

Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy
FROM: Al Linero *Al Linero*
DATE: February 14, 1997
SUBJECT: Cargill/Riverview and Bartow Phosphoric Acid Plants/PSD-FL 224, 231

Attached are letters modifying the process descriptions of the subject construction permits. The modifications consist of allowing the installation of additional process equipment to extend the length of periods between shutdowns for maintenance. The emissions increases associated with the installation were accounted for in recent PSD evaluations conducted for each facility.

Public notice is being required because Cargill did not describe these physical changes in their previous applications and they do in fact result in actual emissions increases.

Kim - Send out Already signed - Memo covers two permits.

Reference: 1050024 - 002 - AC PSD-FL-224 (BARTOW)
0570008 - 018 - AC PSD-FL-231 (RIVERVIEW)

We indicated 001 + 002, but this is no problem. We will indicate correct #'s on final permit + update correct screens on ARMS.

Al



RECEIVED

DEC 17 1996

**BUREAU OF
AIR REGULATION**

December 16, 1996

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

Re: Cargill Fertilizer, Inc.
Installation of Evaporator and Associated Equipment
Bartow Nos. 4 and 5 Phosphoric Acid Plants; PSD-FL-224 (AC53-262532)

Dear Mr. Linero:

KBN is in receipt of the Department's letter dated November 26, 1996, concerning the proposed addition of an evaporator and associated equipment at the Bartow phosphoric acid plant. The purpose of our response is to provide further information and documentation that the proposed changes will not result in an increase in actual emissions, and to request a modification to the existing construction permit to allow construction of this additional equipment.

The information provided below is presented in order to support the following conclusions which are certified by the engineer-of-record (David A. Buff, P.E.):

1. There will be no increase in allowable fluoride emissions from the phosphoric acid plant as a result of the proposed evaporator additions.
2. The existing evaporators at the Bartow plant are now capable of accommodating the phosphoric acid production rate allowed in the current construction permit (170 TPH P_2O_5).
3. There will result no increase in actual emissions from the phosphoric acid plant (as defined by Florida regulations) due to the evaporator addition. The very small fluoride emissions from one fluorosilicic acid (FSA) seal tank at each plant (estimated at 0.001 lb/hr and 0.004 TPY), will be vented to one of the existing process scrubbers and therefore will be included in the current allowable emissions for the plant.

The above referenced construction permit was issued on August 24, 1995, in order to allow a phosphoric acid production rate increase up to 170 TPH P_2O_5 . The phosphoric acid reactors were already capable of handling the increased production rate. At Bartow, a third phosphoric acid filter was to be added to effect the increase.

At Bartow, construction of the third filter has been completed, but changes to the wet rock grinding system, which feeds the phosphoric acid plant reactors, are still underway and are needed in order to achieve the permitted production capacity. These changes are expected to be completed in January, 1997.

9651114A/05

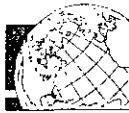
6241 Northwest 23rd Street
Suite 500
Gainesville, Florida 32653-1500
352-336-5600 FAX 352-336-6603

5405 West Cypress Street
Suite 215
Tampa, Florida 33607
813-287-1717 FAX 813-287-1716

1801 Clint Moore Road
Suite 105
Boca Raton, Florida 33487
407-994-9910 FAX 407-994-9393

7785 Baymeadows Way
Suite 105
Jacksonville, Florida 32256
904-739-5600 FAX 904-739-7777

1616 'P' Street NW
Suite 350
Washington, DC 20036
202-462-1100 FAX 202-462-2270



The latest compliance test on the phosphoric acid plant at Bartow was conducted on August 30, 1996. The operating rate during testing was 2,904 TPD P_2O_5 (121 TPH P_2O_5). The maximum operating rate of the plant since issuance of the construction permit has been 3,260 TPD P_2O_5 (135.8 TPH P_2O_5).

Based on the situation described above, the Bartow phosphoric acid plant has not yet begun "normal operations" under the current construction permit. Construction activities are still ongoing.

The evaporator process equipment additions now being requested (evaporator, FSA recovery unit, condenser and seal tank) are not related to, and have no effect upon, the increase in phosphoric acid production capacity to 170 TPH P_2O_5 . First, there is significant phosphoric acid storage capacity between the reactor/filter systems and the evaporator system. Secondly, a major portion of the phosphoric acid produced in the reactors is never sent to the evaporators, but instead is sent directly to the granulation plants as 30% acid (i.e., DAP, MAP, etc.). Only the phosphoric acid required to produce the necessary 50% acid for the other plants is sent to the evaporators. Thus, the evaporators operate independently of the reactors/filters.

The existing evaporators at Bartow are currently capable of handling any expected increase in phosphoric acid throughput resulting from the production rate increase. As described above, the current bottleneck in the plant is the wet rock grinding system. The reason for the additional equipment evaporator is two fold. The primary reason for the new evaporator is to improve the energy efficiency of the existing evaporators. Phosphoric acid evaporators operate most efficiently when they are operating within a certain range of throughput rates or steam rates. When acid loadings beyond the ideal range occurs, energy efficiency decreases, causing higher energy (steam) demands. With the approved increase in phosphoric acid production, the existing evaporators would be loaded beyond the ideal range. Therefore, addition of an evaporator will allow all evaporator rates to remain within the ideal range.

