Department's attorney regarding the possibility of withdrawing the PSD permit application as a way of resolving EPCHC's concerns about "sham permitting". Cargill indicated that the current permit would be sufficient except that the restriction on operating hours did not allow them to produce the needed tonnage and also operate at reduced rates during periods when associated equipment limitations would not allow operation of the dryer at maximum permitted rates.
- August 20, 1996 - BAR received letter from Cargill requesting that the PSD application be withdrawn.
- August 28, 1996 - BAR sent Cargill a refund form for PSD application 0570008-011-AC/PSD-FL-234.
- September 5, 1996 - SWD received Cargill's notice of beginning construction on August 23, 1996.
- November 18, 1996 - SWD issued 057008-017-AC for amendment of 0570008-008-AC to provide for the broken bag detector in place of the opacity monitor.
- December 2, 1996 - Cargill notified SWD of planned startup of Nos. 5 & 9 mills.
- September 2, 1997 - Cargill met with BAR to discuss the type of application required for a third rock mill since production from the 5 & 9 mills had been less than projected (38 TPH actual vs. 50 TPH permitted) due to unforeseen changes in rock characteristics.
- September 3, 1997 - Cargill met with EPCHC staff to discuss permitting requirements for a third rock mill to make up the shortfall of 12 TPH plus provide 8-10 TPH rock for treating clarified phosphoric acid to remove excess sulfates. Cargill and the EPCHC resolved their differences regarding the "sham permitting" issue.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- September 11, 1997 - The EPCHC wrote to BAR summarizing the September 3 meeting with Cargill and EPCHC's position that the new rock mill permit will have to undergo PSD review as well as the existing mills and associated equipment pursuant to Rule 62-212.400(2)(g) and 40 CFR 52.21(j)(3). The EPCHC stated that all other emission units that have emission increases associated with the increased rock capacity from this modification should also be subject to a BACT determination.
- April 3, 1998 - BAR received Cargill's PSD application for construction of a third (No. 7) rock drying/grinding mill with a proposed BACT limit for PM/PM₁₀ emissions of 0.016 gr/dscf and 0.072 lb/ton rock feed.
- April 7, 1998 - BAR sent an incompleteness letter to Cargill requesting recent test data for mills 5 & 9 and pointing out that other BACT determinations have been made that are more stringent than proposed by Cargill.
- April 24, 1998 - Cargill submitted a summary of undated test results and requested that the emission limit for the new mill be set at the federal new source performance standard of 0.072 lb/ton of rock feed (0.06 lb/ton for the dryer and 0.012 lb/ton for the grinder) which Cargill claimed is equivalent to the proposed limit of 0.016 gr/dscf.
- April 23, 1998 - BAR received comments from the EPCHC stating that PM/PM₁₀ emissions from the combined grinder/dryer should be limited to the most stringent of the two applicable NSPS limits, i.e. the grinding limit of 0.012 lb/ton. The EPCHC expressed concern about Cargill's proposal to weigh all rails cars rather than install an NSPS-required throughput measuring device to monitor the phosphate rock feed during a performance test. Also mentioned were the associated upstream and downstream emissions increases from other emissions units at the facility resulting from the new mill and a call for including all contemporaneous emissions increases in the current PSD analysis.
- April 28, 1998 - BAR sent Cargill a second incompleteness letter requesting the date of the test results and copies of the test reports for mills 5 & 9. BAR included a request to address the issues raised in the EPCHC's April 23 letter. BAR again cited a recent BACT for a DAP cooler that was issued at 0.01 gr/scf and referenced Cargill's test results that showed the No. 5 & 9 mills can meet this limit.
- May 11, 1998 - BAR received Cargill's fax of the EPA's background document for Subpart NN (Phosphate Rock Plants) stating that the definition of "phosphate rock plant" excludes fertilizer plants. Cargill contended that since the rock mill supplies phosphate rock to a granular triple superphosphate plant at the same

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

site, Subpart NN would not apply as Cargill had contended earlier which was the basis for its proposed emission limit of 0.072 lb/ton.

