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October 1, 2003

Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399-2400

RECEIVED

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BUREAU OF AIR REGULATION

Attention: Mr. Syed Arif, P. E.

RE: CARGILL FERTILIZER INC., GREEN BAY FACILITY
DEP FILE NO. 1050053-033-AC/PSD-FL-334
MODIFICATION OF PHOSPHORIC ACID PLANTS AND MAP/DAP PLANTS

Dear Mr. Arif:

Cargill Fertilizer Inc. (Cargill) has received the Department's letter dated May 23, 2003, concerning the application to modify the Green Bay facility. Cargill is providing the following additional information regarding this permit application in response to the Department's request.

1. **Please provide in detail with drawings the different scrubber systems being used and the proposed new scrubbers, if any, for the three Phosphoric acid plants and the two MAP/DAP plants. The information should include but not be limited to sufficient engineering description of the new and existing scrubbers including their calculated design efficiencies for PM/PM₁₀ and fluoride removal and provide mechanical sketches of their design.**

The selection of the emission control systems proposed by Cargill is based on actual performance and test results from the operating emission control units rather than on theoretical design efficiencies, as described below.

Phosphoric Acid Plants (PAPs) -

A review of the emission test history for the PAP scrubbers demonstrates that all three of the existing scrubbers installed on the PAP No. 1 and PAP No. 2 plants perform at BACT levels (i.e., fluoride emissions of less than 0.012 lb/ton P₂O₅). See revised Table 5-3 in Attachment A. Note that this table has been revised from the original application to include the 2003 compliance test results. Also note that the fluoride emissions for the entire PAP (all three sources combined) in lb/ton P₂O₅ input, presented in the original Table 5-3, were stated incorrectly. The correct values, obtained by summing the total fluoride emissions measured for each source and dividing this sum by the sum of the process rates for each source, are shown in the revised Table 5-3.

Over the last four compliance tests, fluoride emissions have ranged from 0.0015 to 0.0096 lb/ton P₂O₅. Evaluation of the data and scrubber parameters indicates that the emission levels from these scrubbers are governed by the air/water fluoride equilibrium. This equilibrium can vary each year based on the pond water fluoride concentration, which is affected by process

variables as well as rainfall amounts. Therefore, as shown by the test data, fluoride emissions can range up to the proposed BACT level of 0.012 lb/ton P_2O_5 .

In the permit application, Cargill proposed replacing the two existing scrubbers operating in series with a single packed-bed scrubber on the PAP No. 1-North train. However, again based on the stack test data, the existing scrubbing system on the PAP No. 1-North train has operated at below BACT levels for the last three years. In the year 2000, it is believed that the higher fluoride emissions were due to drought conditions, which led to increased fluoride concentrations in the pond water. Nevertheless, the overall emissions from the three plants combined (0.0096 lb/ton P_2O_5) were below the proposed BACT level. As a result, Cargill is no longer proposing replacing the two existing PAP No.1-North scrubbers.

In conclusion, Cargill believes that the existing scrubbing systems serving the PAPs represent BACT for fluoride emissions. Therefore, Cargill is not proposing any modifications to these scrubbers at this time. However, Cargill plans on investigating the reasons that the PAP No.1-North scrubbing system emissions are higher than the other two PAP scrubbing systems, in an effort to further reduce emissions. As described in the application, Cargill is not requesting any increase in total production rate for the PAPs (only that the three PAPs be combined into one process unit for process flexibility).

Engineering drawings of the existing PAP scrubbers is provided in Appendix A attached.

South AP Fertilizer Plant-

Refer to response to Comment #6 below.

North AP Fertilizer Plant-

Cargill's review of the emission test history for the granulation plant RG scrubbing system demonstrates that the existing system on the North AP plant provides emission reductions to levels at or below limits established under the most recent BACT determinations (i.e., less than 0.04 lb/ton P_2O_5 for fluorides, and less than 0.17 lb/ton P_2O_5 for PM). As a result, Cargill is no longer proposing any changes to the existing RG scrubbing system (refer to updated application pages in Attachment A).

As an update to the previous test data, please refer to revised Table 5-7 in Attachment A, which revises the original table in the PSD application. In the table, test results when producing MAP and when producing DAP are shown separately. These results represent total emissions from both the RG stack and the dryer/cooler/vents stack.

The new venturi/cyclonic scrubbers selected for the ^{not shown in drawing} cooler, dryer and equipment vents are designed based on recent BACT determinations indicating that appropriate particulate emission control will be achieved with a pressure drop greater than or equal to 15 inches water. As requested, please see Appendix B for engineering drawings of the existing and proposed scrubbers.

- 2. The application in Section 2.1.1 requests to classify storage, clarification, aging and blending tanks as unregulated sources. Please provide information on the construction permit that required these sources to be regulated sources. The Department is not sure if the applicant is requesting an operating permit revision to be processed concurrently with this construction permit or if there were requirements in some construction permit that needs to be modified. If a construction permit needs to be modified, please provide details of the construction permit.**

Response:

Four phosphoric acid storage tanks (EU 014); One clarification tank and one aging tank (EU 015)

We have no record of a construction permit ever being issued for these sources. Appendix H-1 of the Title V permit only lists air operating permits dating back to 1976 for these tanks. The 1983 operating permit (No. AO53-63020) did not have any fluoride emission limit. The first time that a fluorides emission limit appeared in a permit was the 1987 operating permit (No. AO53-139525). This operating permit references a letter from Farmland Hydro to the Department dated November 16, 1984, but does not reference any construction permit. The testing of these tanks has shown fluoride emissions of less than 0.025 lb/hr, and typically less than 0.001 lb/hr.

We therefore must conclude that there was no construction permit issued. Based on this conclusion, we believe that the limit can be deleted through the Title V process, since the limit was not federally enforceable to begin with. However, we have included it as part of this construction application in the event that the Department concludes that a construction permit is required. If the Department concludes that it is not needed, we can apply to the District office for a Title V revision.

Four phosphoric acid blend tanks (EU 037)

These tanks were issued a construction permit in 1994 (permit no. AC53-246149)(see Attachment B). The permit contained a fluoride emission limit as well as conditions relating to the operation of the scrubber. The testing of these tanks has shown fluoride emissions to be less than 0.001 lb/hr.

These construction permit conditions have been brought forth into the Title V permit. Therefore, we believe that the fluoride limit and the requirement to have a scrubber must be deleted through a new determination by the Department, to eliminate the federally enforceable requirements. We have included this request as part of this construction application in the event that the Department concludes that a construction permit is required. In this case, we ask for concurrent processing of the construction permit with the Title V permit.

It is also noted that the Department issued a determination of insignificance for two new 30% phosphoric acid tanks in 1994 (see attached letter dated Sep. 27, 1994 in Attachment B). Through this letter, the Department determined that phosphoric acid storage tanks were insignificant sources of fluorides emissions.

- 3. The application in Section 2.1.2 requests a combined production rate of 128 TPH P_2O_5 for the three Phosphoric Acid Plants. Please provide information with some documentation on the individual design capacity of each plant.**

Response:

As shown in Table 2-1 of the application, Cargill is not requesting to increase the total production capability of the three phosphoric acid trains. The present design capacity of PAP No. 1-North is 27.5 TPH P_2O_5 ; PAP No. 1-South is 45.03 TPH P_2O_5 ; and PAP No. 2 is 55.0 TPH P_2O_5 . This totals to 128 TPH P_2O_5 .

The best documentation regarding the existing design rates of the PAPs is in the past compliance testing. As shown in revised Table 5-3 in Attachment A, PAP No. 1-North has achieved process rates of 26.0, 23.0, 27.0, and 25.0 TPH P_2O_5 during the last four compliance tests, respectively. These rates are all within 84 to 98 percent of the requested maximum permitted rate of 27.5 TPH P_2O_5 .

PAP No. 1-South has achieved process rates of 42.1, 45.0, 45.0, and 42.5 TPH P_2O_5 during the last three compliance tests, respectively. These rates are all within 94 to 100 percent of the requested maximum permitted rate of 45 TPH P_2O_5 .

PAP No. 2 has achieved process rates of 44.6, 51.2, 53.3, and 50.0 TPH P_2O_5 during the last three compliance tests, respectively. These rates are all within 77 to 97 percent of the requested maximum permitted rate of 55 TPH P_2O_5 .

The compliance test data affirm the maximum process rates requested in the application. This represents the best documentation on the individual design rate of each PAP.

Furthermore, this request is consistent with the permitting of the phosphoric acid plants at the Cargill Bartow and Riverview facilities, where multiple phosphoric acid trains have been combined into a single plant for permitting purposes. We believe that the consolidation of the plants into a single source is appropriate due to the commingling of process streams within the affected emission unit. For example, clarifier product from both units are concentrated in common evaporators which are part of the effected facility. Similarly, the clarifier bottoms may be returned to any of the reactors, regardless of where the feed acid originated.

- 4. Please provide the reasons for not modifying the scrubbers for Phosphoric Acid Plant (PAP) No. 1 South and PAP No. 2-to include cross-flow packed scrubbers. The reasons should include but not be limited to doing mass transfer calculations for the present set-up and the mass transfer calculations with the cross-flow packed scrubbers. The calculations should be sufficiently detailed to show control system flow rates (gas and liquid streams), pond water fluoride concentrations, fluoride gas phase equilibrium concentrations, and temperatures.**

Response:

As discussed in the response to Comment #1 above, and as shown in revised Table 5-3 in Attachment A, the PAP No. 1-North train has experienced actual fluoride emissions between 0.0025 to 0.0044 lb/ton P_2O_5 over the past three years. These emissions are less than 0.012 lb/ton P_2O_5 , which is the most stringent BACT standard issued to date for PAPs. As a result, Cargill no longer has plans to modify the PAP No. 1-North scrubbing system.