A secondary reason for installation of the new evaporator is that maintenance on the existing evaporators will be reduced, resulting in cost savings. As in the case of energy efficiency, as loadings on the evaporators increase beyond an ideal range, the amount and frequency of maintenance increases. Installation of the new evaporator will allow the loading on each individual evaporator to be reduced, thereby lowering the maintenance requirements.

The additional evaporator equipment does not represent a source of air emissions itself, except for an FSA seal tank. The seal tank will be vented to the process scrubber system. Previous testing of a phosphoric acid tank at the Riverview facility which was vented to a scrubber showed fluoride emissions to be only 0.001 lb/hr (0.004 TPY). This extremely low level of emissions would not be measurable by current stack sampling methods.

According to the Florida air rules, a modification is defined in Rule 62-210.200(185) as:

"Any physical change in, charge in the method of operation, or addition to a facility which would result in an increase in the actual emissions of any air pollutant..."

Rule 62-210.200(12) defines "actual emissions" as the actual rate of emission of a pollutant from an emissions unit as determined in accordance with the following provisions:



(a) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of the normal operation of the emissions unit.

The Department may allow the use of a different time period upon a determination that it is more representative of the normal operation of the emissions unit. Actual emissions shall be calculated using the emissions unit's actual operating hours, production rates and types of materials processed, stored, or combusted during the selected time period.

(b) The Department may presume that unit-specific allowable emissions for an emissions unit are equivalent to the actual emissions of the emissions unit provided that, for any regulated air pollutant, such unit-specific allowable emissions limits are federally enforceable.

(c) For any emissions unit (other than an electric utility steam generating unit specified in Subparagraph (d) of this definition) which has not begun normal operations on a particular date, actual emissions shall equal the potential emissions of the emissions unit on that date.

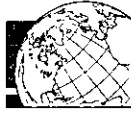
As described above in subparagraph (b) above, the Department can presume that unit-specific allowable emissions are equivalent to the actual emissions. The Bartow phosphoric acid plant has a unit-specific allowable emission limit for fluorides, which is based on the BACT determination issued with the PSD permit. The Department has the discretion to make this presumption, and if it did so, no modification would occur since Cargill is not requesting any increase in allowable emissions.

As described in subparagraph (c) above, for any emissions units other than an electric utility unit, which has not begun normal operations on a particular date, actual emissions shall equal the potential emissions of the emissions unit on that date. Since the phosphoric acid plant is under a construction permit, and normal operations have not yet begun, the actual emissions would equal the potential emissions. Under this provision, there will be no increase in emissions due to the additional equipment, and therefore a modification will not result.

To summarize, the Cargill Bartow phosphoric acid plant has recently been issued a PSD permit for an increase in phosphoric acid production. The emissions unit was subject to a rigorous PSD permitting effort (in 1995). This permit resulted in a BACT determination and fluoride emission limit. The addition of one evaporator to the plant will not affect the phosphoric acid production capability of the plant, and will not increase the allowable emissions from the plant. Although the evaporator seal tank may produce an extremely small amount of fluorides, according to the Florida definition of actual emissions, actual emissions from the emissions unit will not increase.

It is my understanding that this request will be processed as a minor modification to the existing construction permit. Therefore, an application processing fee of \$250 is attached. I also understand that a public notice will be required.

My professional engineer's certification statement is provided below. Please call if you have any questions concerning this information.



Professional Engineer Statement:

I, the undersigned, hereby certify that:

(1) To the best of my knowledge, there is reasonable assurance (a) that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of air emissions of the pollutants characterized in this application.

David A. Buff, P.E.

David A. Buff
Signature

December 16, 1996
Date

Florida P. E. #19011
(seal)

DB/lcb

cc: David Jellerson
Kathy Edgemon
Clair Fancy
File (2)

cc: JWD
J. Reynolds

KBN ENGINEERING AND APPLIED SCIENCES, INC.

PSD F1-224

021838

PLEASE DETACH AND RETAIN FOR YOUR RECORDS

INVOICE NUMBER	DATE		VOUCHER NO.	AMOUNT
	12/13/96	Permit Application Fee		\$250.00

KBN Engineering and Applied Sciences, Inc.

GENERAL DISBURSEMENT ACCOUNT

PH. 352-336-5600
6241 N.W. 23RD ST., SUITE 500
GAINESVILLE, FL 32653-1500

First Union National Bank
of Florida
Gainesville, Florida 32605

63-2/630
Branch 311

021838

December 13 1996

PAY*****250*****DOLLARS AND 00 CENTS \$ **250.00

TO THE Florida Dept of Environmental Protection
ORDER OF

KBN ENGINEERING AND APPLIED SCIENCES, INC.