- May 14, 1998 - BAR received Cargill's fax of EPA guidance memos indicating the acceptability of adding the allowable emission limits for a cement kiln and clinker cooler to obtain a combined allowable emission limit in cases where both vent through the same stack.
- May 20, 1998 - BAR received Cargill's response to the April 28 incompleteness letter. Cargill submitted a copy of the complete test report done on July 17, 1997 for the No. 5 & 9 mills. Cargill again claimed that Subpart NN should not apply to the new rock dryer/grinder since it is neither a stand alone dryer nor a stand alone grinder, but if the Department decides that Subpart NN applies, the separate NSPS limits for the dryer and grinder should be added to arrive at a combined limit. In response to the EPCHC's April 23 comments, Cargill stated that there is no cost effective control device capable of allowing the integral dryer/grinder to achieve the same limit as a stand alone grinder. Cargill contended that the use of state certified scales for measuring throughput will provide better accuracy than required by the NSPS. Concerning EPCHC's position that the 0% opacity NSPS standard for ground rock storage and handling should apply to each processing step, Cargill replied that the applicability does not extend to process steps other than ground rock handling and storage, and that no contemporaneous emission changes have occurred since the last PSD permit was issued in 1996.
- June 18, 1998 - BAR received additional comments from the EPCHC questioning the accuracy of the railcar weighing system and requesting that increases in downstream emissions be included in the BACT determination. The EPCHC cited Cargill's recent PSD permit applications to increase production of sulfuric acid and MAP as contemporaneous increases.
- June 19, 1998 - BAR wrote to Cargill requesting a response to the questions in EPCHC's June 18 letter.
- June 26, 1998 - BAR received Cargill's June 22 letter reiterating that the accuracy of the rail car weighing system meets the NSPS requirements and that the EPCHC's other concerns were addressed in prior responses.
- June 30, 1998 - The EPCHC sent a letter to EPA Region IV requesting an interpretation of the PSD rule in regard to upstream/downstream emissions and whether BACT should be applied to all three mills in a situation in which a PSD-significant third mill is being added to two existing mills and all three units will use common handling equipment.

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- July 22, 1998 - Cargill's letter requesting that the permit application be processed without further information was received by BAR.
- July 29, 1998 - BAR received the EPCHC's response to Cargill's June 22 letter stating that EPA Region IV had contacted EPA headquarters at the request of the EPCHC and that EPA confirmed the applicability of Subpart NN to Cargill's No. 7 rock mill since it is not exempted for being located at a fertilizer manufacturing facility. Regarding the issue of upstream/downstream emissions, the EPCHC further argued against Cargill's position that these associated emissions increases should not be included in the BACT because they don't exceed current permit limits. The EPCHC contends that Cargill's current permit limits are higher than the maximum emissions possible for the facilities and that they should be applied toward the net increase for the affected facility and undergo BACT as well. Since Cargill made a written request to begin processing the application without further information, the EPCHC recommended that the permit be denied.
- July 30, 1998 - BAR wrote to Cargill requesting that the EPCHC's July 29 comments be addressed.
- August 11, 1998 - BAR wrote to Cargill confirming an agreement whereby Cargill will resolve concerns regarding control of potentially significant fluoride emissions by installing a BACT-level packed scrubber for the sulfation part of the project. Cargill also agreed that all three rock mills be included in the BACT determination and be permitted as part of the same affected facility.
- September 8, 1998 - Cargill's September 4 letter was received by BAR requesting that the permit application be processed without additional information.

As shown by the above, the issue of NSPS applicability was decided in the construction permit issued by the Department's Southwest District office on November 18, 1996 and confirmed recently through conversations the EPCHC had with the EPA. The Department considers the NSPS applicability issue resolved for the No. 7 mill as originally determined for the Nos. 5 & 9 mills, considering that the application states that the unit will be designed to process dry rock as well as wet rock. When the unit processes dry rock, it is in effect a rock grinder which clearly comes under the NSPS. However, since PSD and BACT also apply to the No. 7 mill and effectively supersede the NSPS emission standards, the remaining consequences of NSPS applicability are the monitoring and testing requirements under 40 CFR 60.403 and 40 CFR 60.404.

The EPCHC requested that BACT be applied to associated emissions increases for separate process units that are upstream or downstream of the rock mills according to the provisions of 40 CFR 52.21(j)(3) which states:

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A major modification shall apply best available control technology for each pollutant subject to regulation under the Act for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

Pursuant to the EPCHC's request, BAR consulted with the EPA and received the following interpretation of 40 CFR 52.21(j)(3) and how BACT should be applied to other emission units that may be affected:

If a modification in one emissions unit triggers BACT and causes any increase in emissions of a regulated air pollutant from a separate but contiguous upstream and/or downstream emissions unit, BACT is also triggered for those associated emissions increases even though they are not significant, as long as those associated emissions increases are the result of an associated physical change or a change in the method of operation of the upstream/downstream emissions unit.

