GARDINIER INC.

8813 Hwy 41 South o Riverview, Florida 33569 o Telephone 813 — 677-9111 o TWX 810 — 876-0648 o Telex 52666 o Cable - Gardinphos

CERTIFIED MAIL: 296 373 135

September 14, 1990

Mr. Clair H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400

Subject: Construction Permit Application
New Phosphoric Acid Filter

Dear Mr. Fancy:

Please find enclosed four copies of an application and the associated permit fee ($200.00) to construct a new phosphoric acid filter to be associated with the phosphoric acid production plant (A029-146224) at Gardinier's facility. This filter is being constructed primarily to improve the plant efficiency. In addition, some production capacity increase will be realized.

In conjunction with this installation, Gardinier is requesting an increase in production capacity to 139 tons per hour P_2O_5. Increase in actual emissions associated with increased production will be somewhat offset by installation of a new scrubber and improved overall scrubbing efficiency. Since the increase in fluoride emissions will be less than 3 tons/year, PSD review will not be required.

Should you have any questions or require additional information, please feel free to call me or David Jellerson at 671-6153 or 671-6207, respectively.

Sincerely,

E.O. Morris
Environmental Manager

cc: J. Campbell - HCEPC (w/$400.00 fee)
Bill Thomas - DER, Tampa
H. Mathot, D. Clark, R. Christianson, B. Weyers,
S. Kyle, D. Jellerson , P-46

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

$200 pd.
9-19-90
Rcpt.#151173

AC 29-186726

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Phosphoric Acid Plant [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Gardinier, Inc. COUNTY: Hillsborough

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Phosphoric Acid Prod. Fac.

SOURCE LOCATION: Street 8813 Highway 41 South City Riverview

UTM: East 17: 362.9 North 3082.5

Latitude 27 ° 51 ' 30 "N Longitude 82 ° 23 ' 57 "W

APPLICANT NAME AND TITLE: E.O. Morris, Environmental Manager

APPLICANT ADDRESS: 8813 Highway 41 South, Riverview, FL 33569

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Gardinier, Inc.

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: E.O. Morris

E.O. Morris, Environmental Manager
Name and Title (Please Type)

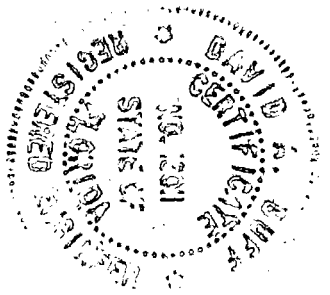
Date: 9/14/90 Telephone No. (813) 677-9111

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgement, that

[1]See Florida Administration Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

1034 N.W. 57th Street, Gainesville, FL 32605
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 9/13/90 Telephone No. (904) 331-9000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction upon permit issuance Completion of Construction 2½yrs after permit issuance.

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

New scrubber system; ductwork, piping, fans, pump, etc.: $600,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit No. AO29-146224 Issued 8/31/90 Expires 7/23/95

Permit No. AC29-156206 Issued 2/3/89 Expired 8/31/90

Permit No. AO29-81989 Issued 5/15/84 Expired 4/1/89

Permit No. AO29-67643 Issued 10/21/83 Expired 5/1/88

Permit No. AC29-21345 Issued 10/29/79 Expired 7/1/83 #3 PHOSACID

Permit No. AC29-21343 Issued 11/13/79 Expired 7/1/83 #4 PHOSACID

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
If power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No

   a. If yes, has "offset" been applied? _____

   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____

   c. If yes, list non-attainment pollutants. _____

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioration" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? No

   a. If yes, for what pollutants? _____

   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Phosphate Rock	Particulate	100	900,000 dry (450.0	TPH dry)
	Fluoride	3.7		
Sulfuric Acid	N/A	N/A	758,940	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 1,658,940 lb/hr (139.0 TPH P_2O_5)

2. Product Weight (lbs/hr): 259,600 lb/hr P_2O_5 (129.8 TPH P_2O_5)

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Fluorides	2.35	10.29	0.02 lb/ton	2.35	2.35	10.29	
			P_2O_5 input[5]				

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated with~~out~~ control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
See Attachment A				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Not Applicable			

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, others--lbs/hr.

Fuel Analysis:

Percent Sulfur:_____ Percent Ash:_____

Density: _____ lbs/gal Typical Percent Nitrogen:_____

Heat Capacity:_____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution):_____

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Scrubber water is sent to gypsum pond. Gypsum slurry resulting from process is also sent to gypsum pond.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 70 ft. Stack Diameter: 4.83 ft.

Gas Flow Rate: 55,000 ACFM 36,300 DSCFM Gas Exit Temperature: 100 °F.

Water Vapor Content: 30 % Velocity: 50.0 FPS

Note: Data is for new filter scrubber.

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type II (Rubbish)	Type III (Refuse)	Type IV (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diamter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control devices: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

_____

_____

_____

_____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

_____

_____

_____

_____

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods, 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 ½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 ½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Examples: Copy of relevant portion of USGS topographic map).

8. An 8 ½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Devices:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION
Not Applicable

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ ( ) SO^{2*} _____ Wind spd/dir

Period of Monitoring _____/_____/_____ to _____/_____/_____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e, jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ATTACHMENT A

1.0 PROJECT DESCRIPTION

Gardinier, Inc., currently operates a phosphate fertilizer manufacturing facility in Riverview, Florida, just south of Tampa. Currently, the Gardinier plant operates with a phosphorus pentoxide (P_2O_5) recovery efficiency of about 90 percent, i.e., about 10 percent of the incoming P_2O_5 is lost with the gypsum waste stream. Approximately 4 percent of this is lost due to an insufficient wash at the highly loaded filters located within the phosphoric acid production facility at Gardinier. As a result, Gardinier is proposing to add a new third filter in the phosphoric acid plant in order to increase the P_2O_5 recovery. It is expected that this will lead to an improvement to a 93.4 percent overall plant P_2O_5 efficiency.

Several environmental improvements will result from this upgrading. Because of improved filter wash efficiency, less P_2O_5, sulfuric acid, and fluosilicic acid is washed to the pond system, leading to a pH increase in the pond. The pond water is currently at a pH of about 1.7 (i.e., acidic). In addition, a new wet scrubber will be installed to control fluoride emissions from the new filter, and ultimately from several other fluoride sources within the phosphoric acid production facility. This will reduce the fluoride loading to several of the existing fluoride scrubbers and will segregate high concentration gas streams (i.e., phosphoric acid reactors) from low concentration gas streams (i.e., filters and tanks).

A flow diagram of the phosphoric acid reactors and filters, as they currently exist and as planned with this project, is shown in Figure 1. Dry phosphate rock and sulfuric acid is fed to two reactors (named No. 3 Prayon and No. 4 Dorrco, respectively). Under the current situation, each reactor discharges to a separate filter. The filters separate the phosphoric acid from the solids (gypsum). The phosphoric acid, which is about 30 percent strength at this point, is sent to the filter tanks, to a clarifier, and then to the 30 percent storage tanks. The gypsum waste is

sent to the gypsum pond. The 30 percent acid is then sent through evaporators (Nos. 1 through 10) to concentrate the acid to 54 percent strength, and is then stored in two 54 percent storage tanks.

Under the proposed situation, the new third filter will be added and both reactors will be able to feed this filter (i.e., it will operate in parallel with the two existing filters). The new filter will have 1,800 ft^2 of surface area. Improved recovery of P_2O_5 will be realized by the reduction of loading on the existing filters. A new wet scrubber for fluoride control will be installed adjacent to the new filter. In Phase I of the project, this scrubber will be used to control fluoride emissions from the new filter only. In Phase II, the new scrubber will control all three filters, the phosphoric acid storage tanks, and other low-concentration gas streams. These changes will reduce the loadings to the existing two reactor scrubbers, which currently control these low-concentration sources as well as the reactors. In addition, in Phase II the existing evacuation lines from the storage tanks and filters to the existing scrubbers will remain in place. This evacuation system will be used only during periods of downtime (i.e., maintenance) of the new scrubber.