AUTHORIZED SIGNATURE

⑈021838⑈ ⑈06300002⑈ ⑈2131100925716⑈



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

November 26, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David A. Buff, P.E.
KBN Engineering and Applied Sciences, Inc.
6241 Northwest 23rd Street - Suite 500
Gainesville, Florida 32653-1500

RE: Requests dated October 1, 1996 for Cargill's Bartow (PSD-FL-224) and Riverview (PSD-FL-231)
Phosphoric Acid Plant Permit Amendments - Change in Scope to Add Major Process Equipment


Dear Mr. Buff:

After reviewing KBN's letter dated October 28, the Department believes that adding major equipment (evaporator, vacuum cooler, centrifuge, storage tanks, etc.) is well beyond the scope of the original permit request which involved no process equipment changes. As stated in your letter, Cargill had not budgeted any of this equipment when the original permit was issued, and the additional equipment reflects new or "redefined" priorities not contemplated by Cargill when it accepted the original permit. Further, Cargill acknowledges that there will be an increase in annual emissions from this modification.

Rules 62-210.200(183) and 62-210.300, F.A.C., require that a physical change resulting in increased actual emissions be permitted as a modification of the facility, therefore, it could not be handled as an administrative change to the old permit. To process it as a new application, we would need to know the estimated increase in actual annual emissions due to the projected increased annual production.

If you have other information to show why this conclusion is not correct, please advise. Also, in regard to Cargill's claim that certain other emissions are unregulated under the NSPS, please note EPA's November 1 exception to this claim.

Sincerely,

for 
A. A. Lincro, P.E.
Administrator
New Source Review Section

AAL/jr

c: B. Thomas, SWD
J. Campbell, EPCHC
K. Goff, EPA Region IV
D. Jellerson, Cargill

P 265 659 091

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PSD-FI-224	
PSD-FI-231	

PS Form 3800 April 1995

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David A. Buff, PE
KBN Engineering & AS
6241 NW 23rd St, Suite 500
Gainesville, FL
32653-1500

4a. Article Number

P 265 659 091

4b. Service Type

- | | |
|---|---|
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| <input type="checkbox"/> Express Mail | <input type="checkbox"/> Return Receipt for Merchandise |

7. Date of Delivery

12-2-96

5. Signature (Addressee)

Diana G. Weaver

6. Signature (Agent)

C. Smith

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PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

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NOV 06 1996

BUREAU OF
AIR REGULATION

4APT-ARB

NOV 01 1996

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

SUBJ: Cargill Fertilizer, Inc.
Riverview Phosphoric Acid Plant Nos. 3 and 4 (PSD-FL-231)
Bartow Phosphoric Acid Plant Nos. 4 and 5 (PSD-FL-224)

Dear Mr. Linero:

We have received a copy of the August 29, 1996, letter which was submitted to you by KBN Engineering and Applied Sciences, Inc. (KBN) regarding the above referenced facilities and applicability of New Source Performance Standards (NSPS), Subpart T - Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants. We concur with the contents of that letter in that emission units at wet-process phosphoric acid plants regulated by Subpart T include only reactors, filters, evaporators, and hot wells. However, we disagree with the third paragraph of the KBN letter which states that fugitive emissions from filters are "non-NSPS" sources which are not covered by the NSPS standard for fluorides. As indicated in the Subpart T regulation at 40 CFR 60.202, the standard for fluorides applies to any gases from any affected facilities. Since capture efficiencies for emissions from filters are typically high, we agree with the KBN position that fugitive emissions from filters are usually insignificant. From a practical standpoint, it is unnecessary to account for fugitive emissions when testing facilities whose control systems are designed and operated to capture all, or nearly all, of the emissions from regulated emission units.

We have also received your October 3, 1996, letter regarding project changes at Cargill Fertilizer's Bartow and Riverview facilities. These process changes are summarized in letters from KBN which are dated October 1, 1996. Each of these two Cargill facilities have recently received construction permits to allow an increase in their production rates. In addition to the activities described in the permit applications and the permits, an additional phosphoric acid evaporator will be installed at each of the two facilities. The addition of an evaporator at each facility will increase the energy efficiency of the existing units and increase the operating time between required cleanings. The proposed process changes will not result in any change in the maximum permitted phosphoric acid production rates at the two facilities, nor will they change the maximum permitted fluoride

emission rates from the process scrubbers. Based on the information supplied regarding the proposed changes, we do not have any comments.

If there are any questions regarding the contents of this letter, please contact Keith Goff of my staff at (404)562-9137.

Sincerely yours,



R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides, and Toxics
Management Division

cc: Mr. David A. Buff
KBN Engineering and Applied Sciences, Inc.

cc: D. Jellerson, Carzell
J. Campbell, HCEPC
B. Thomas, SWD
B. Beale, NPS
J. Reynolds, BAR



October 28, 1996

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

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OCT 31 1996

BUREAU OF
AIR REGULATION

Re: Cargill Fertilizer, Inc.
Riverview Nos. 3 and 4 Phosphoric Acid Plants; PSD-FL-231 (0570008-004-AC)
Bartow Nos. 5 and 5 Phosphoric Acid Plants; PSD-FL-224 (AC53-262532)

Dear Mr. Linero:

KBN is in receipt of the Department's letter dated October 16, 1996. Responses to each of the Department's information requests is provided below, in the same order as presented in the Department's letter.