This interpretation hinges on the second sentence of 40 CFR 52.21(j)(3) and how it relates to the preceding sentence. The use of "proposed" before "emissions unit" implies that BACT applicability for any net increase in the emissions of the affected pollutant does not extend to pre-existing units that are not a part of the "proposed" modification (unless the "proposed" modification results in any net increase in emissions from an associated physical change or change in the method of operation of the unit). Rule 62-210.200(187), F.A.C., defines "modification" as not including an increase in the hours of operation or in the production rate (of an upstream/ downstream emissions unit), unless such change would be prohibited under any federally enforceable permit condition:

For any pollutant that is specifically regulated by the EPA under the Clean Air Act, a change in the method of operation shall not include an increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975. [Rule 62-210.200(187)(a)]

Unless its permit was issued before that date, the operation of an upstream/downstream unit can be increased up to the maximum production rate and/or operating hours allowed by its current permit without being a "change in the method of operation" (i.e. a modification). If there is no associated concurrent physical change or change in the method of operation of an upstream/downstream emissions unit resulting from the primary modification, then, according to the Department's rules and the above interpretation of 40 CFR 52.21, no modification of the upstream/downstream emissions units has occurred and BACT would apply to the primary modification only. Of course, if the associated upstream/downstream unit undergoes a concurrent modification resulting in a significant increase in emissions (potential vs. actual) of an affected

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air pollutant, BACT would be applied to that modification along with the primary modification (unless potentials are capped so as to make the change insignificant).

This PSD permit includes the Nos. 5 and 9 mills along with the proposed No. 7 mill and applies BACT to each as well as the requirements of 40 CFR 60, Subpart NN - Standards of Performance for Phosphate Rock Plants.

IV. AIR QUALITY IMPACT ANALYSIS

A. Introduction

According to the application, the proposed project will increase emissions of two pollutants in excess of PSD significant amounts: PM_{10} and F. PM_{10} is a criteria pollutant and has national and state ambient air quality standards (AAQS) and PSD increments defined for it. F is a non-criteria pollutant and has no AAQS or PSD increments defined for it; therefore, no air quality impact analysis was required for F. Instead, the BACT requirement will establish the F emission limit for this project. The PSD regulations require the following air quality analyses for this project:

- Significant impact analysis for PM_{10}
- Analysis of existing air quality 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

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 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

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pollutant-specific de minimus 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 PM_{10} impacts from the project are predicted to be less than the de minimus level; therefore, preconstruction ambient air quality monitoring is not required for this pollutant. Therefore, the project is exempted from the preconstruction monitoring requirement. However, a PM_{10} background concentration of 21 ug/m^3 for both the 24-hour and annual averaging times was established from previously existing air quality data for use in the AAQS analysis required for PM_{10} .

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

Avg. Time	Max Predicted Impact (ug/m^3)	De Minimus Level (ug/m^3)	Impact Above/ Below De Minimus
24-hour	6.3	10	Below

C. 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. The stacks associated with this project all satisfy the good engineering practice (GEP) stack height criteria.

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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 1987 through 1991. These NWS stations were selected for use in the study because they are the closest primary weather stations to the study area and are most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling.

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

D. 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. Six receptor rings with 10 degree intervals (10-360 degrees) were placed at distances ranging from 2 to 10 km from the facility, which is located in a PSD Class II area. In addition receptors were located along the facility's property boundary. Thirteen discrete receptors were set 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 the PM_{10} 24-hour averaging time. Therefore, further PM_{10} AAQS and PSD increment analyses in the vicinity of the project were required for this project. However, there were no significant impacts predicted in the CNWA Class I area; therefore, no further analyses were required in the Class I area.

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

Averaging Time	Maximum Predicted Impact (ug/m^3)	Significant Impact Level (ug/m^3)	Significant Impact
Annual	0.87	1	No
24-hour	6.0	5	Yes

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

Averaging Time	Maximum Predicted Impact (ug/m ³)	Significant Impact Level (ug/m ³)	Significant Impact?
Annual	0.002	0.2	No
24-hour	0.03	0.3	No

E. PSD Class II Increment Analysis

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant from a baseline concentration which was established in 1977 (the baseline year was 1975 for existing major sources of PM₁₀) for PM₁₀. The maximum predicted PSD Class II area PM₁₀ increments consumed by this project are shown below.

PSD Class II Increment Analysis

Averaging Time	Maximum Predicted Impact (ug/m ³)	Impact Greater Than Allowable Increment?	Allowable Increment (ug/m ³)
Annual	0.2	No	17
24-hour	11	No	30

F. AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding a "background" concentration to the maximum modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. The results of the AAQS analysis for 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.