The PAP No. 1-South and PAP No. 2 trains have also exhibited actual fluoride emissions of less than 0.012 P_2O_5 , which is the most stringent BACT standard issued to date, and the BACT limit proposed for the combined PAPs at Green Bay. These scrubbers have performed very well, and are already operating at BACT levels. Therefore, there is no reason or justification to replace the existing scrubbing systems on these trains.

In fact, the PAP No. 1-South Scrubber historically has performed near the fluorine/pond water equilibrium. For example, using the highest compliance test for PAP No. 1-South, the average air flow rate for the PAP No. 1-South scrubber is 27,000 dscfm. The average stack gas temperature is 110^o F and the average fluorine emissions in the air stream is 0.244 lbs F per hour. From page 166 of the Fertilizer Technical Data Book (5th Edition) by Ed Sepehri-Nik, the

vapor pressure equilibrium between fluorine and 0.6% fluorine in the pond water at 110 F is 0.045 mg F per actual cubic foot (acf). The equilibrium at 0.8% fluorine in the pond water (at 110 F) is 0.094 mg F per acf. The concentration in our pond water is between 0.6%-0.8% fluorine.

Converting 27,000 dscfm to acfm results in 31,200 acfm at 110⁰ F and 29.92" Hg. Dividing the average stack emission rate (0.244 lbs F per hour) by the average air flow (31,200 acfm), results in 1.30×10^{-7} lbs F per acf, or 0.06 mg F per acf. In comparison, as described above, the equilibrium vapor pressure of pond water is between 0.045-0.094 mg F per acf. The other compliance tests show even lower fluoride emissions. Therefore, the PAD No. 1-South scrubber has historically performed near the fluorine/pond water equilibrium.

Cargill believes both the PAP No. 1-South and PAP No. 2 scrubbing systems have been operating near the fluorine/pond water equilibrium. Therefore, there is no benefit to further modify these scrubbing systems.

- 5. The application contains only a summary of fluoride stack test data for the three Phosphoric Acid Plants. Please submit the detailed test reports for the 2001 and 2002 annual fluoride stack tests containing data on production rates, stack flows, scrubber conditions, etc. for each test run. Also, include additional three years of stack test data summary, if available, for fluoride emissions. Table 5-3 shows higher fluoride emissions for the year 2000 compared to the other two years. Please explain the reasons for such high fluoride emission rates during 2000. Were there any modifications done to the plants after 2000?**

Response:

See revised Tables 5-3 from the PSD report that summarizes the data from these tests (see Attachment A). Also refer to Attachment C for detailed source and scrubber operating data.

The cause of the elevated emissions in 2000 is not known. This could have been due to drought conditions, which caused levels water in the pond to diminish, causing higher fluoride concentrations in the scrubber water. Despite the elevated emissions, the PAP was below its permitted emission limit. There were no modifications performed on the plants to cause this anomaly, nor have any modifications been performed since then.

- 6. The application in Section 2.2.2 refers to upgrading of the present scrubber system for the South DAP Plant. Please describe in detail the upgrading being done to the R/G venturi/cyclonic scrubber, R/G tailgas scrubber (vaporizer), Dryer venturi/cyclonic scrubber, Screens/mills (S/M) venturi/cyclonic scrubber, and Cooler venturi/cyclonic scrubber. Also, explain the necessary equipment and operational changes required to produce MAP at a DAP plant.**

Response:

R/G Scrubbing System

The present R/G scrubbing system in the South DAP Plant consists of a venturi/cyclonic scrubbing system. In this system, process gases are contacted in a venturi scrubber to remove ammonia fumes and particulate matter. A cyclonic section immediately follows to remove entrained particles and water droplets.

The proposed system will be similar to the scrubbers currently used at the North DAP plant. The process gases pass through the primary RG scrubber, which uses acid slurry as the scrubbing liquid. This scrubber removes ammonia fumes and a portion of the particulate matter with reduced evolution of fluoride from the scrubbing liquid. After exiting the primary scrubber, the air stream is then contacted by the secondary RG scrubber, an acid slurry venturi/cyclonic scrubber, which removes the balance of the ammonia fumes and the particulate matter in the air stream. Since a significant portion of the ammonia fumes have been removed in the first stage, the heat generation is reduced and the fluorine evolution is significantly less than that produced with a single stage scrubber. In addition, there is a higher absorption percentage of ammonia fumes by use of two-stage scrubbing.

After acid scrubbing, the air stream passes through the tubes of a shell and tube heat exchanger. On the shell side, ammonia is vaporized for use in the manufacturing process while moisture condenses from the air stream on the tube side. This condensed moisture absorbs the majority of the fluorine escaping the acid scrubbers. In order to properly wet all surfaces and promote improved operation, a portion of the condensate is continuously recirculated over the tube sheet and through the tubes. This technology has been in service since 1992 on the North MAP/DAP Plant with excellent success.

Since the plant rate is increasing from that originally designed in 1972, the air flow through the R/G scrubbing system will need to increase. To accommodate the higher air flow rate, the existing scrubbing system and fan will be removed and be replaced.

Cooler, Dryer, and Screen/Mill Evacuation Scrubbing Systems

Increased air flow rate through the Dryer will be implemented to provide proper moisture removal from the product. A new Dryer Venturi/Cyclonic scrubber will provide proper particulate removal and the scrubber exhaust will go to a new Dryer fan sized to provide the necessary flow rate.

The Screen/Mill Evacuation system inside the plant will be modified as required to provide proper dust control and will pass through the existing dry cyclones for removal of the majority of the particulate matter prior to passing through a new Venturi/Cyclonic scrubber. The exhaust of the scrubber will go to a new Screen/Mill evacuation fan sized to provide the proper air flow for effective dust control in the plant.

Upon further evaluation by Cargill, at the higher production rate, the present Cooler and airflow are adequate to provide proper heat exchange, with no increase in air flow. By increasing the efficiency of the Cooler, but not the airflow, the fertilizer will still leave the Cooler at the required temperature for storage and shipping. Hence, there is no benefit to modify this scrubber, so no modifications will be made to it.

Although the Cooler, Dryer, and Screen/Mill Evacuation air streams contain mostly particulate matter with little ammonia, other considerations dictate the use of recirculated process water. (Low strength phosphoric acid will be used for pH control in all three Venturi/Cyclonic scrubbers). The process water scrubber liquid will absorb the dust and provide proper control of particulate. Since acid is *not* being used in the venturi/cyclonic scrubbers, no fluorine is evolved beyond the expected process water equilibrium. Therefore, no tail gas scrubber is required for fluorine removal. A single new stack will discharge the cleaned gases to the atmosphere.

The currently planned equipment list for the South DAP Plant is provided below. Note that this equipment list is subject to change pending final engineering design.

- New Dryer Scrubber, dryer fan, and associated equipment (i.e. ducts, seal tank for scrubber liquid, piping, circulation pumps, motors, etc)
- New Screen/Mill Scrubber, SM fan, and associated equipment
- New Primary and Secondary RG Scrubbers and associated equipment
- New RG Tailgas scrubber, RG fan, and associated equipment
- Replace granulator
- Increase cooler efficiency
- Screening and product recycle improvements
- Other miscellaneous changes necessary to meet production and quality goals

Engineering drawings for the current and proposed scrubbers are provided in Appendix C.

Cargill was recently issued a permit for modification of the South Fertilizer plant to make MAP.

7. **Please explain the reasons for removing the cross-flow scrubber used for the dryer and S/M gas flow in the South DAP Plant and the North MAP/DAP Plant. The reasons should include but not be limited to comparing mass transfer calculations for the present set-up and the mass transfer calculations with the cross-flow packed scrubbers removed. The calculations should be sufficiently detailed to show control system flow rates (gas and liquid streams), pond water fluoride concentrations, fluoride gas phase equilibrium concentrations, and temperatures.**

Response:

The air flow from the dryer in each plant will be increased to provide proper moisture removal from the granulated product. In addition, the evacuation flow from the screens and mills will be increased to provide improved dust collection. These increases in air flow will render the existing cross-flow scrubber as inadequate to handle the higher air flow. The primary reason for removing the cross-flow scrubbers serving the dryer/screens/mills on each plant is that this equipment produces very little fluoride emissions. Since the proposed venturi/cyclonic particulate control scrubbers will utilize pond water rather than phosphoric acid as a scrubbing liquid, they will not contribute fluoride loading to the evacuation air. Therefore, a new scrubber dedicated solely to fluoride removal would be very costly while providing virtually no environmental benefit. The proposed fluoride BACT limit of 0.04 lb/ton P_2O_5 will be met without a replacement pond water scrubber in each plant.

8. **The application in Section 2.2.3 paragraph 2 refers to the proposed modification to the R/G scrubbing system for the South DAP Plant includes installation of a phosphoric acid venturi/cyclonic scrubber) which will primarily remove particulate. Figure 2-4 shows the present set-up of the South DAP Plant, which already shows the unit to be in existence. Please explain the discrepancy.**

Response:

The existing scrubber is insufficient to meet emission limits and will not be able to accommodate the increased air flow rate associated with the modified R/G system (refer to Table 2-5 in Attachment A). Therefore, the RG scrubbing system will be upgraded to match the North Side RG scrubbing system.

9. **The application in Section 3.5.3.1 refers to the exemption from complying with the New Source Performance Standards (NSPS) for the existing PAPs and the North and South MAP/DAP Plants due to the National Emission Standards for Hazardous Air Pollutants (NESHAP). 40 CFR 63.610 Subpart AA and 40 CFR 63.631 Subpart BB provide those exemptions once the requirements of certain sections are met in those rules. Please provide documentation to the Department that the requirements of Sections 63.604, 63.605, 63.606 Subpart AA and Sections 63.604, 63.605, 63.606 Subpart BB have been demonstrated.**

Response:

Monitoring systems have been installed for the NESHAP applicable emission units. Furthermore, Cargill has applied for an alternative monitoring plan, which is currently under review with DEP. Upon resolution of the alternative monitoring plan request, Cargill will submit parameter limits to the district office for inclusion into its Title 5 permit.