1. The process equipment being added as part of the increase in production capacity of the two phosphoric acid plants (evaporator, FSA recovery unit, condenser, centrifuge, storage tanks, etc.) was not originally included in the capital budget for the projects. Since the original permitting, Cargill has redefined priorities within the fertilizer plants, and has approved funding for this equipment. As explained in KBN's letter, the additional equipment will provide improved operation and efficiencies in the phosphoric acid production process, as well as reduce maintenance. This will allow the permitted production rates to be met more readily, and on a more consistent basis.
2. No increase in actual short-term production rates or emissions are contemplated as a result of this additional equipment. These rates will be limited by the phosphoric acid reactors and filters. Other than the storage tanks, which are very small sources of emissions, the additional equipment will not itself result in emissions. As described above, less downtime is expected to result and therefore additional phosphoric acid may be produced on an annual basis, but will not exceed the permitted capacity of the plants. Since the plants are currently under construction permits, there is no long-term operating experience upon which to judge if there will result an increase in annual emissions due solely to this additional equipment. Florida's PSD rules, in Rule 62-210.200(12)(c), states that for any emissions units other than an electric utility unit, which has not begun normal operations on a particular date, actual emissions shall equal the potential emissions of the emissions unit on that date. Since the two phosphoric acid plants are under construction permits, and normal operations have not yet begun, the actual emissions would equal the potential emissions. Under this provision, there will be no increase in emissions due to the additional equipment.
3. The original BACT determination, issued in August 1995, for the new third filter at the Bartow plant referenced tank/clarifier emissions evacuated to the main process scrubbers, but did not address tanks, clarifiers, etc., vented to other scrubbers within the phosphoric acid plant. Therefore, this equipment is considered to be unregulated. The construction permit conditions addressed excess emissions when a scrubber serving tanks and clarifiers was down for maintenance. The fluoride emission limit for the plant regulated total emissions from the Nos. 4 and 5 Phosphoric Acid plants.

The EPA letter clarifying that tanks, clarifiers, etc., were not regulated under the NSPS was issued in September 1995. Subsequently, in November 1995, Cargill requested that the Department delete the reference to tanks and clarifiers in the permit, since they were now considered as unregulated sources. The Department agreed with this request and amended the construction permit on January 11, 1996, by deleting the references to this equipment.

9651114A/3

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Suite 500
Gainesville, Florida 32653-1500
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Suite 215
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Suite 105
Jacksonville, Florida 32256
904-739-5600 FAX 904-739-7777

1616 'P' Street NW
Suite 350
Washington, DC 20036
202-462-1100 FAX 202-462-2270



The BACT determination issued for the Riverview phosphoric acid plant in August 1996 referenced the Bartow BACT determination in setting the BACT limit, but did not specifically state that the tanks and clarifiers were part of the determination. The fluoride emission limit in the Riverview permit regulated emissions only from the reactors and filters. Tanks, clarifiers, etc., were not specifically regulated.

To further clarify the regulation of tanks and clarifiers in phosphoric acid plants, and after discussion with Al Linero, Administrator of the New Source Review Section, Cargill submitted a letter clarification to the Department dated August 29, 1996. This letter clarified that non-NSPS sources within the phosphoric acid plants which are not vented to one of the three regulated process scrubbers at each plant are not covered under the specific emission limits in the recent construction permits, and are not specifically regulated by the permits.

Fluoride emissions from the phosphoric acid tanks, clarifiers, etc., are extremely small, as evidenced by the Department's own evaluation in the Bartow BACT determination. In that determination, these sources were estimated to emit 0.016 lb/hr fluoride. Therefore, these sources do not warrant regulation. In Cargill's Title V applications, potential sources within the phosphoric acid plants which have previously been unregulated were included in the facility-wide unregulated emission unit for each facility. The listing of sources considered in this facility-wide emission unit for the Bartow facility is attached. The Riverview Title V application included a similar listing. In addition, in the Phosphoric Acid plant emission unit within each Title V application, it was noted that fugitive emissions could occur from this emissions unit, and that based on previous FDEP interpretations and permitting history, these emissions are not regulated under federal/state/local emission standards.

4. Cargill is not currently planning on removing the evacuation lines from the unregulated acid tanks, clarifiers, slurry tanks, settlers, etc. However, Cargill may decide that a particular source no longer needs to be evacuated and/or controlled based on in-plant air quality considerations. For example, a tank could be evacuated via a tall stack and alleviate any worker safety concerns, even though emissions are uncontrolled. Cargill voluntarily controlled these sources based on in-plant worker concerns, but should be free to remove these controls if desired since there are no air quality control requirements. It is also noted that some tanks/clarifiers are not currently evacuated, and some are evacuated but not to the main process scrubbers; they are evacuated to separate scrubbers.