The location of the new third filter and new scrubber within the existing phosphoric acid plant at Gardinier is shown in Figure 2. The location of the new scrubber stack is shown on a plot plan of the facility in Figure 3. An overall flow diagram of the phosphoric acid plant is shown in Figure 4.

2.0 PROCESS/PRODUCT RATES

The proposed maximum process input rate for the future system is 139.0 tons per hour (TPH) of P_2O_5, or 450 TPH dry rock. The resulting phosphoric acid production rate is 129.8 TPH P_2O_5. This new input rate is higher than the rate of 104.5 TPH P_2O_5 input which forms the basis for the current permitted allowable fluoride emissions from the phosphoric acid plant.

3.0 FLUORIDE SCRUBBERS

The fluoride scrubbers associated with the current phosphoric acid production facility at Gardinier are summarized in Table 1. Also shown are the scrubbers as they will operate during the two phases of the proposed project. The fluoride sources controlled by each scrubber are identified, as well as the type of scrubber and make/model number. All scrubbers are currently operating at the phosphoric acid plant except for the new third filter scrubber.

During Phase I of the proposed project, the new scrubber will be added and will control fluoride emissions from the new third filter only. All other scrubbers will continue to operate under current conditions.

During Phase II, the No. 3 Prayon and No. 4 Dorrco scrubbers will control emissions only from their respective phosphoric acid reactors. All other sources currently controlled by these two scrubbers will be shifted to the filter scrubber. The filter scrubber will therefore control these other sources as well as emissions from the three phosphoric acid filters.

The scrubbers which control the Nos. 9 and 10 evaporators, the clarifier, and the 30 percent storage tank will not be affected by this project.

Scrubber parameters for each scrubber for each phase of operation are presented in Table 2. The parameters include gas flow rate, temperature, scrubber water flow rate, and expected fluoride removal efficiency.

The estimated loadings to the existing No. 4 Dorrco and No. 3 Prayon scrubbers are shown in Figures 5, 6, and 7. Anticipated loadings to the new filter scrubber under both Phase I and Phase II operating conditions are also shown in Figure 7. The design basis for the new scrubber is shown in Figure 8. The new scrubber will be similar in design to the current No. 4 Dorrco scrubber.

4.0 FLUORIDE EMISSIONS

Detailed in Table 3 are the average actual emissions from each scrubber based on stack test data over the last 2 years. The emissions in tons per year (TPY) are based on the actual hours of operation. As shown, average annual fluoride emissions were 7.51 TPY. These emissions represent baseline emissions for new source review applicability. Also shown in the table are the current allowable fluoride emissions for the phosphoric acid plant, based on a P_2O_5 input rate of 104.5 TPH, an allowable fluoride emission of 0.02 lb/ton P_2O_5 input, and 8,760 hours per year operation. The allowable emissions are 2.09 lb/hr and 9.15 TPY.

Maximum future emissions from the phosphoric acid plant will be limited to 0.02 lb/ton P_2O_5 input, or 2.35 lb/hr, whichever is less. This results in maximum annual emissions of 10.29 TPY.

5.0 SOURCE APPLICABILITY

New source review applicability is based on the net increase in fluoride emissions from the phosphoric acid plant. The net increase in emissions is based on the difference between the future maximum allowable emissions (10.29 TPY) and the historic actual emissions (7.51 TPY). As a result, the net increase in fluoride emissions is 2.78 TPY. The significant emission rate for prevention of significant deterioration (PSD) review is 3.0 TPY for fluorides. Since the significant emission rate is not exceeded, PSD review does not apply.

Table 1. Summary of Scrubbers Within Gardinier's Phosphoric Acid Plant

Scrubber	Sources Controlled	Type	Make/Model No.
EXISTING SYSTEM			
No. 3 Prayon	No. 3 reactor vapors Prayon filter (discharge section) Filtrate sump Filtrate seal tanks 30% acid feed tank 54% phosphoric acid tanks (2)	Teller packed bed	Teller
No. 4 Dorrco	No. 4 reactor vapors Dorrco filter (discharge section) Filtration tanks Gypsum slurry tank	Venturi/packed bed/ demister	Vescor Model 2155RL
Nos. 9/10 Evaporators	Nos. 9/10 Evaporators	Venturi scrubber	Croll Reynolds 10x10 - 36V
Clarifier	Phosphoric acid clarifier	Upflow packed scrubber	Micro-Fab
30% Storage tank	30% phosphoric acid tank	Venturi scrubber	Croll Reynolds Model 66-24V
PROPOSED SYSTEM--PHASE I			
No. 3 Prayon	No. 3 reactor vapors Prayon filter (discharge section) Filtrate sump Filtrate seal tanks 30% acid feed tank 54% phosphoric acid tanks (2)	Teller packed bed	Teller
No. 4 Dorrco	No. 4 reactor vapors Dorrco filter (discharge section) Filtration tanks Gypsum slurry tank	Venturi/packed bed/ demister	Vescor Model 2155RL
Nos. 9/10 Evaporators	Nos. 9/10 Evaporators	Venturi scrubber	Croll Reynolds 10x10 - 36V
Clarifier	Phosphoric acid clarifier	Upflow packed scrubber	Micro-Fab
30% Storage tank	30% phosphoric acid tank	Venturi scrubber	Croll Reynolds Model 66-24V
Filter scrubber (new)	New 3rd filter (discharge section)	Venturi/packed bed/ demister	Not yet selected
PROPOSED SYSTEM--PHASE II			
No. 3 Prayon	No. 3 reactor vapors	Teller packed bed	Teller
No. 4 Dorrco	No. 4 reactor vapors	Venturi/packed bed/ demister	Vescor Model 2155RL
Nos. 9/10 Evaporators	Nos. 9/10 Evaporators	Venturi scrubber	Croll Reynolds 10x10 - 36V
Clarifier	Phosphoric acid clarifier	Upflow packed scrubber	Micro-Fab
30% Storage tank	30% phosphoric acid tank	Venturi scrubber	Croll Reynolds Model 66-24V
Filter scrubber[a] (new)	New 3rd filter (discharge section) Prayon filter (discharge section) Filtrate sump Filtrate seal tanks 30% acid feed tank 54% phosphoric acid tanks (2) Dorrco filter (discharge section) Filtration tanks Gypsum slurry tank	Venturi/packed bed/ demister	Not yet selected

[a]Note: When filter scrubber is down for maintenance, No. 3 Prayon and No. 4 Dorrco scrubbers will be utilized, as in existing system and Phase 1.

Table 2. Summary of Parameters for Modified/New Scrubbers, Phosphoric Acid Plant

Scrubber	Exhaust Gas Flow Rate (acfm)	Gas Temperature (°F)	Scrubber Water Flow (gpm)	Expected Fluoride Removal Efficiency (%)
EXISTING SYSTEM				
No. 3 Prayon	36,000	100	1,150	99.7
No. 4 Dorrco	55,000	100	1,950	99.8
PROPOSED SYSTEM--PHASE I				
No. 3 Prayon	~~36,000~~ 33,500	100	1,150	99.7
No. 4 Dorrco	45,000	100	1,950	99.9
Filter scrubber (new)	12,500	95	1,950	98.8
PROPOSED SYSTEM--PHASE II				
No. 3 Prayon	9,000	100	1,150	99.9
No. 4 Dorrco	27,000	100	1,950	99.9
Filter scrubber (new)	55,000	100	1,950	>99