10. **Please submit engineering design data for the venturi/cyclonic scrubbers currently utilized for fluoride control. The data should include at a minimum the design capability, the stated efficiency of the control equipment and the performance curves for the scrubbers.**

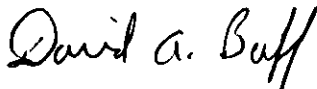
Response:

The existing venturi/cyclonic scrubbers in the South DAP Plant and the North MAP/DAP Plant are not used for fluoride control. These scrubbers are used for particulate control and to recover ammonia. In the South DAP Plant, the existing fluoride scrubbers consist of the R/G process water scrubber and the cross-flow scrubber serving the dryer and screens/mills. In the North MAP/DAP Plant, the existing fluoride scrubbers consist of the R/G ammonia vaporizer and the cross-flow scrubber serving the dryer and screens/mills. See also response to Comment #1 and #6 above.

Please call if you have any questions concerning this additional information.

Sincerely,

GOLDER ASSOCIATES INC.



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

DB/db/nav

Enclosures

cc: T. Abel, Cargill
F. Bergen, Golder
D. Jellerson, Cargill
C. Halladay, DEP
100103/L100103.doc
G. Kessel, SWD
B. Wolz, EPA
G. Bengt, NPS

ATTACHMENT A

REVISED PAGES FROM PSD APPLICATION

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

053 Four Venturi/Cyclonic Scrubbers
053 Venturi Scrubber
038 Ammonia Vaporizer

2. Control Device or Method Code(s): **053, 038**

Emissions Unit Details

1. Package Unit:	
Manufacturer:	Model Number:
2. Generator Nameplate Rating:	MW
3. Incinerator Information:	
Dwell Temperature:	°F
Dwell Time:	seconds
Incinerator Afterburner Temperature:	°F

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

013 Poly-Con Wet Scrubber
013 Four Arco Cyclonic Jet Scrubbers

2. Control Device or Method Code(s): **013**

Emissions Unit Details

1. Package Unit:	
Manufacturer:	Model Number:
2. Generator Nameplate Rating:	MW
3. Incinerator Information:	
Dwell Temperature:	°F
Dwell Time:	seconds
Incinerator Afterburner Temperature:	°F

**F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
FL	013		EL
H107	013		NS

Table 2-1. Summary of Pollution Control Equipment and Allowable Emission Rates for the Phosphoric Acid Plant, Cargill Green Bay

Source	EU ID	Control Equipment	Design Capacity	Operating Hours	Maximum Process Rate (TPH P ₂ O ₅)	Fluoride Allowable Emission Rate		
						lbs/ton P ₂ O ₅ feed	lb/hr	TPY
<u>Existing Phosphoric Acid Plant</u>								
No. 1--North Train Digester/Filter	016	(2) Cyclonic Jet Scrubbers	29,100 acfm	8,760	27.5	0.055	1.5	6.57
No. 1--South Train Digester/Filter	017	(2) Cyclonic Jet Scrubbers	29,100 acfm	8,760	45.03	0.018	0.83	3.64
No. 2 Reactors, Filters, Pre-mix Filter Tanks	013	Poly-Con Wet Scrubber (Spray w/ packing)	24,300 acfm	8,760	55.0	0.02	1.00	4.38
<i>Total--Existing Phosphoric Acid Plant</i>					127.53		3.33	14.59
<u>Modified Phosphoric Acid Plant</u>								
No. 1--North Train Digester/Filter	016	(2) Cyclonic Jet Scrubbers	29,100 acfm	8,760	27.5	0.012	0.33	1.45
No. 1--South Train Digester/Filter	017	(2) Cyclonic Jet Scrubbers	29,100 acfm	8,760	45.03	0.012	0.54	2.37
No. 2 Reactors, Filters, Pre-mix Filter Tanks	013	Poly-Con Wet Scrubber	24,300 acfm	8,760	55.0	0.012	0.66	2.89
<i>Total--Modified Phosphoric Acid Plant</i>					127.53		1.53	6.70

Notes: acfm =actual cubic feet per minute

Table 2-5. Summary of Pollution Control Equipment for the South AP Plant, Cargill Green Bay

Source	EU ID	Control Equipment							
		Primary			Secondary			Tertiary	
		Type	Design Capacity	Design Pressure Drop	Type	Design Capacity	Design Pressure Drop	Type	Design Capacity
<u>Existing South DAP Fertilizer Plant</u>									
Reactor and Granulator (Stack A)	007	Venturi Scrubber <i>Drawing Shows Venturi/Cyclonic</i>	25,000 acfm	19 inches	Pond Water Scrubber	80,000 acfm	19 inches	--	--
Dryer (Stack B)	007	Venturi Scrubber	60,000 acfm		--	--		--	--
Screens and Mills (Stack B)	007	Venturi Scrubber	29,000 acfm		--	--		--	--
Cooler (Stack B)	007	Venturi Scrubber	57,000 acfm		--	--		--	--
Combined Stack B	007	--	--		Cross-Flow Pond Water Scrubber	80,000 acfm		--	--
<u>Modified South AP Plant</u>									
Reactor and Granulator (Stack A)	007	High Mol Spray Cyclonic Scrubber (New)	82,000 acfm		Low Mol Venturi/Cyclonic Scrubber (New)	82,000 acfm	16 inches	Ammonia Vaporizer	86,000 acfm
Dryer (Stack B)	007	Venturi/Cyclonic Scrubber (New)	62,000 acfm	16 inches	--	--		--	--
Screens and Mills (Stack B)	007	Venturi/Cyclonic Scrubber (New)	41,000 acfm	16 inches	--	--		--	--
Cooler (Stack B)	007	Venturi Scrubber	57,000 acfm	16 inches	--	--		--	--
Combined Stack B	007	--	--		--	--		--	--

Note: NA = not applicable

Existing North DAP

R/G
Dryer
Cooler
Screens/Mills

Modified North DAP

R/G
Dryer
Cooler
Screens/Mills

(2) Venturi/Cyclonic (Acid)

Venturi (Weak Acid)
Venturi (Weak Acid)
Venturi (Weak Acid)

(Same as above)
Venturi/Cyclonic (Pond H₂O)

(Same as above) (Pond H₂O)
Venturi/Cyclonic (Pond H₂O)

Ammonia Vaporizer

Cross-Flow Packed Scrubber (Pond H₂O)

(Same as above)

— } Packed Scrubber Removed
— }
— }

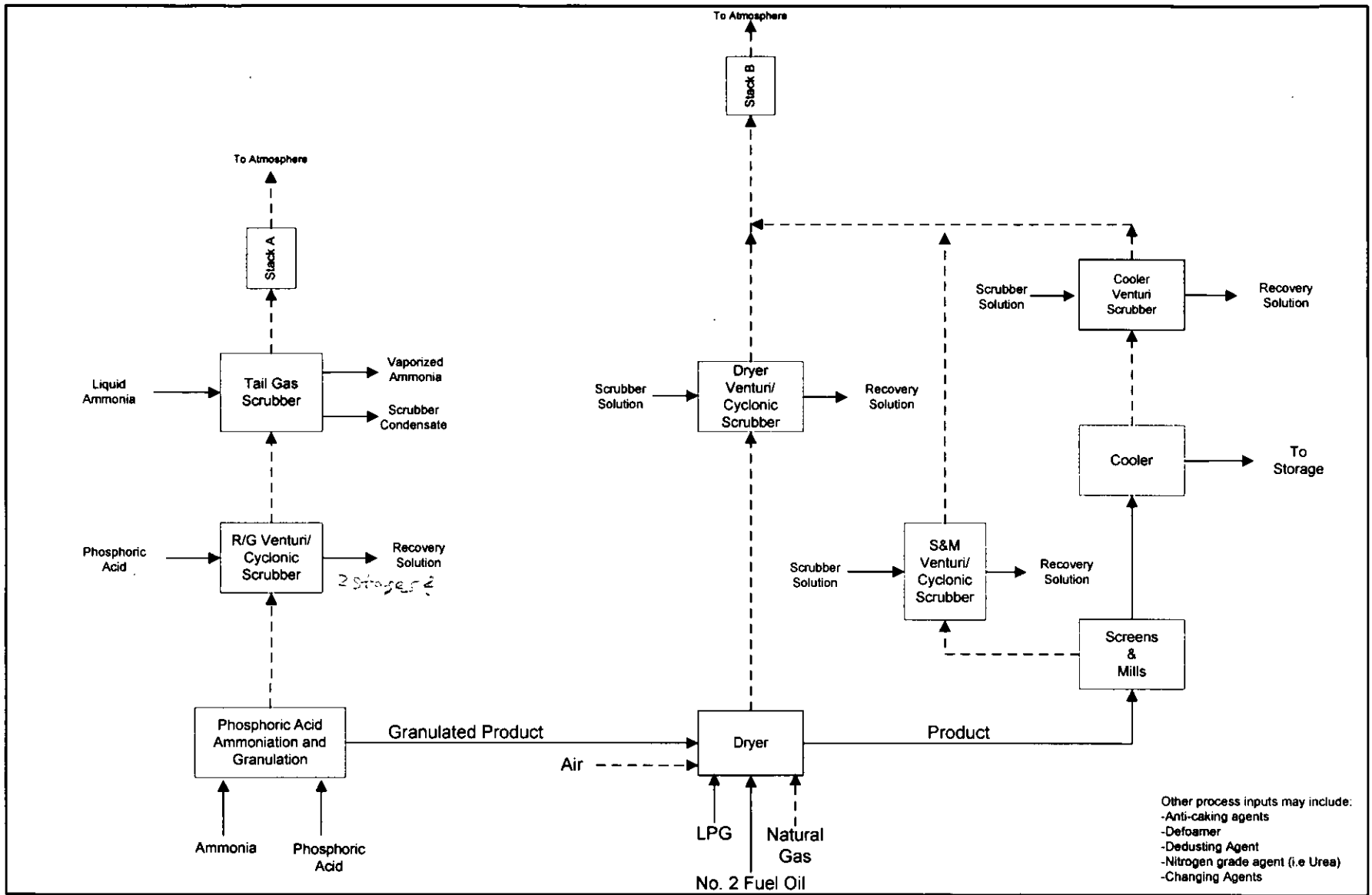


Figure 2-5
 Future South AP Fertilizer Plant
 Process Flow Diagram
 Cargill - Green Bay