Thank you for consideration of these responses. Please call if you have any questions concerning this information.

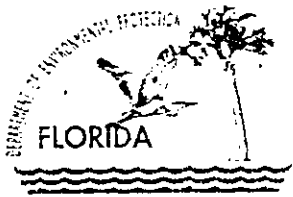
Sincerely,

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

S E A L

DB/arz

cc: David Jellerson
Kathy Edgemon
File (2)



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 16, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David A. Buff, P.E.
KBN Engineering and Applied Sciences, Inc.
6241 Northwest 23rd Street - Suite 500
Gainesville, Florida 32653-1500

Re: Requests dated October 1, 1996 for Cargill's Bartow (PSD-FL-224) and Riverview (PSD-FL-231) Phosphoric Acid Plant Permit Amendments - Change in Project Descriptions to Add Major Process Equipment

Dear Mr. Buff:

In response to KBN's requests referenced above, the Department needs the following additional information:

1. An explanation of why these major process equipment additions (evaporators, vacuum cooler, centrifuge, storage tanks, etc.) were not contemplated in the original scope of work for these projects.
2. An assessment of the actual increases in production capacity and potential to emit if these equipment additions were classified as new projects and a construction permit had not already been issued.
3. An explanation of why Cargill considers the fugitive tank/clarifier emissions as unregulated when BACT determinations in PSD permits may supersede the applicable federal NSPS. Also explain how these fugitive emissions are being handled in the Title V permit application.
4. An explanation of why or under what circumstances Cargill would remove the evacuation lines to the process scrubbers.

If there are any questions regarding the above, please contact John Reynolds or myself at (904) 488-1344.

Sincerely,

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

AAL/jr

cc: B. Thomas, SWD
J. Campbell, EPCHC
D. Jellerson, Cargill

P 339 251 170

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Return Receipt Showing to Whom & Date Delivered	
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TOTAL Postage & Fees	\$
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	PSD-FI-224
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PS Form 3800, April 1995

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3. Article Addressed to:
David A. Buff, PE
KBN Engineering & A.S.
6241 NW 23rd St, Suite 500
Dainesville, 31

4a. Article Number
P 339 251 170

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

7. Date of Delivery
10/21/96

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

5. Signature (Addressee)
J. D. Kosky

6. Signature (Agent)

Thank you for using Return Receipt Service.



October 1, 1996

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

Re: Cargill Fertilizer, Inc.
Bartow Nos. 4 and 5 Phosphoric Acid Plants
AC53-262532; PSD-FL-224

AIRS ID 1050046

RECEIVED
OCT 2 1996
BUREAU OF
AIR REGULATION

Dear Mr. Linero:

On August 24, 1995, Cargill received the above-referenced construction permit for increasing the production rate of the Nos. 4 and 5 Phosphoric Acid Plants at the Bartow facility. By means of this correspondence, Cargill is advising the Department of a change in the project description for this project. In addition to the activities described in the permit application and on the face of the construction permit, Cargill will be installing an additional phosphoric acid evaporator at the Bartow phosphoric acid plant.

Currently, the Bartow phosphoric acid plant complex includes 11 evaporators that concentrate phosphoric acid from about 30 percent strength to approximately 50 percent strength. At the same time, fluorides are recovered from the evaporators in the form of fluorosilicic acid (FSA).

The additional evaporator will reduce the loading on the existing evaporators, thereby increasing the energy efficiency of existing units and reducing the frequency of cleaning the existing evaporators. The new evaporator will also be capable of fluoride recovery. The new equipment will include the evaporator, FSA recovery unit, condenser, FSA seal tank, and a condenser seal tank.

As with the evaporators currently in operation, the only emissions associated with the new evaporator will be evacuation of the FSA seal tank to an existing process scrubber. Following FSA recovery, all fumes are quenched in a barometric condenser. The barometric condenser is equipped with a seal tank that uses process water (pond water) from the phosphoric acid production process.

A flow diagram of the new process equipment is attached. A revised flow diagram of the Bartow phosphoric acid plant is also attached, incorporating these changes.

The U.S. Environmental Protection Agency (EPA) has determined that fugitive emissions from phosphoric acid tanks, clarifiers, slurry tanks, settlers, etc., are not part of the affected facility and are unregulated (refer to attached copy of letter). However, several of the existing tanks associated with Cargill's phosphoric acid production facility are equipped with evacuation lines in order to direct any fugitive emissions away from personnel working in the area. The evacuation lines are ducted to the process scrubbers. However, since these sources are unregulated, Cargill reserves the right to remove these evacuation lines in the future without notification to the Department.

9651114A/02

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1616 'P' Street NW
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Washington, DC 20036
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Mr. Al Linero, P.E.

Page 2

October 1, 1996



These changes to the process will not result in any change in the maximum permitted phosphoric acid production rate of 170 TPH P_2O_5 , nor will they change the maximum permitted fluoride emission rate of 2.29 lb/hr and 10.01 TPY total from the three process scrubbers. As a result, I believe this request would involve only an administrative change to the recently issued permit.