Table 3. Two Year Average Fluoride Emissions, Phosphoric Acid Plant

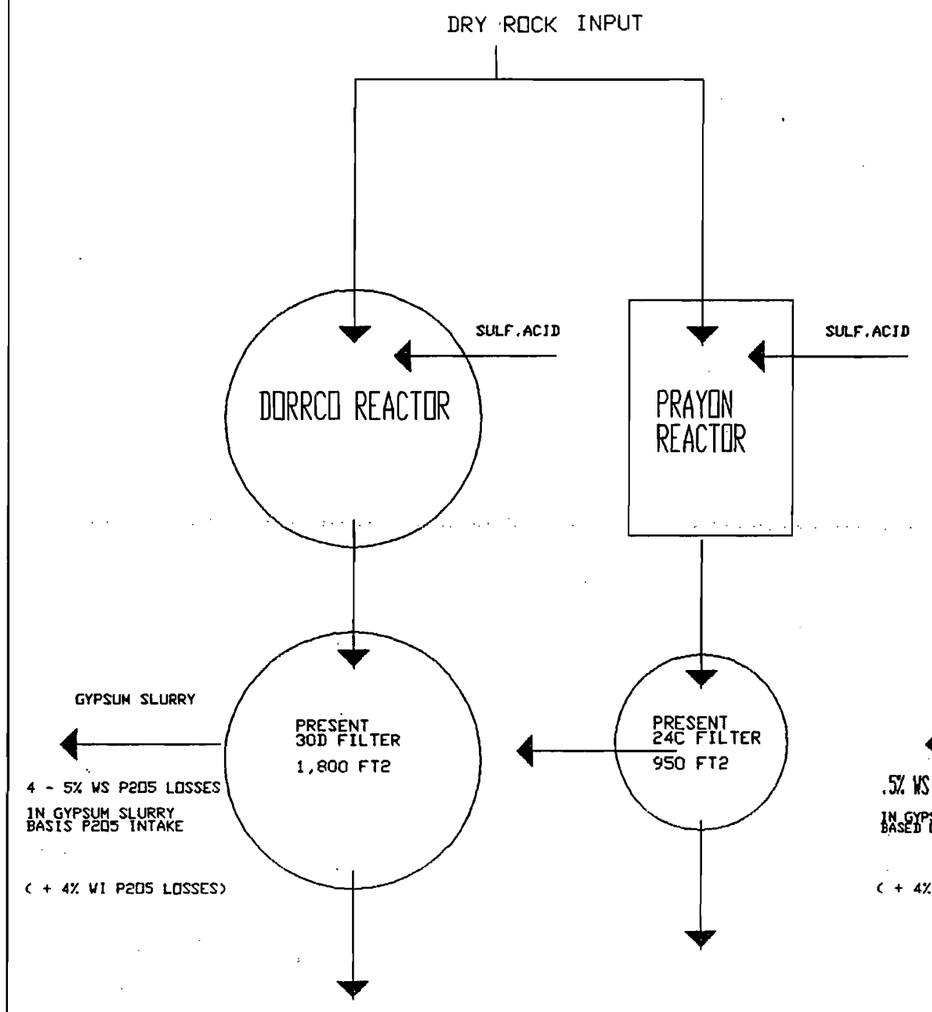
Source	Year	Fluoride (lb/hr)	Hours of Operation	Actual Emissions (TPY)
3 Phosphoric Acid	1988	0.346	6,534	1.13
	1989	0.475	7,826	1.86
	Average	0.411		
4 Phosphoric Acid	1988	0.668	7,556	2.52
	1989	0.663	7,790	2.58
	Average	0.666		
9 & 10 Evaporators	1988	0.028	8,760	0.12
	1989	0.036	8,760	0.16
	Average	0.032		
Clarifier[a]	1988	0.400	8,760	1.75
	1989	0.335	8,760	1.47
	Average	0.367		
300K Tank[a] 30% Acid	1988	0.200	8,760	0.88
	1989	0.167	8,760	0.73
	Average	0.184		
W. 30% Tank[a]	1988	0.050	8,760	0.22
	1989	0.042	8,760	0.18
	Average	0.046		
E. 30% Tank[a]	1988	0.050	8,760	0.22
	1989	0.042	8,760	0.18
	Average	0.046		
N. 54% Tank[a]	1988	0.061	8,760	0.26
	1989	0.007	8,760	0.03
	Average	0.034		
W. 54% Tank[a]	1988	0.031	8,760	0.14
	1989	0.133	8,760	0.58
	Average	0.082		
1988 average		1.834		7.24
1989 average		1.900		7.78
2-year average		1.867		7.51
Current Allowable		2.09		9.15

[a]Emissions were controlled by scrubbers beginning November 1989. Emissions shown before this date for these sources are estimates.

FIG 1

PRESENT SITUATION

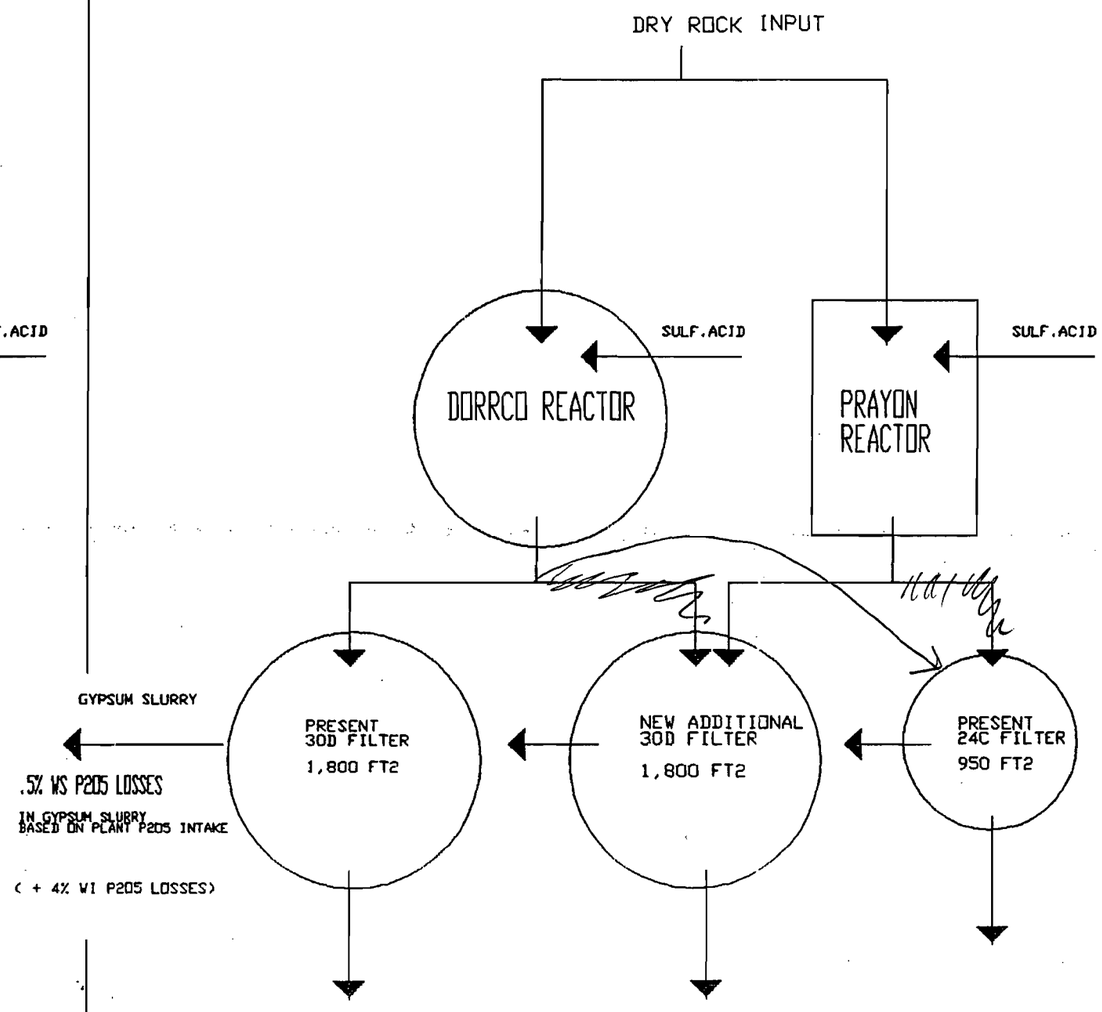
PLANT INTAKE P205: ~~MAX 139 T/HR P205 OR 450 T/HR DRY ROCK [30.85% ROCK P205]~~ Corrected 10/9/90 126.3 TPH P_2O_5 OR 408 TPH DRY ROCK at 30.85% ROCK P_2O_5



PLANT P205 EFFICIENCY: 90%
FILTER WS P205 WASH EFFICIENCY: 95-96%
WS P205 FILTER LOADING: 1.0 TON P205 / FT2 FILTER AREA

NEW SITUATION WITH 3RD FILTER

PLANT INTAKE P205: MAX 139 T/HR P205 OR 450 T/HR DRY ROCK [30.85% ROCK P205]



SEE CORRECTED DRAWING (FIG. 1) DATED 11/16/90

PLANT P205 EFFICIENCY: 93.4%
FILTER WS P205 WASH EFFICIENCY: 99.5%
WS P205 FILTER LOADING: .6 TON P205 / FT2 FILTER AREA

SCALE: 1 INCH = 35 FT

GARDINIER

FIG 2

3RD FILTER PROJECT

AUG 21 , '90

3RD FILTER BUILDING

DITCH FROM: -- 5/8 EVAPORATORS COOLING WATER RETURN
-- PRAYON SCRUBBER + TANK OVERFLOWS
-- EVAPORATOR PADS
-- PAD FROM NEW 3RD FILTER

CONCRETE FLUME

POND W.