Process Flow Legend

Material Flow ———→
 Gas Flow - - - - -→

New or Modified Equipment

Filename: 0337506/4/4.1/100103/FIGURE 2-5REV.VSD

Date: 10/01/03



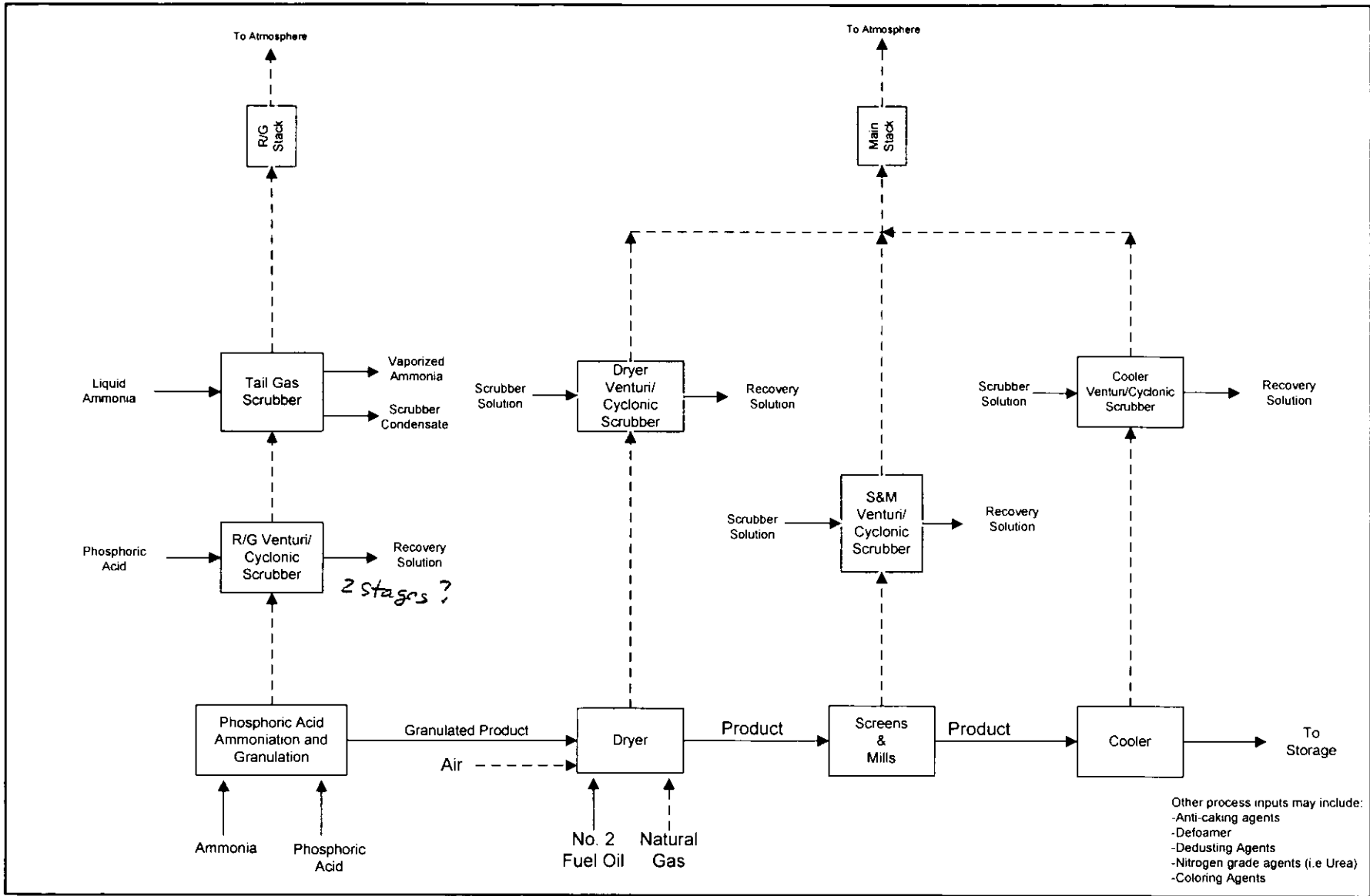


Figure 2-7
 Future North AP Fertilizer Plant
 Process Flow Diagram
 Cargill - Green Bay

Process Flow Legend

Material Flow ———→
 Gas Flow - - - - -→

New or Modified
Equipment

Filename: 0337506/4/4.4/4.1/FIGURE 2-7REV.VSD

Date: 10/01/03



Table 5-3. Summary of Recent Phosphoric Acid Plant Emission Tests at Cargill Green Bay (revised 9-26-2003)

Date	Unit	Average Process Rate (TPH P ₂ O ₅)	Average Fluoride Emissions	
			lb/hr	lb/ton P ₂ O ₅ ^a
<u>2003</u>				
8/15/2003	PAP No. 1-North	26.0	0.0820	0.0031
8/22/2003	PAP No. 1-South	42.1	0.0537	0.0013
7/31/2003	PAP No. 2	44.6	0.0394	0.0009
	Total =	112.7	0.1751	0.0016
<u>2002</u>				
3/15/2002 & 4/4/2002	PAP No. 1-North ^b	23.0	0.1017	0.0044
5/9/2002	PAP No. 1-South	45.0	0.0651	0.0014
5/13/2002	PAP No. 2	51.2	0.0624	0.0012
	Total =	119.2	0.2292	0.0019
<u>2001</u>				
4/27/2001	PAP No. 1-North	27.0	0.0676	0.0025
5/4/2001	PAP No. 1-South	45.0	0.0225	0.0005
4/19/2001	PAP No. 2	53.3	0.1034	0.0020
	Total =	125.3	0.1935	0.0015
<u>2000</u>				
5/31/2000	PAP No. 1-North	25.0	0.6782	0.0272
5/16/2000	PAP No. 1-South	42.5	0.2438	0.0057
8/10/2000	PAP No. 2	50.0	0.2035	0.0040
	Total =	117.5	1.1255	0.0096

PAP No. 1 North
.0033

Avg = 0.0838
Avg = 0.0471
2.096 higher
5.18 higher
Avg = 0.0684
2.98 higher

^a As calculated by dividing hourly emissions by process rate.
^b Average of two emission tests.

Table 5-6. Summary of Recent South DAP Fertilizer Plant Emission Tests at Cargill Green Bay (revised 9-09-2003)

Date	Average Production Rate (tons/hr DAP)	Average Process Rate (tons/hr P ₂ O ₅)	PM Emissions ^a		Fluoride Emisions ^a	
			avg lb/hr	avg lb/ton P ₂ O ₅	avg lb/hr	avg lb/ton P ₂ O ₅
3/13/02-3/14/02	94.8	43.6	20.2	0.463	2.43	0.0558
3/20/01-3/21/01	90.2	41.5	6.9	0.167	2.01	0.0484
3/8/00-3/9/00	88.2	40.6	4.0	0.099	1.41	0.0348
3/24/99-3/25/99	87.1	40.1	7.4	0.186	5.42	0.1353

^a Represents both stacks combined.

Table 5-7. Summary of Recent North MAP/DAP Fertilizer Plant Emission Tests at Cargill Green Bay
(revised 9-26-2003)

Date	Average Production Rate ^a (tons/hr)	Average Process Rate ^b (tons/hr)	PM ^c		Fluoride ^c	
			avg lb/hr	avg lb/ton P ₂ O ₅	avg lb/hr	avg lb/ton P ₂ O ₅
MAP Production						
8/1/02-8/2/02	160.4	81.8	10.19	0.125	0.81	0.0099
3/27/01-3/28/01	167.3	85.3	8.44	0.099	0.93	0.0108
3/16/00-3/17/00	148.6	75.8	16.99	0.224	1.21	0.0160
3/16/00-3/20/00	150.1	76.6	11.75	0.154	1.55	0.0203
10/26/99-10/27/99	139.7	71.3	4.14	0.058	6.78	0.0951
6/30/99-7/2/99	143.5	73.2	6.90	0.094	2.64	0.0361
4/12/99-4/14/99	158.0	80.6	6.77	0.084	1.97	0.0244
DAP Production						
5/1/02-5/2/02	94.8	43.6	14.02	0.322	1.06	0.0306
2/13/01-2/14/01	106.0	48.8	7.24	0.148	1.02	0.0209
4/6/00-4/7/00	97.9	45.1	3.03	0.067	0.28	0.0061
3/17/99-3/18/99	94.9	43.7	2.02	0.046	0.71	0.0162
1/20/99-1/21/99	94.0	43.3	5.12	0.118	0.56	0.0129
1/26/98-1/29/98	99.3	45.7	7.90	0.173	0.83	0.0181

^a As MAP or DAP. Based on 51% P₂O₅ for MAP and 46% P₂O₅ for DAP.