A check for \$250 is enclosed to cover the permit application fee. Please call if you have any questions concerning this request.

Sincerely,

David A. Buff

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

SEAL

DB/lcb

cc: David Jellerson
Kathy Edgemon
File (2)

CC: EPA
NPS
SWD
Polk Co
A. Linero



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AEB

SEP 15 1995

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

RE: New Source Performance Standards (NSPS)-Subpart T
Phosphate Fertilizer Industry: Wet-Process Phosphoric
Acid Plants

Dear Mr. Fancy:

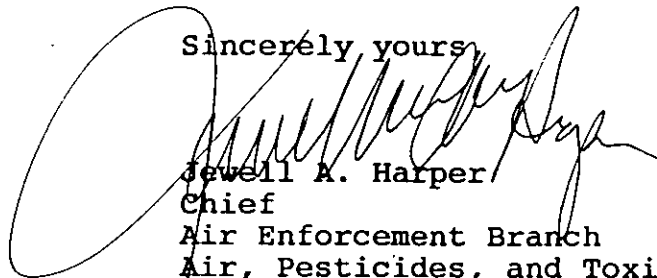
On May 25, 1995, we received a letter from KBN Engineering and Applied Sciences, Inc. (KBN) regarding a determination which we made on August 11, 1988, concerning the New Source Performance Standards (NSPS) for Subpart T - Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants. Our August 11, 1988, letter was sent to the Hillsborough County Environmental Protection Commission in response to a June 16, 1988, letter we had received from them concerning Gardinier, Inc. in Gibsonton, Florida. A copy of this correspondence is enclosed for your review. The letter we have received from KBN relates to the emission sources which are components of an affected facility and requests clarification concerning the determination which was made in reference to Gardinier, Inc. Based on our further review of this issue, we have determined that our August 11, 1988, letter regarding emission sources which are included in an affected facility is partially incorrect. Because of the importance of this issue and its connection to Title V permitting requirements, we are bringing it to your attention.

As stated in the Subpart T regulations at 40 CFR Part 60.200(a), an affected facility includes any combination of reactors, filters, evaporators, and hot wells. Further clarification regarding the sources which are regulated in an affected facility is provided in the Federal Register, Vol. 40, No. 152, August 6, 1975, which states that any sources not listed in the regulation are not components of an affected facility and are not covered by the standard for fluorides. Therefore, sources such as clarifiers, phosphoric acid storage tanks, and evaporator feed tanks are not included in the affected facility and are not subject to the standards for fluorides specified in the Subpart T regulations.

The determination provided in our August 11, 1988, letter that phosphoric acid plant Nos. 3 and 4 at Gardinier are considered to be parts of one affected facility subject to 40 CFR Part 60, Subpart T, remains intact. The definition of an affected facility is any combination of reactors, filters, evaporators, and hot wells. At the Gardinier facility, plant Nos. 3 and 4 are two reactors which utilize common filters, evaporators, and hot wells, and the two plants are considered to be in the same affected facility.

If there are any questions regarding the contents of this letter, please contact Keith Goff of my staff at (404)347-3555, extension 4141.