PIPE RACK FOR GYPSUM SLURRY TO GYPSUM STACK + CABLES

UNDERGROUND PIPE FOR NO 1/4 EVAPORATOR COOLING WATER RETURN

STACK

SCRUBBER

P.W.

VACUUM COOLER SEAL TANK

CRANE

REACTOR

FLOW

UNDERGROUND PIPE FOR NO 9/10 EVAPORATOR COOLING WATER RETURN

NEW UNDERGROUND PIPE AROUND NEW 3RD FILTER BUILDING

RELOCATED DITCH

DITCH

DORRCO

N.

S.

ROCK SLURRY TANKS

NEW 3RD FILTER (30D)

PRESENT DORRCO 30D FILTER

DEFOAMER STORAGE

REACTOR

N. 5%
60 M

10

NEW SCRUBBER FOR 3RD FILTER
IDENTICAL TO DORRCO SCRUBBER

SIZED SUFFICIENT FOR LATER TIE-IN OF PRESENT DORRCO/PRAYON FILTERS + TANK EVACUATION

PRESENT PRAYON 24C FILTER

PRAYON

17 FT

W 30%
60 M

DITCH - CRANE, TRUCK ACCESS

EXISTING DITCH FOR 5/8 EVAPORATORS, PRAYON SCRUBBER, TANK OVERFLOWS, PADS

PFS PLANT

EVAP M.C.C.

9

W.

E.

54% TANK 60M

PFS SLURRY TANK 80M

FLOW

SCRUBBER

8 7 6 5 4 3 2 1

PIPING RACKS

W 5%
30 M

FLOW

STACK

E. 5%
24 M

PFS REC. TANK 14M

NEW 54% PRODUCT

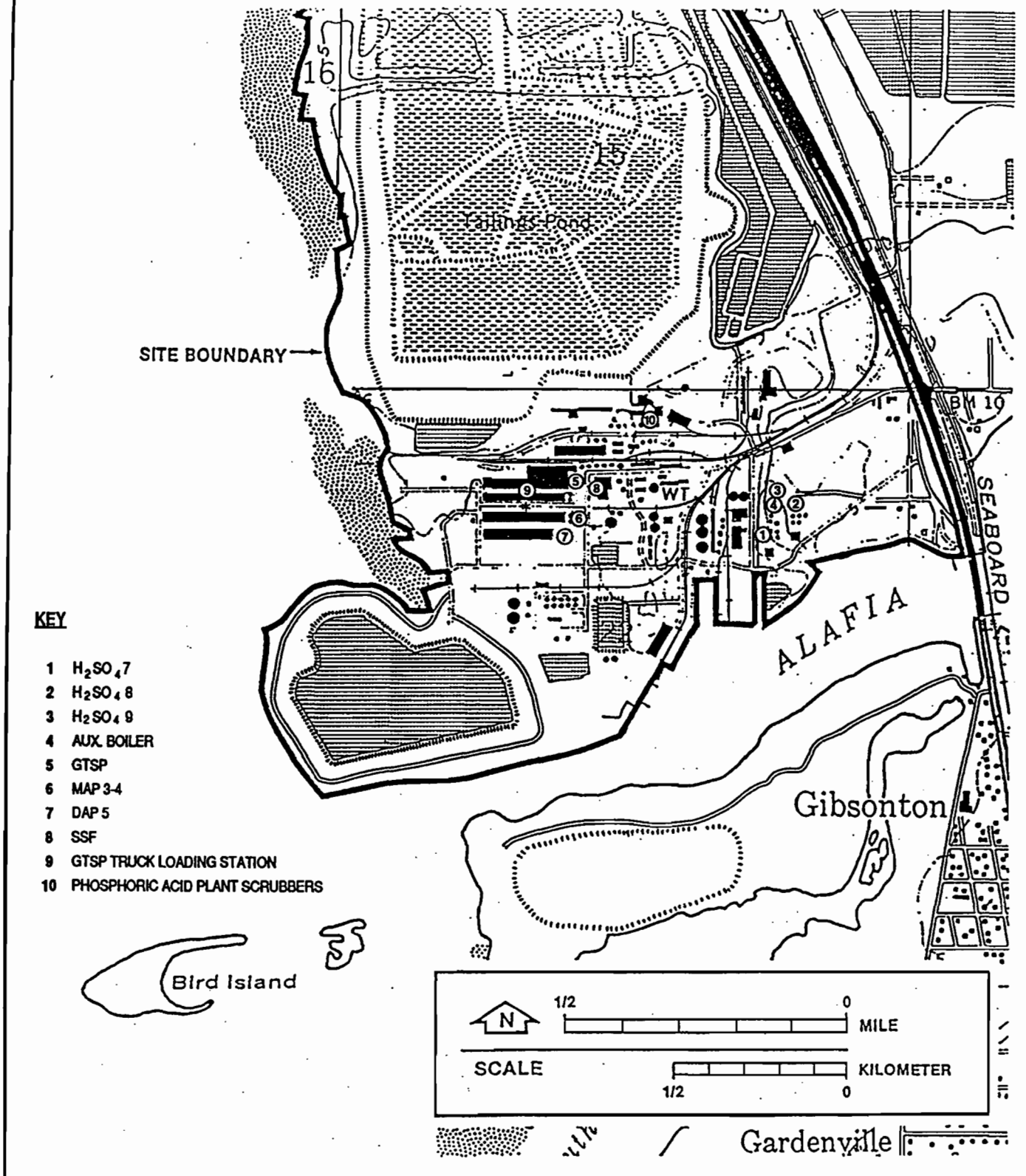


Figure 3 SITE LOCATION OF GARDINIER, INC.

SOURCE: USGS, 1981.