^b As P₂O₅.

^c Represents both stacks combined.

ATTACHMENT B

**DEP LETTER REGARDING
PHOSPHORIC ACID TANKS**



Florida Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

NOTICE OF PERMIT

In the matter of an
Application for Permit by:

DER File No.: AC53-246149
County: Polk

Mr. C. M. Farris, VP Operations
Farmland Hydro, L.P.
P.O. Box 960
Bartow, Florida 33830

Enclosed is Permit Number AC53-246149 for the construction of two phosphoric acid blend tanks, issued pursuant to Section 403.087, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tampa, Florida.

Sincerely,

David Zell
Air Permit Engineer

DRZ/
enclosure

FROM	CMF		
TO	READ ACTY FILE SIGN		
H.T.			
S.R.			
J. McG.			
G.M.	copy		5/11/94
U.K.C.			
FARMLAND HYDRO L.P.			
MAY 11 1994			Bartow Florida
B. F.			
H.P.	copy		5/11/94
E.R.	copy		5/11/94
Permit Num	copy		5/11/94

Ext. 118

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on MAY 10 1994 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
Section 120.52(9), Florida
Statutes, with the designated
Department Clerk, receipt of
which is hereby acknowledged.

Marilyn Quispe MAY 10 1994
(Clerk) Date)



Florida Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

PERMITTEE:

Farmland Hydro, L.P.
P.O. Box 960
Bartow, FL 33830

PERMIT/PROJECT:

Permit No: AC53-246149
County: Polk
Expiration Date: 12/31/94
Project: Phosphoric Acid Blend
Tanks (2)

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the construction of two (2) new phosphoric acid blend tanks. Unclarified 54% P₂O₅ phosphoric acid from the phosphoric acid evaporators, at a maximum rate of 160,256 pounds/hour, and sludge from the super acid preparation centrifuges, will be blended in these two tanks and then transferred to the existing storage tanks to be used in granular DAP and MAP production.

Fluoride emissions from both of the blend tanks will be controlled by a common packed tower (PT-100) pond water scrubber. The unit will have a fan capable of removing 100 acfm from the two tank system.

Location: County Road 640 West, Bartow

UTM: 17-409.5 E 3079.5 N **NEDS No:** 0053 **Point ID No:** 037

Replaces Permit No.: N/A

PERMITTEE:

Farmland Hydro, L.P.
Bartow, FL

PERMIT/PROJECT:

Permit No. : AC53-246149
Project: Phos. Acid Blend Tanks

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions.
[Rule 17-4.160, F.A.C.]
2. All applicable rules of the Department and design discharge limitations specified in the application must be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction.
[Rule 17-4.070(7), F.A.C.]

Operation and Emission Limitations

3. The two phosphoric acid blend tanks are permitted for continuous operation (8,760 hours/year).
[As requested in construction application dated February 10, 1994]
4. The maximum transfer rate to the two (2) phosphoric acid blend tanks shall not exceed a combined total of 160,256 pounds per hour of unclarified 54% P₂O₅ phosphoric acid.
[Construction application dated February 10, 1994]
5. The maximum total fluoride emission rate from the two (2) phosphoric acid blend tanks shall not exceed 0.10 pounds per hour (based upon the operating hour limitation of Specific Condition No. 3, this corresponds to a maximum annual emission rate of 0.44 tons per year).
[As requested by applicant in accordance with the requirements of Rule 17-296.403(2), F.A.C.]
6. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 17-296.320(2), F.A.C.]
7. The phosphoric acid blend tanks shall not operate without the emissions from the tanks being vented to the emissions control scrubber and that scrubber being operated properly. The scrubber shall be operated and maintained in a manner to insure that the following scrubber operation parameter levels are achieved:
 - A. pressure drop across the scrubber shall be at least 3" of water;
 - B. scrubber water flow rate shall be at least 10 gallons/minute.

[Rules 17-210.650 and 17-4.070(3), F.A.C., and Farmland Hydro, L.P. letter of April 6, 1994 submitted as part of the construction application]

PERMITTEE:

Farmland Hydro, L.P.
Bartow, FL

PERMIT/PROJECT:

Permit No. : AC53-246149
Project: Phos. Acid Blend Tanks

Specific Conditions:

Compliance Testing Requirements

8. The phosphoric acid blend tanks scrubber exhaust stack shall be tested for fluoride emissions within 30 days after the tanks are placed in operation. A test report shall be submitted within 45 days of testing to the Air Program of the Southwest District Office of the Department in conjunction with a Certificate of Completion of Construction (see Specific Condition No. 15).

[Rules 17-297.340(1)(a), and 17-297.450, F.A.C.]

9. Compliance with the fluoride emission limitation of Specific Condition No. 5 shall be determined using EPA Methods 13A or 13B contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-297, F.A.C. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 17-297, F.A.C. and 40 CFR 60, Appendix A.

[Rule 17-297, F.A.C., Table 297.330.1]

10. Testing of emissions from the phosphoric acid blend tanks scrubber exhaust stack shall be conducted during operation of the blend tanks at 90-100% of the maximum permitted transfer rate of 160,256 pounds per hour (80.1 tons per hour) if feasible. Testing at a rate less than 90% of the maximum permitted rates will result in an operation permit being issued for the lower tested operating rates plus 10%. In order to receive approval for higher operating rates (never to exceed 160,256 pounds per hour), it will be necessary to conduct additional compliance tests at the higher rates. A statement of the process input rate shall be included with any test reports (see Specific Condition No. 12). Failure to submit the operating rate, or operating under conditions that are not representative of normal operation, may invalidate the test and fail to provide reasonable assurance of compliance.

[Rule 17-4.070(3), F.A.C.]

11. The permittee shall notify the Air Program of the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted.

[Rule 17-297.340(1)(i), F.A.C.]

PERMITTEE:

Farmland Hydro, L.P.
Bartow, FL

PERMIT/PROJECT:

Permit No. : AC53-246149
Project: Phos. Acid Blend Tanks

Specific Conditions:

12. The following process and scrubber operating parameters shall be monitored during each run of any compliance test and included in any test report:

- A. the approximate phosphoric acid transfer rate to the blend tanks (pounds/hour);
- B. the pressure drop across the scrubber (in inches of water).
- C. the scrubber water flow rate (in gallons/minute);

Failure to submit this information, or operating at conditions which do not reflect normal operating conditions may invalidate the test and fail to provide reasonable assurance of compliance.

[Rule 17-4.070(3), F.A.C.]

Recordkeeping Requirements

13. In order to provide reasonable assurance of ongoing compliance with the requirements of Specific Condition No. 7, the permittee shall create and maintain a daily log of the scrubber operating parameters. The record shall contain, at a minimum, the following:

- A. the date and time of the measurement, and the person responsible for taking the reading;
- B. the pressure drop across the scrubber (in inches of water);
- C. the scrubber water flow rate (in gallons/minute).

An entry in the scrubber operation log shall be made at least once for every day that phosphoric acid is transferred to the blend tanks. The records shall be retained at the facility in a form suitable for inspection for at least a two year period and made available upon request.

[Rule 7-4.070(3), F.A.C.]

Reporting Requirements

14. The permittee shall submit to the Air Program of the Southwest District Office of the Department each calendar year on or before March 1, completed DER Form 17-213.900(4), "Annual Operating Report for Air Pollutant Emitting Facility," for the preceding calendar year.

[Rule 17-210.370(2), F.A.C.]

PERMITTEE:

Farmland Hydro, L.P.
Bartow, FL

PERMIT/PROJECT:

Permit No. : AC53-246149
Project: Phos. Acid Blend Tanks

Specific Conditions:

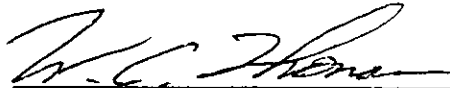
Permits

15. At least two applications for an operating permit shall be submitted to the Air Program of the Southwest District Office of the Department within 45 days of testing or at least 60 days prior to the expiration date of this permit, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the following:

- A. the appropriate application form (Certificate of Completion of Construction) noting any deviations from the construction permit application;
- B. the compliance test report as required by Specific Condition No. 8 of this permit;
- C. a copy of the phosphoric acid blend tank scrubber operating log (Specific Condition No. 13) for a recent two week period.

[Rules 17-4.070(3) and 17-297.340(1)(a), F.A.C.]

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION



For Richard D. Garrity, Ph.D.
Director of District Management
Southwest District

ATTACHMENT - GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.141, 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.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
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.
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.
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:

GENERAL CONDITIONS:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

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.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, 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.

GENERAL CONDITIONS:

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

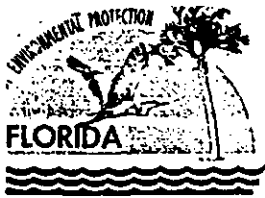
13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the dates analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

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.



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

NOTICE OF DETERMINATION OF INSIGNIFICANT SOURCES

CERTIFIED MAIL

Mr. C.M. Farris
Vice President Operations
Farmland Hydro, L.P.
P.O. Box 960
Bartow, FL 33831

FROM	GWF		
TO	READ	ACT	SIGN
H.M.			
S.R.			
J. McG.			
G.M.	/		/
U.K.G.			
FARMLAND HYDRO, L.P. SEP 28 1994 Bartow, Florida			
B. F.			
B.F.	2		
E.F.	3		

Dear Mr. Farris:

Re: Polk County - AP
A053-217562, A053-234977, A053-234978
PATS Processing No. 256129

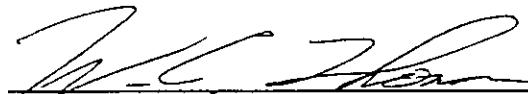
On August 2, 1994, the Department received your air pollution application for two 30% phosphoric acid tanks at your facility near Bartow. The 2 tanks are to be used in connection with Phosphoric Acid Plant No. 2, Phosphoric Acid Plant No. 1 - North Train, and Phosphoric Acid Plant No. 1 - South Train. After reviewing the information attached to the application and the additional information dated August 30, 1994, the Department has determined that any emissions from the 2 tanks would be insignificant. Therefore, pursuant to Rule 62-4.040(1)(b), F.A.C., approval to construct and operate these tanks as proposed is granted.