Sincerely yours,



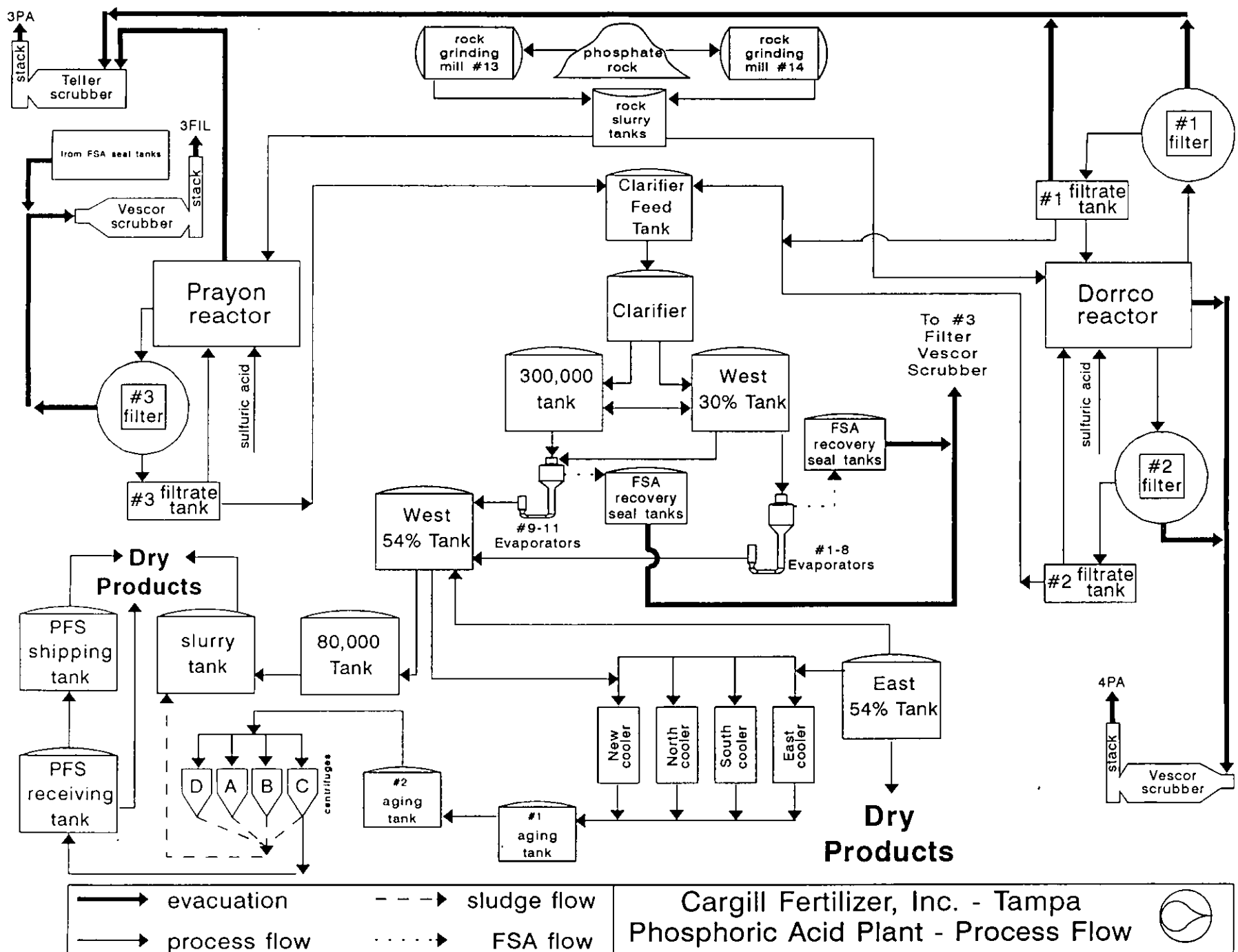
Jewell A. Harper
Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

Attachments

cc: Mr. Iwan Choronenko, Director
Hillsborough County Environmental Protection Commission

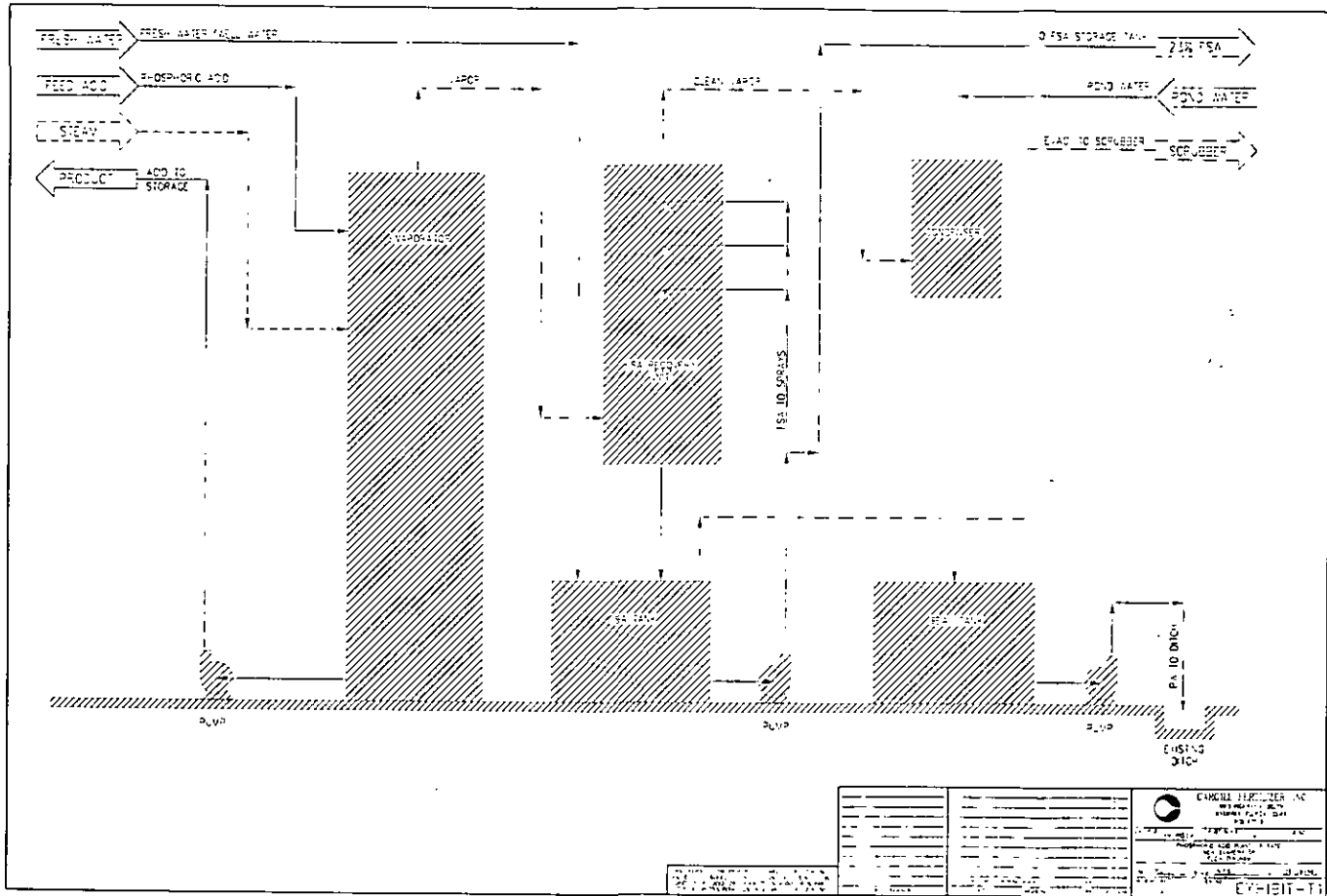
Mr. Jerry Campbell
Hillsborough County Environmental Protection Commission