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Ambient Air Quality Impacts

Averaging Time	Major Sources Impact (ug/m ³)	Background Conc. (ug/m ³)	Total Impact (ug/m ³)	Florida AAQS ₃ (ug/m ³)	Total Impact Greater Than AAQS?
Annual	23	21	44	50	No
24-hour	93	21	114	150	No

G. Additional Impacts 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, will be below the associated AAQS. The AAQS are designed to protect both the public health and welfare. As such, this project is not expected to have a harmful impact on soils and vegetation in the PSD Class II area. An air quality related values (AQRV) analysis was done by the applicant for the Class I area. No significant impacts on this area are expected.

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 National Park Service. 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, including the required approval of the design of the new desulfation scrubber. The General and Specific Conditions are listed in the attached draft conditions of approval.

Permit Engineer: John Reynolds
Meteorologist: Cleve Holladay

Reviewed and Approved by A. A. Linero, P.E.

PERMITTEE:

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

Authorized Representative:
David B. Jellerson, P.E.
Environmental Superintendent

File No.	0570008-024-AC
Permit No.	PSD-FL-247
SIC No.	2874
Project:	Nos. 5, 7 & 9 Rock Mills
Expires:	September 30, 1999

PROJECT AND LOCATION:

Permit for the construction/modification of the Nos. 5, 7 & 9 Phosphate Rock Drying/Grinding Mills and a Desulfation Unit for purifying clarified phosphoric acid at the Cargill facility, 8813 U.S. 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
Appendix CSC Emission Unit(s) Common Specific Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

The phosphate rock drying/grinding system presently consists of two separate process units designated as the Nos. 5 and 9 Raymond Mills, respectively, each with a permitted capacity of 25 tons of dry rock (1% moisture) per hour. This permit allows the construction of a third 25 tons per hour mill designated as the No. 7 mill. This permit increases the permitted capacity of the combined rock drying/grinding system (Nos. 5, 7 & 9 mills) from 50 to 75 tons per hour. However, the 24-hour average total rate for the three mills combined will be limited to 52 tons per hour except during infrequent periods of "fast recharging" of the 1,000 ton rock storage bin. This permit also provides for the installation of a "desulfation" unit to react up to 8 tons per hour of phosphate rock produced by the new rock mill with clarified phosphoric acid to reduce impurities contained in the acid.

REGULATORY CLASSIFICATION

The Nos. 5, 7 & 9 Rock Mills are classified as major sources of air pollution or Title V sources because they have the potential to emit at least 100 tons per year of particulate matter if not controlled as required by this permit.

PERMIT SCHEDULE:

- 04-03-98: Date of Receipt of Application
- 09-08-98: Applicant Requested Processing of Application pursuant to Rule 62-4.055, F.A.C.
- 09-21-98: Intent issued

RELEVANT DOCUMENTS:

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

- Application received 04-03-98
- Department's incompleteness letters dated 04-07-98, 04-28-98, 06-19-98, 07-30-98
- Applicant's letters received 04-24-98, 05-20-98, 06-26-98, 07-22-98, 09-08-98
- Hillsborough County's letters received 04-23-98, 06-18-98, 06-30-98, 07-29-98
- Technical Evaluation and Preliminary Determination dated 09-21-98
- Best Available Control Technology determination (issued concurrently with permit)

SECTION II. EMISSION UNIT(S) GENERAL 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).

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- 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.]
- Emission Unit(s) Common Specific Conditions: The owner and operator is subject to and shall operate under the attached Emission Unit(s) Common Specific Conditions listed in *Appendix CSC* of this permit. The Emission Unit(s) Common Specific Conditions are binding and enforceable pursuant to Chapters 62-204 through 62-297 of the Florida Administrative Code.
- Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
- Forms and Application Procedures: The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]
- Expiration: This air construction permit shall expire on September 30, 2000 [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.]
- Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Southwest District Office. [Chapter 62-213, F.A.C.]

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
034	Phosphate Rock Railcar Unloading System
100	Rock Mill No. 5
101	Rock Mill No. 9
	Rock Mill No. 7
102	Ground Rock Handling/Storage System

- Unless otherwise indicated, the construction and operation of the above emission units shall be in accordance with the capacities and specifications stated in the application or in updated submittals. [Rule 62-210.300, F.A.C.]
- The subject emissions units shall comply with all applicable provisions of the 40 CFR 60 New Source Performance Standards for Phosphate Rock Plants, Subpart NN. [Rule 62-204.800 F.A.C.]
- The production rate of each Rock Mill shall not exceed 25 tons of dry (1% moisture) phosphate rock per hour except that the total production rate of the three mills combined shall not exceed 52 tons per hour based on a 24-hour rolling average, unless it is necessary to operate at a higher average rate

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solely for the purpose of effecting a "fast recharge" of the 1,000 ton phosphate rock storage bin. [Rule 62-210.200, F.A.C.]