A person whose substantial interests are affected by this determination may petition for an administrative proceeding (hearing) in accordance with Section 120.57, 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 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of this determination. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

When the Order (Determination) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Tampa, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



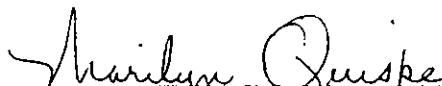
W.C. Thomas, P.E.
District Air Program Administrator

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF DETERMINATION OF INSIGNIFICANT SOURCES and all copies were mailed by certified mail before the close of business on SEP 27 1994 to the listed persons.

Clerk Stamp

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


(Clerk)

SEP 27 1994
(Date)

When the Order (Determination) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Tampa, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



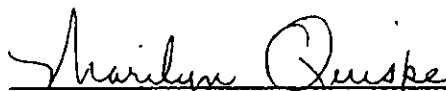
W.C. Thomas, P.E.
District Air Program Administrator

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF DETERMINATION OF INSIGNIFICANT SOURCES and all copies were mailed by certified mail before the close of business on SEP 27 1994 to the listed persons.

Clerk Stamp

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


(Clerk) SEP 27 1994
(Date)

ATTACHMENT C

**PHOSPHORIC ACID PLANT COMPLIANCE TEST
OPERATING DATA**

**Cargill - Crop Nutrition
Green Bay**

0337506/4/4.1/100103/Attach C.xls
10/1/2003 5:24 PM

Attachment C.

Detailed Data from Recent Phosphoric Acid Plant Emission Tests at Cargill Green Bay (revised 9-26-2003)

PAD1 North

Date	Run No.	Production Rate, TPH (as P2O5)	Scrubber Flow gpm	Fan, amps	Pressure Drop "H2O	Dry Standard Stack Gas Flow Rate, dscfm	Actual Standard Stack Gas Flow Rate, acfm	Fluoride Emissions, lb/hr	Actual Fluorides Emissions, lb/ton P2O5
08/15/03	1	26.0	266	66	12	16,654	19,349	0.103	0.0039
	2	26.0	266	66	12	17,260	20,136	0.075	0.0029
	3	26.0	266	66	12	16,654	19,276	0.068	0.0026
04/04/02	1	24.8	267	71	---	16,388	19,134	0.090	0.0036
	2	24.8	267	71	---	17,267	20,054	0.080	0.0032
03/15/02	1	21.2	267	71	---	18,400	---	0.140	0.0066
	2	21.2	267	71	---	18,247	---	0.100	0.0047
	3	21.2	265	71	---	19,746	---	0.100	0.0047
04/27/01	1	27.0	272	75	---	20,191	22,553	0.050	0.0019
	2	27.0	270	75	---	21,567	24,467	0.055	0.0020
	3	27.0	270	75	---	21,320	24,275	0.098	0.0036

**Cargill - Crop Nutrition
Green Bay**

0337506/4/4.1/100103/Attach C.xls
10/1/2003 5:24 PM

PAD1 South

Date	Run No.	Production Rate, TPH (as P2O5)	Scrubber Flow gpm	Fan, Amps	Pressure Drop "H2O	Dry Standard Stack Gas Flow Rate, dscfm	Dry Standard Stack Gas Flow Rate, acfm	Fluoride Emissions, lb/hr	Actual Fluorides Emissions, lb/ton P2O5
08/22/03	1	42.1	187	99	10.8	19,430	21,493	0.063	0.0015
	2	42.1	187	99	10.8	19,135	21,130	0.057	0.0014
	3	42.1	187	99	10.8	19,826	21,896	0.041	0.0010
05/09/02	1	45.0	194	86	---	18,967	21,815	0.060	0.0013
	2	45.0	194	86	---	18,839	21,623	0.050	0.0011
	3	45.0	194	86	---	18,459	21,647	0.085	0.0019
05/04/01	1	45.0	211	84	---	19,380	21,273	0.017	0.0004
	2	45.0	208	84	---	19,454	21,496	0.028	0.0006
	3	45.0	208	84	---	17,027	19,250	0.023	0.0005
05/16/00	1	42.5	218	94	---	27,307	31,193	0.183	0.0043
	2	42.5	218	94	---	26,929	31,110	0.280	0.0066
	3	42.5	218	94	---	27,333	31,329	0.269	0.0063

**Cargill - Crop Nutrition
Green Bay**

0337506/4/4.1/100103/Attach C.xls
10/1/2003 5:24 PM

PAD2

Date	Run No.	Production Rate, TPH (as P2O5)	Scrubber Flow, gpm	Fan, Amps	Pressure Drop "H2O	Dry Standard Stack Gas Flow Rate, dscfm	Dry Standard Stack Gas Flow Rate, acfm	Fluoride Emissions, lb/hr	Actual Fluorides Emissions, lb/ton P2O5
07/31/03	1	44.6	143	63	14.5	17878	20395	0.0458	0.0010
	2	44.6	143	63	14.5	17489	20120	0.0427	0.0010
	3	44.6	143	63	14.5	17308	19942	0.0298	0.0007
05/13/02	1	51.2	150	61	---	18547	20990	0.0468	0.0009
	2	51.2	150	61	---	18232	20792	0.0635	0.0012
	3	51.2	151	61	---	18325	20911	0.0768	0.0015
04/19/01	1	53.3	157	59	---	15335	18883	0.1214	0.0023
	2	53.3	159	60	---	16158	19540	0.0997	0.0019
	3	53.3	157	59	---	16051	19525	0.0891	0.0017
08/10/00	1	50.0	140	50	---	12780	14593	0.0862	0.0017
	2	50.0	139	50	---	12783	14568	0.2073	0.0041
	3	50.0	138	50	---	12750	14600	0.3170	0.0063
05/26/00	1	50.0	137	64	---	17434	19749	0.1540	0.0031
	2	50.0	138	64	---	17390	19976	0.3323	0.0066
	3	50.0	138	63	---	17586	20033	0.1786	0.0036

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-6600
Fax (352) 336-6603



February 2, 2004

0337506

Florida Department of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, Florida 32399-2400

Attention: Jim Pennington, P.E., Permitting Administrator, North Section

RE: DRAFT PERMIT NO. 1050053-033-AC
DRAFT PERMIT COMMENTS
CARGILL FERTILIZER, INC., GREEN BAY FACILITY

Dear Mr. Pennington:

Cargill Fertilizer, Inc. (Cargill) is in receipt of the draft air construction permit (Permit No. 1050053-033-AC/PSD-FL-334) for the Green Bay Phosphate Fertilizer Facility located in Polk County. Cargill and its consultant, Golder Associates Inc. (Golder), have reviewed the draft permit. The comments on the draft permit are listed below by the original permit condition number.

General comments are as follows:

1. In the application, on pages 2-2 and 2-3, Cargill requested that the phosphoric acid storage, clarification, aging and blending tanks be classified as unregulated sources. In response to the Department's request for additional information (RAI) dated May 23, 2003, Cargill provided additional information on these emission units, including historic permits, in a letter dated October 1, 2003, from Golder to the Department. However, the draft permit does not clearly address these emission units. In the October 1, 2003, response letter, it was Golder's belief that EU014 (clarification tank and aging tank) could be revised through the Title V process, but that EU 037 (four phosphoric acid blend tanks) would have to be revised through an air construction permit. We request that the Department address both of these emission units in the permit and/or in the TE&PD, as appropriate (see specific comments on draft permit below).
2. In the application, on page 2-12, Cargill requested that the fluoride emission limit for the MAP/DAP Storage and Shipping Buildings (EU 020) be removed because this limit was imposed due to granular triple superphosphate (GTSP) manufacturing and storage. Since Cargill will not manufacture GTSP at the Green Bay facility, this limit should be removed. In addition, it was requested that the allowable PM emission limit apply to the "shipping" operation only (i.e., the PM limit should not include the storage buildings). We request that the Department address this emission unit in the permit and/or in the TE&PD.

Specific comments on the Technical Evaluation and Preliminary Determination (TE&PD), draft permit and Best Available Control Technology Determination (BACT) are as follows:

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

✓ Pg. 3 of 12. **Facility Description** -- Note that the Green Superphosphoric Acid plant has been shutdown.

✓ Pg. 7 of 12, **Federal and State Emission Standards** -- As discussed on page 3-11 of the application, we do not believe that the NSPS will apply to the Phosphoric Acid Plants or to the Ammoniated Phosphate

Plants at Green Bay due to the proposed project. In addition, according 40 CFR 63.610 and 63.631, sources subject to Part 63 Subparts AA or BB are exempt from the NSPS Subparts T, U, V, W and X.

CLEVE
Pg. 11 of 12. AAQS Analysis - Background PM10 concentrations of 21 ug/m³ (annual) and 50 ug/m³ (24-hour average), were used in the submitted air modeling analysis. The annual background was based on the lower measured values since the modeled sources would have impacted this monitor. The 24-hour value was based on the 6th-highest measured value, consistent with the form of the AAQS. The TE&PD states that the background concentrations are 27 and 78 ug/m³, respectively. This results in higher predicted ambient impacts for the project.

✓ Pg. 12 of 12 - Additional Impact Analysis - change "Cargill Bartow facility" to "Cargill Green Bay facility".