✓ Mr. Dave Buff, P.E.
KBN Engineering and Applied Sciences, Inc.



Cargill Fertilizer, Inc. - Tampa
Phosphoric Acid Plant - Process Flow





021111

KBN ENGINEERING AND APPLIED SCIENCES, INC.

PLEASE DETACH AND RETAIN FOR YOUR RECORDS

INVOICE NUMBER	DATE		VOUCHER NO.	AMOUNT
	9/20/96			250.00

KBN Engineering and Applied Sciences, Inc.
GENERAL DISBURSEMENT ACCOUNT
 PH. 352-336-5600
 6241 N.W. 23RD ST., SUITE 500
 GAINESVILLE, FL 32653-1500

First Union National Bank
 of Florida
 Gainesville, Florida 32605 63-2/630
 Branch 311

021111

September 20 19 96

PAY*****250*****DOLLARS AND 00 CENTS \$**250.00

TO THE Florida Dept of Environmental Protection
 ORDER
 OF

KBN ENGINEERING AND APPLIED SCIENCES, INC.

D. A. B. /

AUTHORIZED SIGNATURE

021111 063000021 2131100925716



August 29, 1996

Mr. AJ Linero, P.E.
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED
AUG 30 1996
BUREAU OF
AIR REGULATION

Re: Cargill Fertilizer, Inc.
Riverview Phosphoric Acid Plant: PSD-FL-231; 0570008-004-AC
Bartow Phosphoric Acid Plant: PSD-FL-224; AC53-262532

Dear Mr. Linero:

This correspondence is a follow up to our telephone conversation last week concerning Cargill Fertilizer's phosphoric acid plants. Cargill Fertilizer operates phosphoric acid plants at the Riverview and Bartow fertilizer production facilities. Each of the phosphoric acid plants are currently under construction permits, and each of these permits contain a condition which limits total fluoride emissions from the phosphoric acid plants. In the Riverview construction permit, Specific Condition 4 limits fluoride emissions from the Nos. 3 and 4 Phosphoric Acid Plants to 2.29 lb/hr and 10.03 TPY. A total of 3 scrubbers are regulated under this permit. In the Bartow construction permit, Specific Condition 4 limits fluoride emissions from the Nos. 4 and 5 Phosphoric Acid Plants to 2.29 lb/hr and 10.01 TPY. A total of 3 scrubbers are regulated under this permit.

The purpose of this correspondence is to clarify that the fluoride limits contained in these two permits apply to the specific emission sources in each plant which are vented to the regulated scrubbers. These sources include affected units regulated under the NSPS for phosphoric acid plants (40 CFR 60, Subpart T), which consists of reactors, filters, evaporators and hot wells. The U.S. EPA, in a letter to Clair Fancy dated September 15, 1995, clarified that only reactors, filters, evaporators and hot wells are covered under the NSPS standards. Other non-NSPS sources may also be vented to the regulated scrubbers.

Other non-NSPS sources which are not vented to the regulated scrubbers, such as fugitive emissions from filters and emissions from clarifiers and tanks, are not covered under the specific emission limits contained in the permits. These non-NSPS sources within the phosphoric acid plants are considered to be insignificant, and are not regulated under the permit. This clarification would also be consistent with the testing requirements specified in the above referenced permits, which requires source testing for only the regulated scrubbers.

If no comments are received from the Department in regards to this correspondence, it will be concluded that the Department is in agreement with our interpretation.

Sincerely,

David A. Buff
David A. Buff, P.E.
Principal Engineer

cc: David Jellerson
Kathy Edgemon
File (2)

DB/mlb

SEAL
Florida P.E. #19011

*cc: J. Reynolds, BAR
B. Thomas, SWD
J. Campbell, EPCHC
J. Bunyak, NPS
J. Harper, EPA
R. Harwood, Polk Co.*

14363A/3

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