4. The subject emission units are allowed to operate continuously (8760 hours/year). [Rule 62-210.200, F.A.C.]
5. Fluoride emissions from the Desulfation Unit shall be determined following emission testing as required in Specific Condition 12 below. [Rule 62-212.410, F.A.C.]
6. Particulate matter emissions from each of the subject Rock Mills shall not exceed 1.56 lb/hr and 6.83 TPY based on 0.012 gr/dscf and 15,206 scfm as established in the BACT determination. [Rule 62-212.410, F.A.C.]
7. Visible emissions from each of the subject Rock Mills shall not exceed 5% opacity when processing wet rock (above 3% moisture) and 0% opacity when processing dry rock (3% moisture or less). While conducting a compliance test, a determination of the moisture content of the rock feed shall be made using ASTM Method C566-97 or an equivalent method. [Rule 62-212.410, F.A.C.]
8. Visible emissions from the subject Railcar Unloading System and Ground Rock Handling/Storage System shall not exceed 0% opacity as required by the current permit for Mills 5 & 9. [Rule 62-212.410, F.A.C.]
9. Each of the subject Rock Mills shall fire only natural gas except that No. 2 fuel oil with a maximum sulfur content of 0.5% sulfur by weight may be fired for up to 400 hours per year. The firing rate for each unit shall not exceed 13 million BTU per hour. The permittee shall maintain records of the fuel oil supplier's sulfur content analysis. [Rule 62-210.200(227), F.A.C.]
10. Before this construction permit expires, the subject emissions units shall be tested for compliance with the above 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 Environmental Protection Commission of Hillsborough County and the Department's Southwest District office in Tampa shall be notified in writing at least 15 days prior to a compliance test. Written reports of the test results shall be submitted 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 1, 2, 3, 4, 5, 9 and 13A or 13B, as appropriate, as published in 40 CFR 60, Appendix A. 60, Appendix A. Baghouses may be tested for visible emissions in lieu of a mass emissions test for particulate matter. [Rules 62-204.800 and 62-297.310(7)(c), F.A.C.]
13. All measurements, records, and other data required to be maintained by this facility shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. [Rule 62-4.070(3), F.A.C.]
14. The permittee shall install, calibrate, maintain, and operate a monitoring device which can be used to determine the mass flow of phosphate rock to the process. The monitoring device shall have an accuracy of ± 5 percent over its operating range. [Rule 62-296.800, F.A.C.; 40 CFR 60.223(b)]

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15. 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.]
16. 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.]
17. The permittee shall submit an Annual Operating Report using DEP Form 62-210.900(4) to the Department's Southwest District office by March 1 of the following year for the previous year's operation. [Rule 62-210.370, F.A.C.]
18. 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 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.]
19. The permittee shall implement the following reasonable precautions to control unconfined particulate matter: [Rule 62-296.320, F.A.C.]
 - Partially enclose the railcar unloading station as necessary.
 - Only unload the railcars from the bottom.
 - The track (receiving) hopper shall be below ground level.
 - The elevator and transfer of unground rock to the mills shall be totally enclosed.
20. In order to document continuing compliance with Specific Condition Nos. 6, 7, and 8, daily records shall be maintained. The records at a minimum shall contain the following: [Rule 62-4.070(3), F.A.C.]
 - Quantity of each type of phosphate rock unloaded, in tons (weigh scale readings).
 - Daily average unloading rate in tons/hr for each type of phosphate rock.
 - Type of unground phosphate rock processed, dry or wet.
 - Hours of processing each type of unground phosphate rock.
 - Daily average production rate of ground phosphate rock in tons/hr.
 - Hours of operation in "fast recharge" mode for refilling the 1,000 ton rock bin.
 - Hours of firing No. 2 fuel oil.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Cargill Fertilizer, Inc.
No. 7 Rock Grinding/Drying System
PSD-FL-247 / 0570008-024-AC
Riverview, Hillsborough County