DRAFT PERMIT

✓ Pg. 2 of 12 - Regulatory Classification - change "Cargill Bartow Facility" to "Cargill Green Bay Facility".

✓ Relevant Documents - Add the applicant's letter dated October 1, 2003 to the list of documents on file.

✓ Pg. 3 of 12, item 5, Expiration - In the application, Cargill requested a project completion date of June 1, 2007. We therefore request a permit expiration date of June 1, 2007. This will allow sufficient time to complete actual construction and then perform all the compliance testing, prepare and submit a Title V revision application, and then obtain a revised Title V permit.

✓ Pg. 4 of 12, item 11, Quarterly Reports - This condition references 40 CFR Part 60, which are the new source performance standards (NSPS) regulations. As discussed on page 3-11 of the application, we do not believe that the NSPS will apply to the Phosphoric Acid Plants or to the Ammoniated Phosphate Plants at Green Bay due to the proposed project.

Subsection A. Common Conditions

✓ Emission Unit Description- The Phosphoric Acid Tanks should be designated as insignificant or unregulated emissions units, and not as part of the regulated phosphoric acid plants.

Subsection B. Phosphoric Acid Production System

X
Page 7 of 12, item 3. To clarify that the phosphoric acid tanks are not subject to any fluoride emission limits, reword as follows. As discussed under comments to the BACT Determination (see below), also include the requested fluoride emission limit of 0.012 lb/ton.

"The combined fluoride emissions from the three Phosphoric Acid Plants' scrubber stacks (controlling the reactors, filters and filtrate tanks) shall not exceed 0.012 lb/ton of equivalent P₂O₅ feed, 1.53 lb/hr, and 6.70 TPY."

X
Page 7 of 12, item 5. To be consistent with condition 1, reword the fourth sentence as:

"The current maximum operating capacity limit is 128 TPH P₂O₅."

✓ Page 7 of 12, items 7 and 8. An Administrative Order has been issued by DEP for the Green Bay facility which approves an alternative monitoring method for compliance with the Subpart 63 MACT standards. Therefore, Conditions 7 and 8 are in conflict with the Order. It is recommended that these conditions be modified to just state that this emission unit is subject to the monitoring requirements of Subpart AA.

Subsection C. AP Plants

✓ Page 10 of 12, Items 1 and 2. It is requested that the production rates be expressed in tons per day (TPD), i.e., 1,560 TPD for the South AP and 1,920 TPD for the North AP, as requested in the application.

✓ Page 10 of 12, item 3. Change "rotary dryer" to "rotary dryers", since each plant has a dryer. To reduce recordkeeping requirements, we request that the heat input limits be specified as a "daily average".

✓ Page 10 of 12, item 5. The NO_x limit for the North AP should read "0.148 lb/MMBtu" instead of "0.0150 lb/MMBtu". Although a NO_x limit is being imposed on the AP Plants as BACT, it is requested that no stack testing for NO_x be required. The NO_x limits are based solely on AP-42 emission factors, and there is no NO_x control equipment on the AP dryers to reduce NO_x emissions. Cargill is not modifying the existing dryers, burners or heat input rates. Previous NO_x testing on the North AP Plant showed NO_x emissions of less than 0.5 lb/hr. Additional stack testing would not serve a useful purpose. The way the draft permit reads, stack testing for NO_x would be required annually (refer to Condition 3 of Subsection A).

✓ Page 10 of 12, item 6. The reference to the current Title V permit as the basis of the 10% opacity limit is not correct. The current Title V permit limits opacity to 20%.

✓ Page 11 of 12, items 11 and 12. An Administrative Order has been issued by DEP for the Green Bay facility which approves an alternative monitoring method for compliance with the Subpart 63 MACT standards. Therefore, Conditions 11 and 12 are in conflict with the Order. It is recommended that these conditions be modified to just state that this emission unit is subject to the monitoring requirements of Subpart BB.

APPENDIX BD- BACT DETERMINATION

✓ Gaseous Fluoride - The Department has imposed a fluoride limit for the Phosphoric Acid Plant of 0.009 lb/ton of P₂O₅ feed. The Department justifies this emission limit in part based on historic test data from the existing Phosphoric Acid Plants, as presented in the application. The discussion acknowledges that the phenomena accounting for these lower test values have not been fully explained, but the Department believes that they may be the result of a combination of factors including low reactor surface evacuation rates and favorable pond water characteristics rather than high scrubber efficiencies.

Cargill also believes that favorable pond water conditions may be the primary influence upon fluoride emissions. That being the case, Cargill does not believe that a limit of 0.009 lb/ton will be achievable on a consistent basis, year-to-year, because of potential fluctuations in pond water conditions as well as Phosphoric Acid Plant and scrubber operating fluctuations. The Department's evaluation apparently only considered the last three years of fluoride test data, although the last four years of data were submitted in the application. This additional year of data is critical to the analysis since it showed fluoride emissions of 0.0096 lb/ton, which is higher than the Department's proposed limit. This test in 2000 coincides with the two lowest rainfall years out of the last 6 years. Rainfall in 1991 and 2000 at Bartow was 42 and 36 inches respectively. These lower rainfall amounts would result in higher pond water fluoride concentrations, thereby causing higher scrubber fluoride emissions.

In situations where the scrubbers are operating at or near equilibrium conditions, the temperature and fluoride concentration on the pond water are critical in determining the resulting fluoride emissions. The attached table shows the potential effect upon fluoride emissions due to variations in pond water conditions. The table shows that at pond water fluoride concentrations of 8,000 ppm, fluoride emissions from the Phosphoric Acid Plants could exceed the 0.009 lb/ton limit in the draft

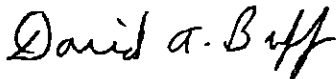
permit, due solely to the pond water fluoride content (i.e., no contribution considered from fluorides in the Phosphoric Acid Plant exhaust gases).

As a result, Cargill cannot accept the 0.009 lb/ton limit in the draft permit, and asks that the Department reconsider the BACT limit and set it at 0.012 lb/ton, consistent with other recent BACT determinations.

If you have any questions regarding these comments, please feel free to contact me at (352) 336-5600, or David Jellerson at (813) 671-6297.

Sincerely,

GOLDER ASSOCIATES INC.



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

Enclosure

cc: T. Abel
D. Buff

Y:\Projects\2003\0337506 Cargill - Green Bay\44.L\020204\LD020204.doc

Table 1. Calculation of Fluoride Emissions Due To Pond Water for Phosphoric Acid Plants at Cargill Green Bay

Scrubber	Scrubber Exit Conditions		Pond Water Conditions (ppm F)	F Equilibrium Concentration (mg/ACF)	Fluoride Emissions (lb/hr)	Fluoride lb/ton P ₂ O ₅ @ 128 TPH
	Air Flow (acfm)	Temp. (deg. F)				
PAP No. 1 - North	29,100	110	5,660	0.027	0.104	
PAP No. 1 - South	29,100	110	5,660	0.027	0.104	
PAP No. 2	24,300	110	5,660	0.027	<u>0.087</u>	
				Total=	0.294	0.0023
PAP No. 1 - North	29,100	110	7,100	0.064	0.246	
PAP No. 1 - South	29,100	110	7,100	0.064	0.246	
PAP No. 2	24,300	110	7,100	0.064	<u>0.206</u>	
				Total=	0.698	0.0055
PAP No. 1 - North	29,100	110	8,000	0.090	0.346	
PAP No. 1 - South	29,100	110	8,000	0.090	0.346	
PAP No. 2	24,300	110	8,000	0.090	<u>0.289</u>	
				Total=	0.981	0.0077
PAP No. 1 - North	29,100	120	5,660	0.036	0.138	
PAP No. 1 - South	29,100	120	5,660	0.036	0.138	
PAP No. 2	24,300	120	5,660	0.036	<u>0.116</u>	
				Total=	0.393	0.0031
PAP No. 1 - North	29,100	120	7,100	0.082	0.315	
PAP No. 1 - South	29,100	120	7,100	0.082	0.315	
PAP No. 2	24,300	120	7,100	0.082	<u>0.263</u>	
				Total=	0.894	0.0070
PAP No. 1 - North	29,100	120	8,000	0.115	0.442	
PAP No. 1 - South	29,100	120	8,000	0.115	0.442	
PAP No. 2	24,300	120	8,000	0.115	<u>0.369</u>	
				Total=	1.254	0.0098

Notes:

mg/ACF = milligrams per actual cubic feet

Appendix U-1, List of Unregulated Emissions Units and/or Activities.

Cargill Fertilizer, Inc.
Bartow Facility

FINAL Permit No.: 1050046-003-AV
Facility ID No.: 1050046

Unregulated Emissions Units and/or Activities. An emissions unit which emits no “emissions-limited pollutant” and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither ‘regulated emissions units’ nor ‘insignificant emissions units’.

E.U.

ID No.

Brief Description of Emissions Units and/or Activity

Fertilizer Plants

- 053 Screens, lump crushers, chain mills, grinding mills, conveyor belts
- 053 Reclaim Elevator, seed hopper and elevator
- 053 Pond water sumps
- 053 Ammonia chillers
- 053 Product Recovery Units
- 053 Phosphoric acid truck unloading
- 053 Process storage tanks and product storage buildings/area
- 053 Cooling towers and process water pond

Shipping Plants

- 053 Covered conveyor, surge bin, product screens, scale belt, chute to rail car

Molten Sulfur Handling

- 053 Truck/rail unloading area
- 053 Molten sulfur storage tank fires

Sulfuric Acid Plants

- 053 Hot water reuse tank
- 053 Economizers
- 053 Water reuse, uncontaminated water storage, condensate tanks for Evaporators
- 053 Auxiliary power diesel generators
- 053 Auxiliary power generator diesel tank
- 053 Storage tanks
- 053 Sulfuric acid truck loading

Phosphoric Acid Plants

- 053 Fluosilicic acid truck loading
- 053 Wet rock hoppers and grinding mills
- 053 Flash cooler hotwells
- 053 Process and product storage tanks

E.U.