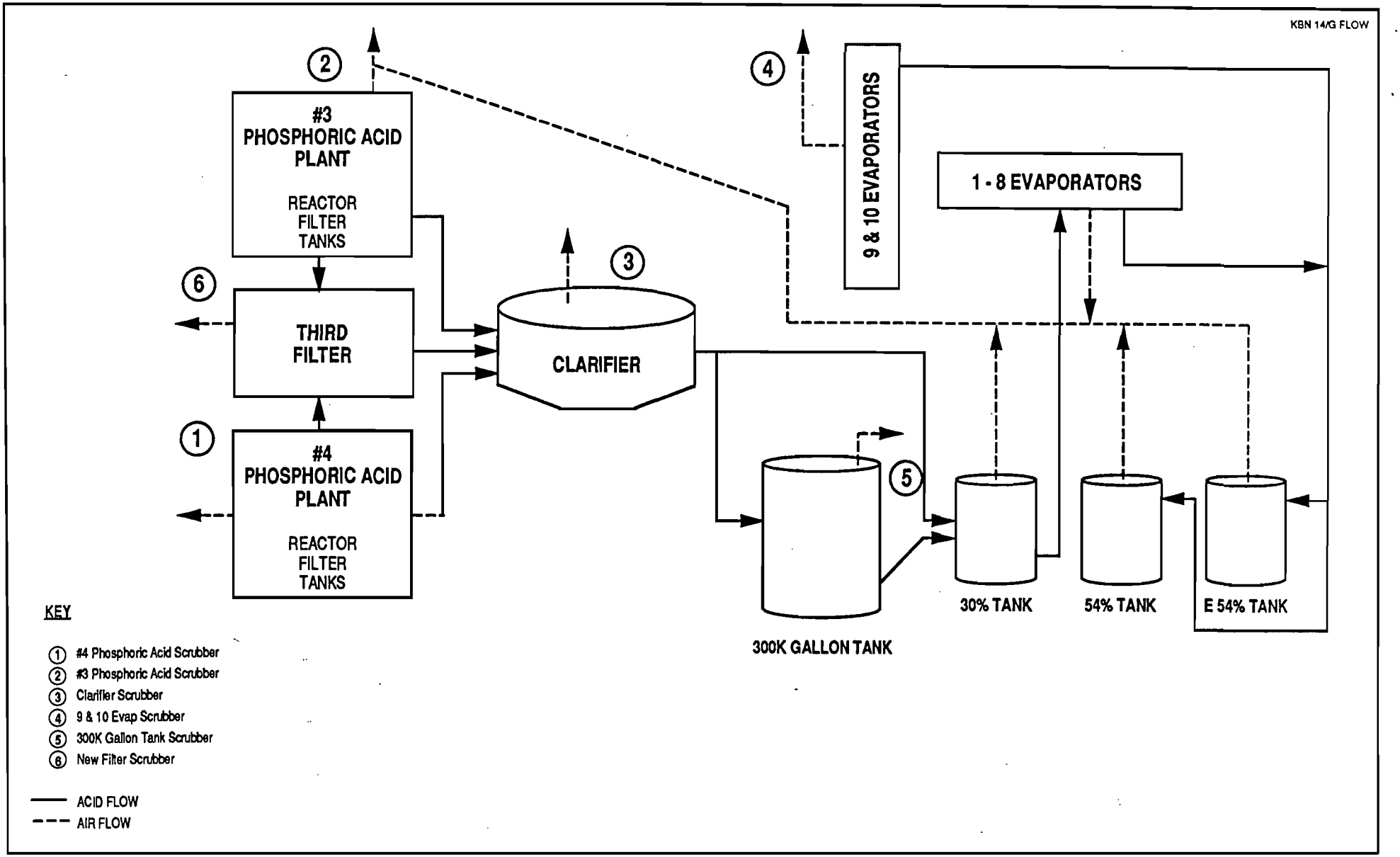


Figure 4 SIMPLIFIED FLOW DIAGRAM OF GARDINIER PHOSPHORIC ACID PRODUCTION FACILITY

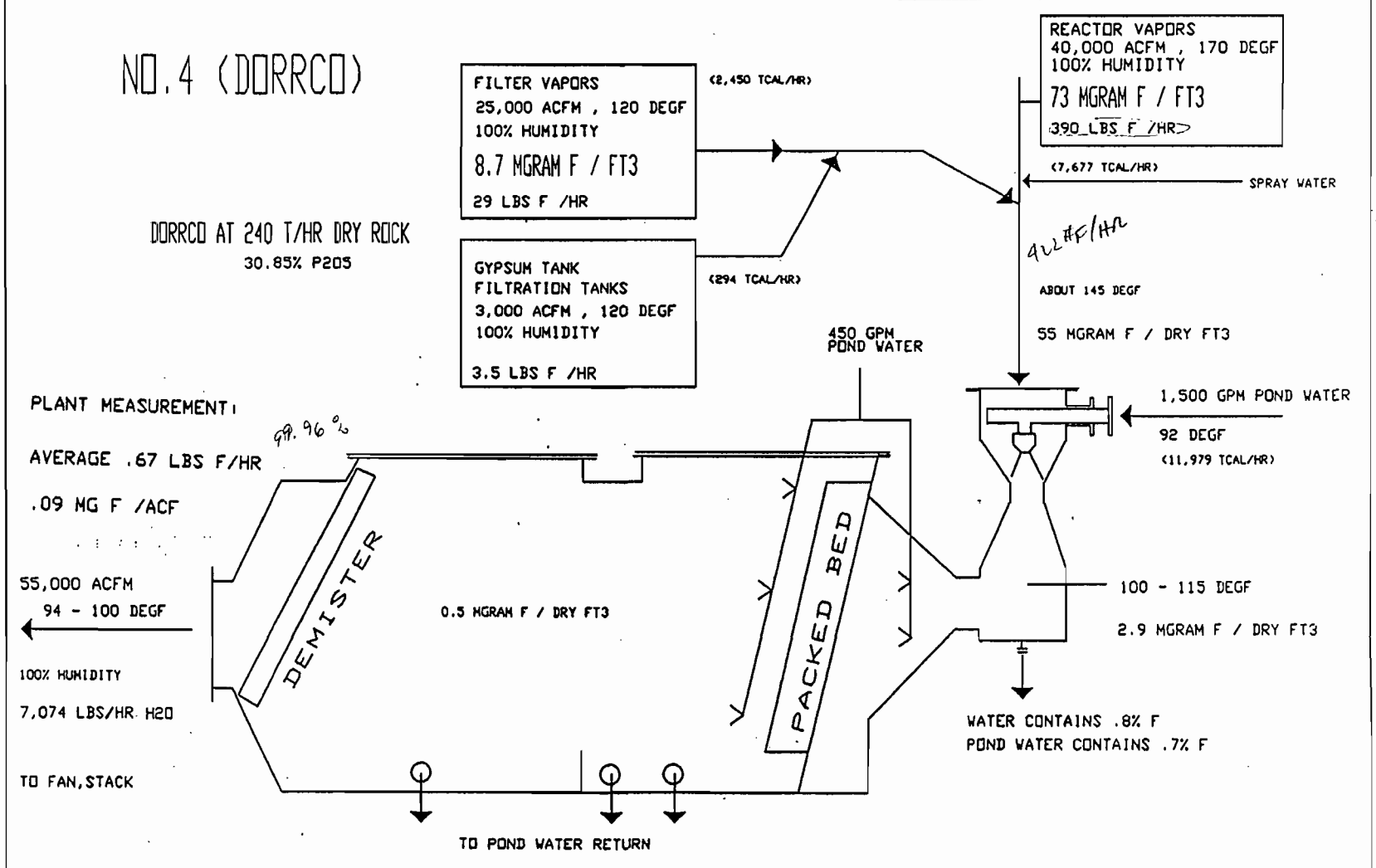
SOURCE: GARDINIER, INC., 1990.

EXISTING SCRUBBERS AND OTHER EMISSION POINTS IN THE PHOSACID PLANT AREA

(VALUES BASED ON TYPICAL VALUES OVER PAST YEAR)