Cargill Fertilizer, Inc. has applied to install a third 25 TPH phosphate rock grinding/drying system (No. 7) at its Riverview facility in Hillsborough County. The projected production from Cargill's two existing rock mills (Nos. 5 & 9) has not been realized as a result of unexpected changes in rock characteristics, resulting in the need for a third mill. The total permitted production rate for the three mills combined will be 75 tons of rock (dry basis @ 1% moisture) per hour during periods of "fast recharging" of the 1,000 ton rock storage bin and 52 tons per hour during other periods. "Fast recharging" occurs infrequently and is required only when the 1,000 ton storage bin must be emptied due to maintenance or other reasons. Also included in this project is a "desulfation" unit which will improve phosphoric acid quality by reacting about half of the ground rock from the new mill with clarified phosphoric acid. The other half will be consumed in the granular triple superphosphate process. The project is therefore subject to Prevention of Significant Deterioration (PSD) review for particulate matter (PM/PM₁₀) and fluorides (F) in accordance with Rule 62-212.400, Florida Administrative Code (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. Air pollution control equipment will consist of high efficiency bag collectors for PM/PM₁₀ from the rock mills and a packed bed scrubber for the sulfation unit.

PROCESS EMISSIONS

The following emissions are proposed by the applicant:

Pollutant	PSD Level ¹	Actual Emissions ²	Current Allowables	Proposed Emissions ³	Net Change ⁴	Subject to PSD Review?
F	3	N/A	N/A	T.B.D. ⁵	T.B.D. ⁵	Yes
PM/PM ₁₀	25/15	8.3	20.2	31.2	22.9	Yes
NO _x	40	3.9	N/A	23.9	20.0	No
SO ₂	40	0.02	N/A	4.1	4.0	No
CO	100	1.0	N/A	6.0	5.0	No
VOC	40	0.1	N/A	0.5	0.4	No
VE	N/A	N/A	10%	20%	N/A	N/A

¹ Tons per year (Rule 212.400, F.A.C.).

² Calculated based on July 17, 1997 compliance test on Nos. 5 & 9 for PM/PM₁₀ and 7800 hrs.; AP-42 emission factors and 1995/1996 operating hours for SO₂, NO_x, CO and VOC emissions.

³ Proposed by applicant as additional allowable emissions.

⁴ Applicant's proposed allowable facility emissions minus current actuals determined by DEP.

⁵ To be determined.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

DATE OF RECEIPT OF COMPLETE BACT APPLICATION:

August 11, 1998

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.

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.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

- **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.

BACT EMISSION LIMITS PROPOSED BY APPLICANT:

POLLUTANT	EMISSION LIMIT	LIMIT BASIS	CONTROL TECHNOLOGY
F	To be determined by test	To be determined by test	Packed scrubber using pond water
PM	2.10 lb/hr	0.72 lb/ton; 0.016 gr/scf	Fabric Filter
VE	10% opacity	40 CFR 60:402(a)(1)	Same as PM

BACT DETERMINATION BY THE DEPARTMENT:

FLUORIDES (F)

The sulfation unit reaction between phosphate rock and phosphoric acid resembles the triple superphosphate process with respect to fluoride emissions. This reaction releases fluoride, primarily as silicon tetrafluoride, due to the acidulation of the fluorapatite (Ca₁₀(PO₄)₆F₂) in the rock. Since the applicant has agreed to install a packed bed scrubber for fluoride emission control and will submit the scrubber design to the Department for approval prior to installation, there is no need for a top-down analysis of fluoride control options. The fluoride emission limit will be established following completion of the performance tests.

PARTICULATE MATTER (PM/PM₁₀) AND VISIBLE EMISSIONS (VE)

The sources of PM/PM₁₀ and VE are the rock mills and associated handling and conveying equipment. The applicant has proposed that baghouses be considered as BACT. Since it is widely accepted that baghouses are the most effective control devices for PM/PM₁₀ emissions, there is no need for a top-down analysis of control options. The following emission limits are established for each rock mill (Nos. 5, 7 & 9) based on recent test data for the Nos. 5 & 9 mills:

**APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

POLLUTANT	EMISSION LIMIT	LIMIT BASIS	CONTROL TECHNOLOGY
PM/PM ₁₀	1.56 lb/hr	0.012 gr/scf	Fabric Filter
VE	5% opacity	BACT - wet rock processing	Same as PM/PM ₁₀
VE	0% opacity*	BACT - dry rock grinding*	Same as PM/PM ₁₀

* Applies only when dry rock is fed to the mills (in this mode the mills are "grinders" only)

COMPLIANCE

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

Compliance with the PM/PM₁₀ limit shall be in accordance with the EPA Reference Method 5 as contained in 40 CFR 60, Appendix A.