ID No.

Brief Description of Emissions Units and/or Activity

- 053 3, 4, 5 Filters (unevacuated area)
- 053 Unpermitted crossflow packed scrubbers
- 053 Flash coolers, vacuum pumps, seal pumps, seal tanks
- 053 Lamellas
- 053 Phosphoric acid truck unloading/loading -- North Unit and South Units
- Wet Rock Handling**
- 053 Train/truck unloading, hoppers, conveyors, wet rock stacking on pile
- Ammonia Handling**
- 053 Pipeline, truck unloading, bullets, pop off valves, and flare
- Facilitywide**
- 053 Safety kleen solvent cleaners
- 053 Supersucker
- 053 Sand blasters, welding equipment, compressors, wood shop, metal shop
- 053 Refrigerators < 50 lbs of refrigerant
- 053 Storage tanks and dispensers
- 053 Wastewater plants (2), drinking water treatment area
- 053 Laboratory and vents, pressure relief valves
- 053 Lime silo with baghouse
- 053 Turbogenerators (TG1 + TG2)
- 053 Laboratory vacuum pump, space heaters
- 053 #1 Deepwell diesel tank and backup engine
- 053 Locomotive engines
- 053 South stack diesel tank
- 053 Minor fugitive leaks from process equipment
- 053 Steam relief valves--plantwide

[electronic file name: 1050046u.doc]

PAP No. 1 – North:

<u>Test Date</u>	<u>Runs</u>	<u>Average Process Rate</u>	<u>Average lb F/hr</u>	<u>Average lb F/ton P₂O₅</u>	<u>Z (Norm. Dev.)</u>
8/15/2003	3	26.0	0.0820	0.0031	-0.250
3/15/2002	3	23.0	0.1017	0.0044	1.375
4/27/2001	3	27.0	0.0676	0.0025	-1.000
Average	9	25.33	0.0838	0.0033	
Std. Dev.				0.0008	

PAP No.2

7/31/2003	3			0.0009	-1.0
5/13/2002	3			0.0012	-0.4
4/19/2001	3			0.0020	+1.20
Average	9			0.0014	
Std. Dev.				0.0005	

Miscellaneous -

A note has been added to the Technical Evaluation and Preliminary Determination's Facility Description that the Green Superphosphoric Acid Plant is currently shut down.

The applicant's letter dated October 1, 2003 has been added to the list of relevant documents.

A typo has been corrected for the North AP NO_x limit. The limit is 0.148 lb/MMBtu.

The rule reference for the AP Visible Emission limit was changed to Rule 62-212.400, F.A.C.

Reynolds, John

From: Heron, Teresa
Sent: Wednesday, December 17, 2003 2:44 PM
To: Reynolds, John
Subject: PSd-334

John:

I changed the limits # in the permit and add the regulations regarding the Subpart AA and BB (in red) in Section II Common Conditions. Please fix the Section II header because it currently states "specific conditions" it should say Common Conditions. Specific Conditions is Section III only.

I also "cut & paste" the section that AI has added to all of these permits about the major source for HAPS..... It is in red. Is this applicable here?

Please check all of the above, delete, add or whatever. I assume now this permit is yours since it is a North Permit. This permit is written solely by Syed.

Thanks,
Teresa Heron, Engineer
New Source Review Section
Bureau of Air Regulation
Phone 850/921-9529
teresa.heron@dep.state.fl.us



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

May 29, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Re: DEP File No. 1050053-033-AC (PSD-FL-334)
Greenbay Facility – Modification of Phosphoric Acid and MAP/DAP Plants

Dear Mr. Morris:

The Department has received the application on April 30, 2003 for the Greenbay facility expansion in Polk County. Based on our initial review of the proposed project, we have determined that additional information is needed in order to continue processing this application package. Please submit the information requested below to the Department's Bureau of Air Regulation:

1. Please provide in detail with drawings the different scrubber systems being used and the proposed new scrubbers, if any, for the three Phosphoric acid plants and the two MAP/DAP plants. The information should include but not be limited to sufficient engineering description of the new and existing scrubbers including their calculated design efficiencies for PM/PM₁₀ and fluoride removal and provide mechanical sketches of their design.
2. The application in Section 2.1.1 requests to classify storage, clarification, aging and blending tanks as unregulated sources. Please provide information on the construction permit that required these sources to be regulated sources. The Department is not sure if the applicant is requesting an operating permit revision to be processed concurrently with this construction permit or if there were requirements in some construction permit that needs to be modified. If a construction permit needs to be modified, please provide details of the construction permit.
3. The application in Section 2.1.2 requests a combined production rate of 128 TPH P₂O₅ for the three Phosphoric Acid Plants. Please provide information with some documentation on the individual design capacity of each plant.
4. Please provide the reasons for not modifying the scrubbers for Phosphoric Acid Plant (PAP) No. 1 South and PAP No. 2 to include cross-flow packed scrubbers. The reasons should include but not be limited to doing mass transfer calculations for the present set-up and the mass transfer calculations with the cross-flow packed scrubbers. The calculations should be sufficiently detailed to show control system flow rates (gas and liquid streams), pond water fluoride concentrations, fluoride gas phase equilibrium concentrations and temperatures.
5. The application contains only a summary of fluoride stack test data for the three Phosphoric Acid Plants. Please submit the detailed test reports for the 2001 and 2002 annual fluoride

"More Protection, Less Process"

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stack tests containing data on production rates, stack flows, scrubber conditions, etc. for each test run. Also, include additional three years of stack test data summary, if available, for fluoride emissions. Table 5-3 shows higher fluoride emissions for the year 2000 compared to the other two years. Please explain the reasons for such high fluoride emission rates during 2000. Were there any modifications done to the plants after 2000?

6. The application in Section 2.2.2 refers to upgrading of the present scrubber system for the South DAP Plant. Please describe in detail the upgrading being done to the R/G venturi/cyclonic scrubber, R/G tailgas scrubber (vaporizer), Dryer venturi/cyclonic scrubber, Screens/mills (S/M) venturi/cyclonic scrubber, and Cooler venturi/cyclonic scrubber. Also, explain the necessary equipment and operational changes required to produce MAP at a DAP plant.
7. Please explain the reasons for removing the cross-flow scrubber used for the dryer and S/M gas flow in the South DAP Plant and the North MAP/DAP Plant. The reasons should include but not be limited to comparing mass transfer calculations for the present set-up and the mass transfer calculations with the cross-flow packed scrubbers removed. The calculations should be sufficiently detailed to show control system flow rates (gas and liquid streams), pond water fluoride concentrations, fluoride gas phase equilibrium concentrations and temperatures.
8. The application in Section 2.2.3 paragraph 2 refers to the proposed modification to the R/G scrubbing system for the South DAP Plant includes installation of a phosphoric acid venturi/cyclonic scrubber, which will primarily remove particulate. Figure 2-4 shows the present set-up of the South DAP Plant, which already shows the unit to be in existence. Please explain the discrepancy.
9. The application in Section 3.5.3.1 refers to the exemption from complying with the New Source Performance Standards (NSPS) for the existing PAPs and the North and South MAP/DAP Plants due to the National Emission Standards for Hazardous Air Pollutants (NESHAP). 40 CFR 63.610 Subpart AA and 40 CFR 63.631 Subpart BB provides those exemptions once the requirements of certain sections are met in those rules. Please provide documentation to the Department that the requirements of Sections 63.604, 63.605, 63.606 Subpart AA and Sections 63.624, 63.625, 63.626 Subpart BB have been demonstrated.
10. Please submit engineering design data for the venturi/cyclonic scrubbers currently utilized for fluoride control. The data should include at a minimum the design capability; the stated efficiency of the control equipment and the performance curves for the venturi scrubbers.

Additional modeling information was received on May 20, 2003. Therefore, after it is reviewed DEP may have questions on modeling. Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

The Department will resume processing this application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature.

Mr. E.O. Morris
Page 3 of 3
May 29, 2003

A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days.

We will be happy to meet and discuss the details with you and your staff. Mr. Syed Arif, P.E. is responsible for the technical review of the application. He may be contacted at 850/921-9528. You may discuss the modeling requirements with Mr. Cleve Holladay at 850/921-8689.

Sincerely,



for

A. A. Linero, P.E., Administrator
Bureau of Air Regulation

AAI/sa

cc: Jerry Kissel, DEP-SWD
Jeaneanne Gettle, EPA
John Bunyak, NPS

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Mr. E. O. Morris
 Vice President
 Cargill Fertilizer, Inc.
 8813 Highway 41 South
 Riverview, FL 33569

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)	B. Date of Delivery 0-2
C. Signature <i>X Rayburn</i>	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
D. Is delivery address different from item 1? If YES, enter delivery address below:	<input type="checkbox"/> Yes <input type="checkbox"/> No

3. Service Type

<input checked="" type="checkbox"/> Certified Mail	<input type="checkbox"/> Express Mail
<input type="checkbox"/> Registered	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Insured Mail	<input type="checkbox"/> C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

7001 0320 0001 3692 5870

PS Form 3811, July 1999

Domestic Return Receipt

102595-00-M-0952

7001 0320 0001 3692 5870

**U.S. Postal Service
 CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)**

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Total Postage & Fees	\$	

Sent To
 E. O. Morris
 Street, Apt. No.
 or 8813 Hwy. 41 S.
 City, State, ZIP+4
 Riverview, FL 33569

PS Form 3800, January 2001

See Reverse for Instructions