GARDINIER
3RD FILTER PROJECT
AUG 21 , '90

FIG 5



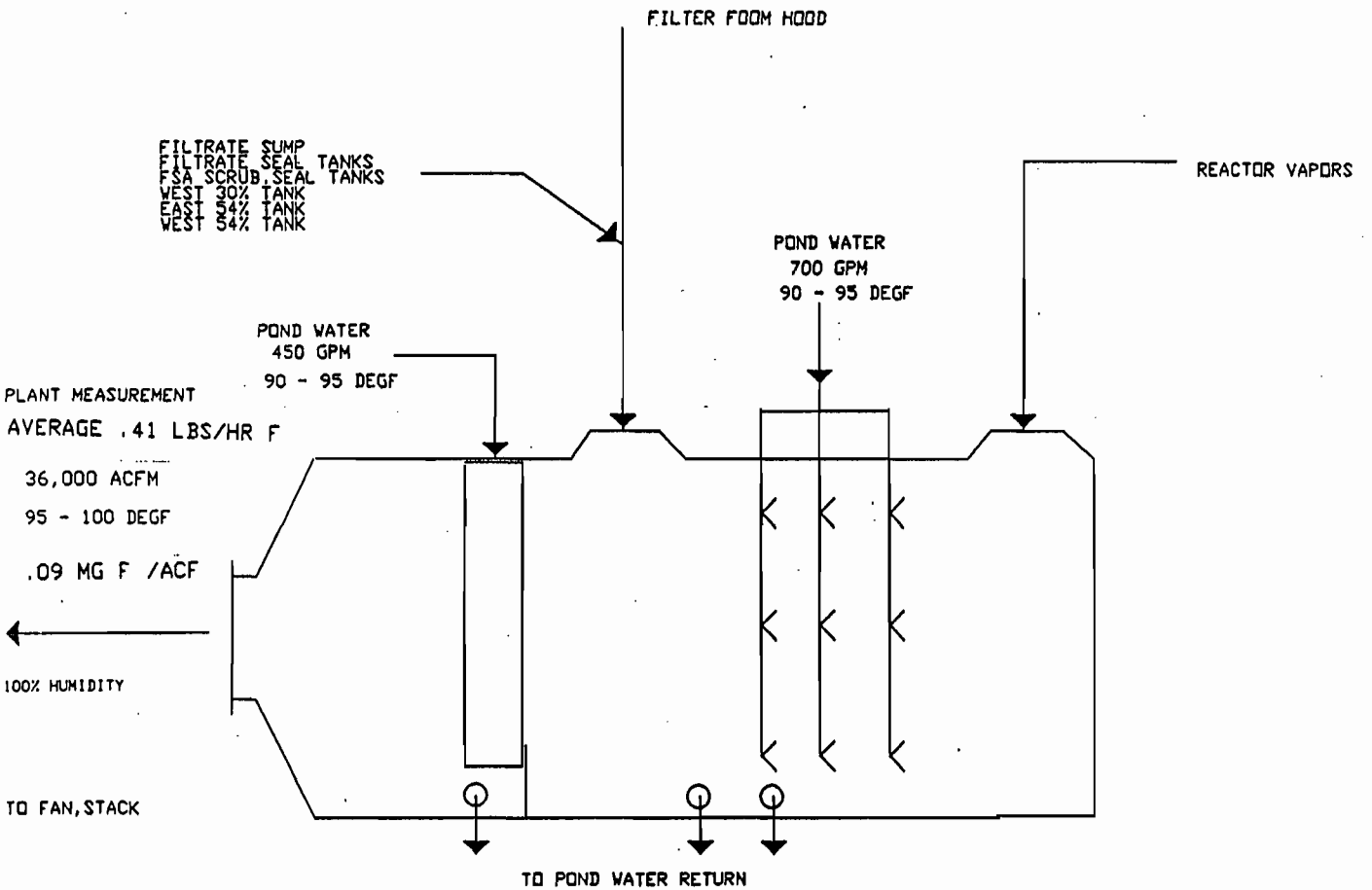
EXISTING SCRUBBERS AND OTHER EMISSION POINTS IN THE PHOSACID PLANT AREA

(VALUES BASED ON TYPICAL VALUES OVER PAST YEAR)

GARDINIER
3RD FILTER PROJECT
AUG 21 , '90

FIG 6

NO3 PRAYON SCRUBBER



PRAYON (NO3), DORRCO (NO4) SCRUBBERS AND NEW ADDITIONAL SCRUBBER

GARDINIER 3RD FILTER PROJECT AUG 21 , '90 FIG 7

corrected 10/4/90

A

PRESENT SITUATION

126.3 ~~135~~ T/HR ROCK P2O5 MAX

78.9 TPH
40,000 ACFM , 73 MG F/ACF
122 MG F/ DRY ACF

170 DEGF
DORRCO
REACTOR

25,000 ACFM , 8.7 MG F/ACF
9.9 MG F/DRY ACF

47.4 TPH
13,000 ACFM , 73 MG F/ACF

170 DEGF
PRAYON
REACTOR

8,000 ACFM , 8 MG F/ACF

75.0 TPH

120 DEGF
DORRCO
FILTER

3,000 ACFM , 9.8 MG F/DRY ACF

FILTRATION TANKS
GYPSUM SLURRY TANK

45.0 TPH

PRAYON
FILTER
120°F

15,000 ACFM , 8 MG F/ACF

FILTRATE SUMP
FILTRATE SEAL TANKS
FSA SCUB. SEAL TANKS
WEST 30% TANK
EAST 54% TANK
WEST 54% TANK

55 MG F/DRY FT3

55,000 ACFM
95 - 100 DEGF

AVERAGE: .67 LBS/HR F
.09 MG F /ACF

36,000 ACFM
95 - 100 DEGF

AVERAGE: .41 LBS/HR F
.09 MG F/ACF

TOTAL AVERAGE EMISSION 1.08 LBS/HR F

FROM PRAYON/DORRCO SCRUBBERS:

B

SITUATION WITH 3RD FILTER AND ADDITIONAL SCRUBBER

139 T/HR ROCK P2O5 MAX

91.6 TPH
40,000 ACFM , 73 MG F/ACF
122 MG F/ DRY ACF

170 DEGF
DORRCO
REACTOR

14,000 ACFM , 8.7 MG F/ACF
52.1 TPH 9.9 MG F/DRY ACF

47.4 TPH
13,000 ACFM , 73 MG F/ACF

170 DEGF
PRAYON
REACTOR

5,000 ACFM , 8 MG/ACF 52.1 TPH

PRESENT DUCTING

27.8 TPH

120 DEGF
DORRCO
FILTER

3,000 ACFM , 9.8 MG F/DRY ACF

FILTRATION TANKS
GYPSUM SLURRY TANK

PRAYON
FILTER
120°F

NEW 3RD
FILTER
120°F

15,000 ACFM , 8 MG F/ACF

FILTRATE SUMP
FILTRATE SEAL TANKS
FSA SCUB. SEAL TANKS
WEST 30% TANK
EAST 54% TANK
WEST 54% TANK

11,000 ACFM 8-10 MG F/ACFM

NEW
GYPSUM TK
FILTR. TKS

3000 ACFM, 9.8 MG F/DRY ACF (8-10)

55 MG F/DRY FT3

45,000 ACFM
95 - 100 DEGF

AVERAGE .55 LBS/HR F
.09 MG F/ACF

33,500 ACFM
95 - 100 DEGF

AVERAGE .40 LBS/HR
.09 MG F/ACF

14,000 ACFM AT 8 MG F/ACF

90 - 95 DEGF
12,500 ACFM

NEW SCRUBBER

62,000 ACFM MAX

AVERAGE .13 LBS/HR F
.09 MG F/ACF

TOTAL AVERAGE EMISSION 1.08 LBS/HR F

FROM PRAYON/DORRCO SCRUBBERS:

NEXT PHASE

139 T/HR ROCK P2O5 MAX

91.6 TPH
40,000 ACFM , 73 MG F/ACF
122 MG F/ DRY ACF

170 DEGF
DORRCO

47.4 TPH
13,000 ACFM , 73 MG F/ACF

170 DEGF
PRAYON
REACTOR

PRESENT DUCTING

90 - 95 DEGF

27,000 ACFM AT .1 MG F/ACF
AVERAGE .36 LBS/HR F

PRESENT DUCTING

90 - 95 DEGF

9,000 ACFM AT .1 MG/ACFM
AVERAGE .12 LBS/HR F

14,000 ACFM , 8.7 MG F/ACF
52.1 TPH 9.9 MG F/DRY ACF

DORRCO
FILTER
120°F

3,000 ACFM , 9.8 MG F/DRY ACF

FILTRATION TANKS
GYPSUM SLURRY TANK

5,000 ACFM , 8 MG/ACF
27.8 TPH

PRAYON
FILTER
120°F

52.1 TPH

NEW 3RD
FILTER
120°F

15,000 ACFM , 8 MG F/ACF

FILTRATE SUMP
FILTRATE SEAL TANKS
FSA SCUB. SEAL TANKS
WEST 30% TANK
EAST 54% TANK
WEST 54% TANK

11,000 ACFM

3000 ACFM Gyp tanks Filtr. tanks

14,000 ACFM , 8.7 MG F/ACF
51,000 ACFM

90 - 95 DEGF
46,000 ACFM

<.10 MG F/ACF
< .60 LBS/HR F AVERAGE

TOTAL AVERAGE EMISSION < 1.08 LBS/HR F

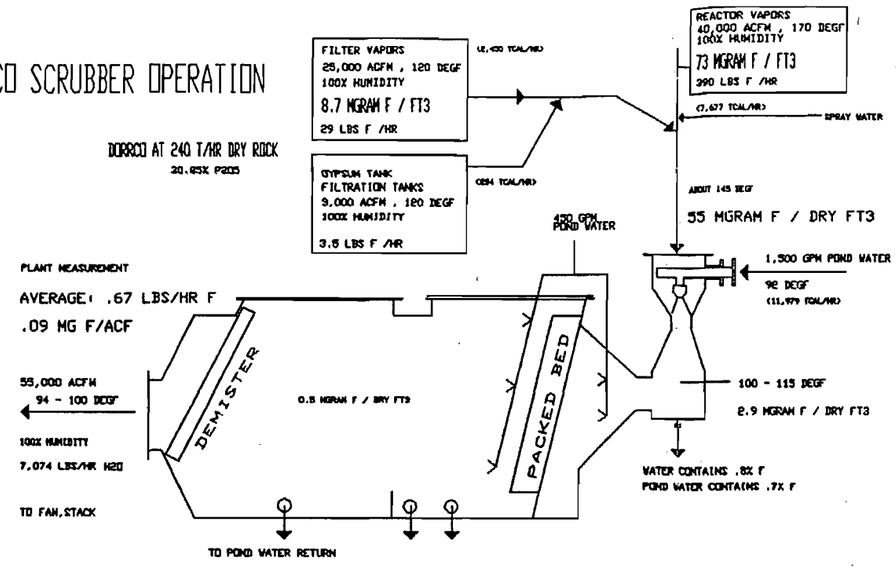
FROM PRAYON/DORRCO SCRUBBERS:

NEW 3RD SCRUBBER DESIGN AND PERFORMANCE

GARDINIER
3RD FILTER PROJECT
AUG 21 , '90

FIG 8

PRESENT AVERAGE DORRCO SCRUBBER OPERATION



SCRUBBER NUMBER OF TRANSFER UNITS 'NTU':

$$NTU = LN \frac{C1 - C(VAP)}{C2 - C(VAP)}$$

C1: FLUORIDE CONCENTRATION IN INLET GAS (MGRAM /DRY FT3)
C2: FLUORIDE CONCENTRATION IN OUTLET GAS (")
C(VAP): FLUORIDE CONCENTRATION IN GAS PHASE IN EQUILIBRIUM WITH POND WATER (MGRAM F/DRY FT3)

'NTU' OF THE DORRCO SCRUBBER:

C1 = 63 MG F/DRY ACF
C2 = .095 MG F/DRY ACF

C(VAP) POND WATER AT 95 DEGF = .045 MG F/DRY ACF

(SEE FIG 11 , POND WATER AT .7% F)

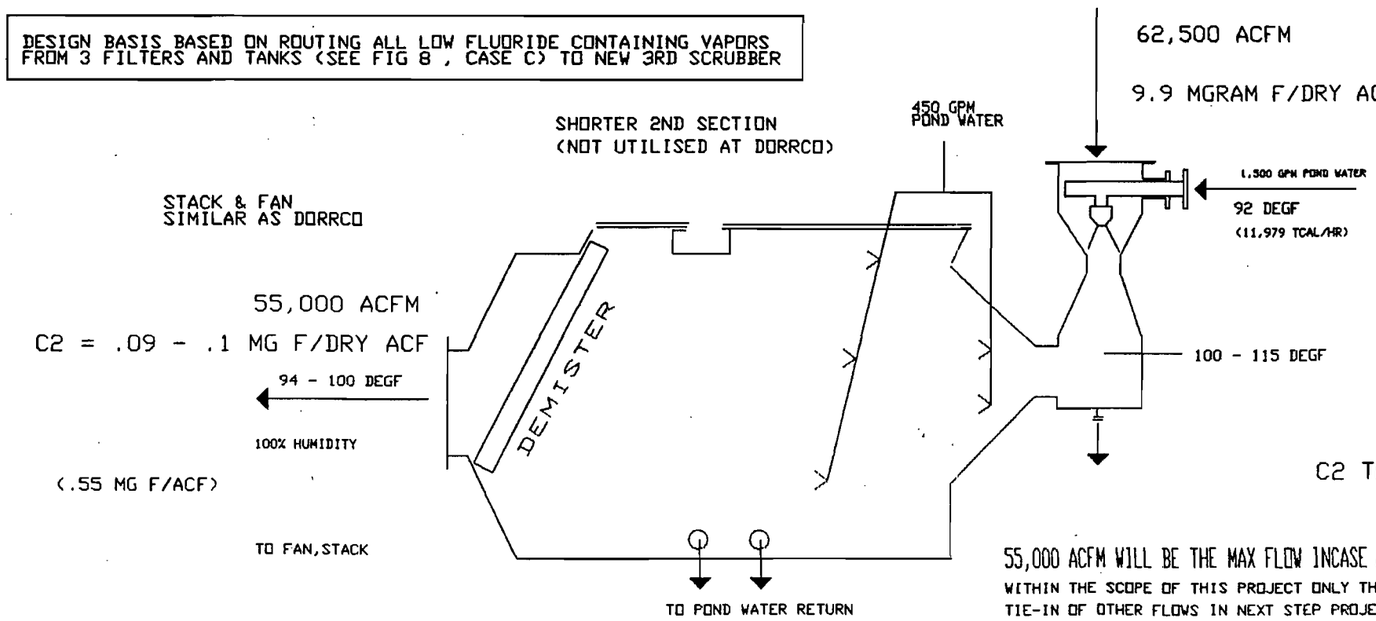
$NTU_{DORRCO} = 7.1$

IDENTICAL SCRUBBERS,GAS FLOWS:

$NTU_{NEW\ 3RD\ SCRUBBER} = NTU_{DORRCO}$

NEW 3RD SCRUBBER (BASICALLY IDENTICAL TO PRESENT DORRCO SCRUBBER)

DESIGN BASIS BASED ON ROUTING ALL LOW FLUORIDE CONTAINING VAPORS FROM 3 FILTERS AND TANKS (SEE FIG 8 , CASE C) TO NEW 3RD SCRUBBER



$$LN\left[\frac{9.9 - .045}{C2 - .045}\right] = 7.1$$

C2 = .053 MG F/DRY ACF

THIS IS WITH PACKED BED.
INTENTION IS TO NOT USE A PACKED BED,ONLY SPRAYS

THE NTU WITHOUT THE PACKED BED WILL BE
1.5 - 2.0 LESS

(SEE BECKER, 'PHOSPHATES & PHOSPHORIC ACID')

C2 THEN BECOMES .09 - .1 MG F/DRY ACF

55,000 ACFM WILL BE THE MAX FLOW INCASE ALL FILTERS AND TANKS ARE ROUTED TO THE NEW SCRUBBER

WITHIN THE SCOPE OF THIS PROJECT ONLY THE VAPORS FROM THE NEW FILTER WILL BE SCRUBBED IN THE NEW SCRUBBER
TIE-IN OF OTHER FLOWS IN NEXT STEP PROJECTS

(SEE FIG 8)

GARDINIER INC.

8815 Hwy 41 South • Riverview, Florida 33569 • Telephone 813 — 671-9111 • TWX 810 — 876-0648 • Telex 52666 • FAX-813-671-6146

CERTIFIED MAIL: 723 750 481

October 4, 1990

Mr. John Reynolds
Bureau of Air Quality Management
Florida Department of
Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400

Subject: Construction Permit Application - AC29-186726
New Phosphoric Acid Filter

Dear Mr. Reynolds:

Please find enclosed four corrected copies of Figure Nos. 1 and 7 of the above-referenced application. The copies included with the application had incorrect production rates for the existing conditions.

Should you have any questions or require additional information, please feel free to call me or Ozzie Morris at 671-6207 or 671-6153, respectively.