Compliance with the visible emission limit shall be in accordance with the EPA Reference Method 9 as contained in 40 CFR 60, Appendix A.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

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

Recommended By:

Approved By:

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

Howard L. Rhodes, Director
Division of Air Resources Management

Date:

Date:

Cargill Fertilizer, Inc.
No. 7 Rock Dryer/Grinder

DEP File No. 0570008-024-AC
PSD-FL-247

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, Florida Statutes. 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 or 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), Florida Statutes, the issuance of this permit does not convey and 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 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 acknowledgment 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 and 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.
- 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.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- 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, Florida Statutes. 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 Florida Statutes 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 Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., 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:
- (a) Determination of Best Available Control Technology (X);
 - (b) Determination of Prevention of Significant Deterioration (X); and
 - (c) Compliance with New Source Performance Standards (X)
- 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 or 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:
 - 1. The date, exact place, and time of sampling or measurements;
 - 2. The person responsible for performing the sampling or measurements;
 - 3. The dates analyses were performed;
 - 4. The person responsible for performing the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. 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.

APPENDIX CSC

EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

SUBSECTION 1.0 CONSTRUCTION REQUIREMENTS

- 1.1 Applicable Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) 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, 62-103, 62-204, 62-210, 62-212, 62-213, 62-296, 62-297; and the applicable requirements of the Code of Federal Regulations Section 40, Part 60, adopted by reference in the Florida Administrative Code regulation [Rule 62-204.800 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 requirements or regulations. [Rule 62-210.300, F.A.C.]

SUBSECTION 2.0 EMISSION LIMITING STANDARDS

- 2.1 General Particulate Emission Limiting Standards. General Visible Emissions Standard: Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer, or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20% opacity). [Rule 62-296-320(4)(b)1, F.A.C.]
- 2.2 Unconfined Emissions of Particulate Matter [Rule 62-296.320(4)(c), F.A.C.]
- (a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.
 - (b) Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter.
 - (c) Reasonable precautions include the following:
 - Paving and maintenance of roads, parking areas and yards.
 - Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
 - Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
 - Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.

APPENDIX CSC

EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

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

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

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

- (a) The owner or operator shall not store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems.
- (b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [F.A.C. 62-210.200(198)]

SUBSECTION 3.0 OPERATION AND MAINTENANCE

3.1 Changes/Modifications: The owner or operator shall submit to the Permitting Authority(s), for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential/actual emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. *Routine maintenance of equipment will not constitute a modification of this permit.* [Rule 62-4.030, 62-210.300 and 62-4.070(3), F.A.C.]

3.2 Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Permitting Authority as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from

APPENDIX CSC

EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]

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

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

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

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

(c) In case of excess emissions resulting from malfunctions, the owner or operator shall notify Permitting Authority within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. [Rule 62-210.700(6), F.A.C.]

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

SUBSECTION 4.0 MONITORING OF OPERATIONS

4.1 Determination of Process Variables

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

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

APPENDIX CSC

EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

SUBSECTION 5.0 TEST REQUIREMENTS

- 5.1 Test Performance. Within 60 days after achieving the maximum production rate at which these emission units will be operated, but not later than 180 days after initial startup and annually thereafter, the owner or operator of this facility shall conduct performance test(s) pursuant to 40 CFR 60.8, Subpart A, General Provisions and 40 CFR 60, Appendix A. No other test method shall be used unless approval from the Department has been received in writing. Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emission unit(s) operating at permitted capacity pursuant to Rule 62-297.310(2), F.A.C. [Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C.]
- 5.2 Test Procedures shall meet all applicable requirements of the Florida Administrative Code Chapter 62-297. [Rule 62-297.310, F.A.C.]
- 5.3 Test Notification: The owner or operator shall notify the Permitting Authority in writing at least (30) days (initial) and 15 days (annual) prior to each scheduled compliance test to allow witnessing. The notification shall include the compliance test date, place of such test, the expected test time, the facility contact person for the test, and the person or company conducting the test. The (30) or (15) day notification requirement may be waived at the discretion of the Department. Likewise, if circumstances prevent testing during the test window specified for the emission unit, the owner or operator may request an alternate test date before the expiration of this window. [Rule 62-297.310 and 40 CFR 60.8, F.A.C.]
- 5.4 Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rule 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Permitting Authority. [Rule 62-297.310(7)(b), F.A.C.]
- 5.5 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with Rule 62-297.310(6), F.A.C.
- 5.6 Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Air Monitoring and Mobile Sources of the Florida Department of Environmental Protection in accordance with the procedures specified in Rule 62-297.620, F.A.C.
- 5.7 Operating Rate During Testing: Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operation at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum

APPENDIX CSC

EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2) and (3), F.A.C.]

SUBSECTION 6.0 REPORTS AND RECORDS

- 6.1 Duration: All reports and records required by this permit shall be kept for at least (5) years from the date the information was recorded. [Rule 62-4.160(14)(b), F.A.C.]
- 6.2 Emission Compliance Stack Test Reports:
- (a) A *test report* indicating the results of the required compliance tests shall be filed with the Permitting Authority as soon as practical, but no later than 45 days after the last sampling run is completed. [Rule 62-297.310(8), F.A.C.]
 - (b) The *test report* shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.
- 6.3 Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the Permitting Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. [Rules 62-4.130 and 62-210.700(6), F.A.C.]
- 6.4 Annual Operating Report for Air Pollutant Emitting Facility: Before March 1st of each year, the owner or operator shall submit to the Permitting Authority this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. [Rule 62-210.370(3), F.A.C.]

SUBSECTION 7.0 OTHER REQUIREMENTS

- 7.1 Waste Disposal: The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

Memorandum

Florida Department of Environmental Protection

TO: ~~Clair Fancy~~

THRU: A. A. Linero *AA Linero 9/21*

FROM: John Reynolds *JR*

DATE: September 21, 1998

SUBJECT: Cargill Fertilizer, Phosphate Rock Grinding/Drying System No. 7
DEP File No. 0570008-024 AC (PSD-FL-247)

Attached is the Intent to Issue for the construction of a third phosphate rock grinding and drying system at Cargill Fertilizer in Riverview. The phosphate rock affected by this project is used primarily to react with phosphoric acid to make granular triple superphosphate. We made a BACT determination of 1.56 lb/hr PM/PM₁₀ based on 0.012 gr/scf for the exhaust flow rate specified for the rock grinding/drying system. Cargill had proposed 2.10 lb/hr and 0.016 gr/scf.

We also found a potentially significant source of fluoride emissions that was not even addressed as a fluoride emitter in the initial application. Phosphoric acid from the clarifier tank will be reacted with phosphate rock from the new mill for the purpose of improving acid quality by desulfation, thereby generating fluoride emissions just like a triple superphosphate plant does. At our request, Cargill agreed to install a packed bed scrubber on the desulfation unit to satisfy the BACT requirement.

At one point, Hillsborough County urged us to deny the permit on several grounds including accuracy of the weigh scales; treatment of new drying/grinding system as a modification of the existing grinding/drying systems; consolidation of various simultaneous projects at Cargill; and application of BACT to upstream and downstream units. We anticipate that Hillsborough County's concerns will be resolved once they understand our approach of including all three rock mills in the same PSD permit and that each mill will be required to meet the same BACT emission limits.

The history of permitting of these rock mills is long and controversial, with the county making accusations of "sham permitting" by the district when they issued a non-PSD construction permit for the same project that Cargill had also applied to BAR for (as a PSD project). For this reason, we included a chronological summary in the Technical Evaluation so that any future concerns about what occurred can be put into proper perspective. Also, we could not avoid attempting to resolve at this time the upstream/downstream emissions issues that Hillsborough County brought forth.



Department of Environmental Protection

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

P.E. Certification Statement

Permittee:

DEP File No. 0570008-024-AC (PSD-FL-247)

Cargill Fertilizer, Inc.
8813 US Highway 41 South
Riverview, Hillsborough County

Project type:

Project to add a 25 TPH wet phosphate rock drying and grinding mill primarily supplying the GTSP process at the Cargill Riverview Fertilizer Complex. Best Available Control Technology (BACT) is installation of a baghouse to reduce particulate emissions to 0.012 grains per dry standard cubic foot and an opacity limit of 5 percent. BACT for the phosphoric acid desulfation consists of installation of a packed scrubber designed to reduce fluoride emissions by 99+ percent (towards equilibrium). Although actual production of GTSP, MAP, and DAP will increase somewhat, projects for these processes are being reviewed or have been recently reviewed for PSD and BACT assuming the higher production rates. Only the new desulfation step was reviewed in addition to the rock mill project.

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).

9/21/98

A. A. Linero, P.E.

Date

Registration Number: 26032

Department of Environmental Protection

Bureau of Air Regulation

New Source Review Section

111 South Magnolia Drive, Suite 4

Tallahassee, Florida 32301

Phone (850) 921-9523

Fax (850) 922-6979

af 9/21

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 David B. Jellerson, PE
 Cassell Industries
 8813 US Hwy 41 South
 Riverview, FL 34221

4a. Article Number
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 PSD-FL-247

PS Form 3800, April 1995