Sincerely,

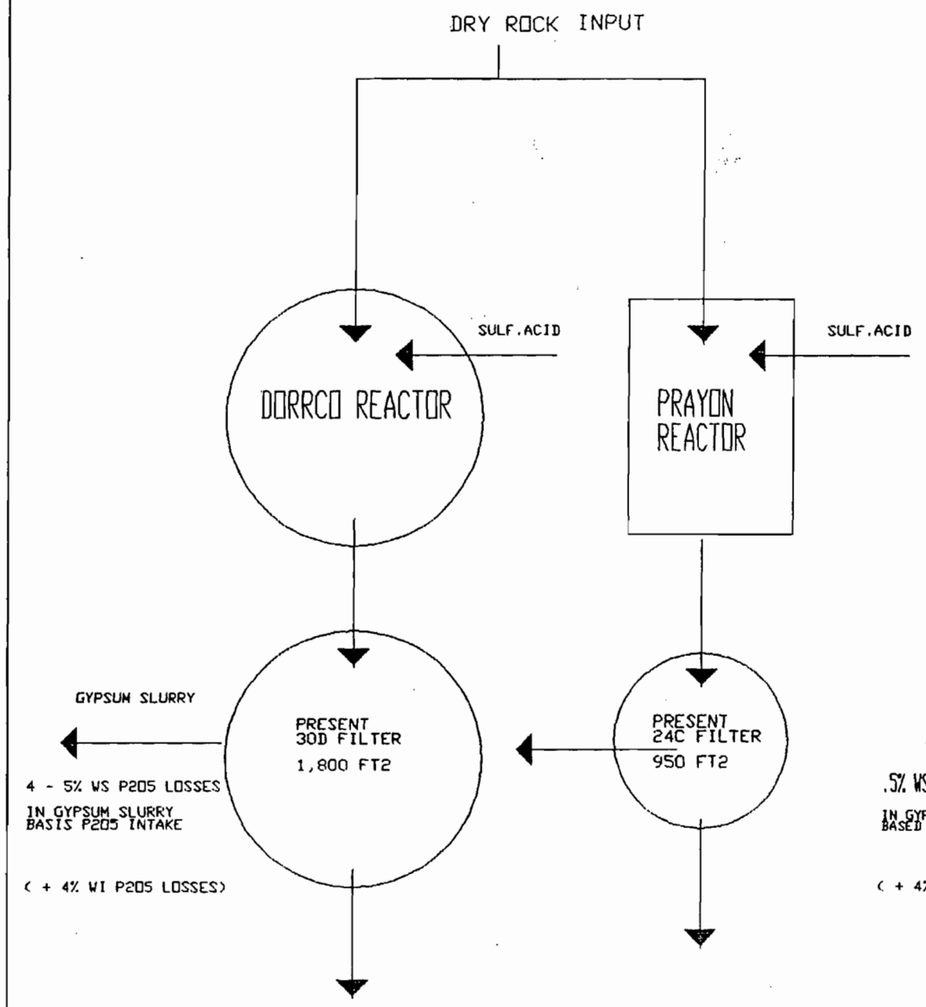
David B. Jellerson

David B. Jellerson, P.E.
Environmental Supervisor

cc: J. Campbell - HCEPC - CERTIFIED: 723 750 482
Bill Thomas - FDER, Tampa - CERTIFIED: 723 750 483
P-45
C. Phillips

PRESENT SITUATION

PLANT INTAKE P205: MAX 126.3 T/HR P205 OR 408 T/HR DRY ROCK [30.85% ROCK P205]

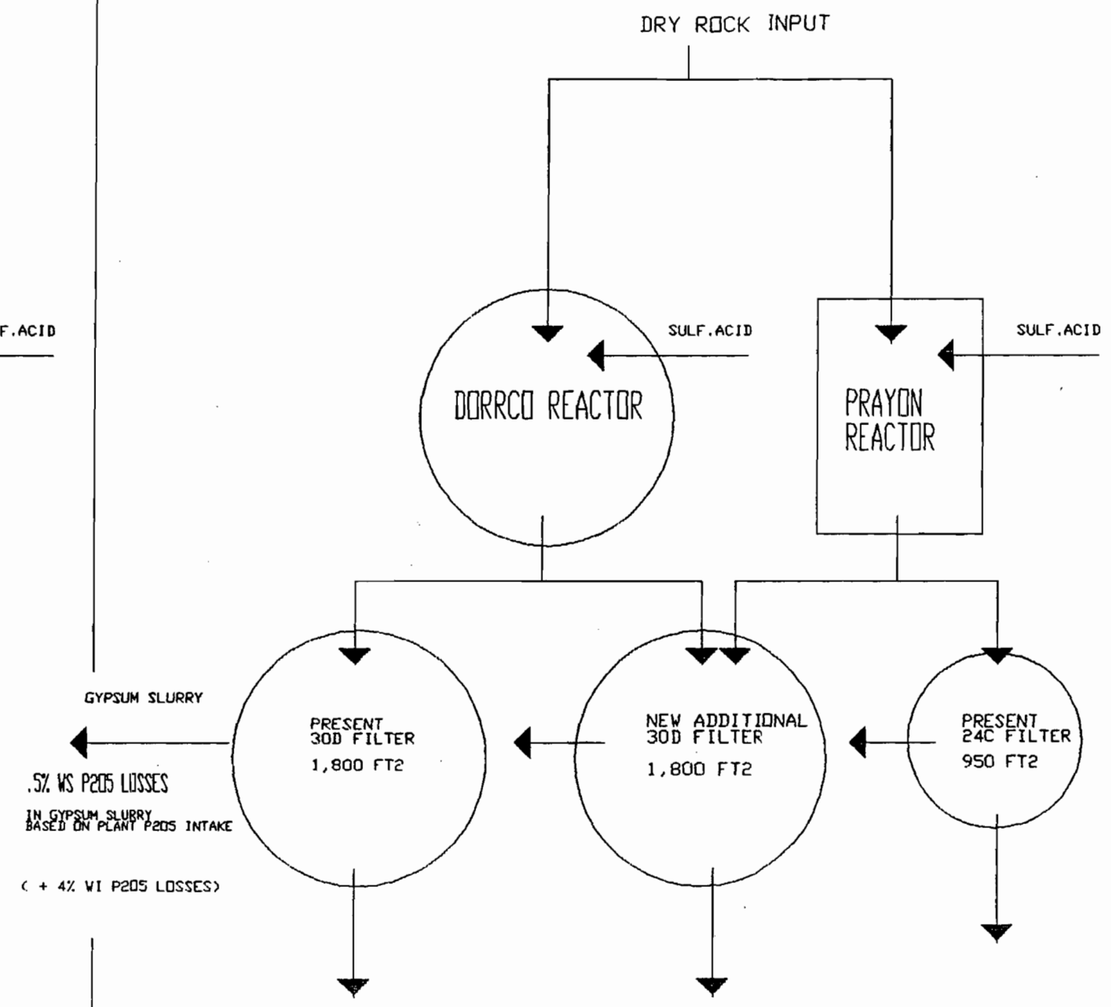


PLANT P205 EFFICIENCY: 90%
FILTER WS P205 WASH EFFICIENCY: 95-96%
WS P205 FILTER LOADING: 1.0 TON P205 / FT2 FILTER AREA

NEW SITUATION WITH 3RD FILTER

FIG 1
10/4/90 CORRECTION

PLANT INTAKE P205: MAX 139 T/HR P205 OR 450 T/HR DRY ROCK [30.85% ROCK P205]



PLANT P205 EFFICIENCY: 93.4%
FILTER WS P205 WASH EFFICIENCY: 99.5%
WS P205 FILTER LOADING: .6 TON P205 / FT2 FILTER AREA

PRAYON (NO3), DORRCO (NO4) SCRUBBERS AND NEW ADDITIONAL SCRUBBER

GARDINIER 3RD FILTER PROJECT AUG 21 , '90 FIG 7

10/4/90 CORRECTION

PRESENT SITUATION

A

126.3T/HR ROCK P2O5 MAX

40,000 ACFM , 73 MG F/ACF
122 MG F/ DRY ACF

170 DEGF
DORRCO
REACTOR

13,000 ACFM , 73 MG F/ACF

170 DEGF
PRAYON
REACTOR

25,000 ACFM , 8.7 MG F/ACF
9.9 MG F/DRY ACF

120 DEGF
DORRCO
FILTER

8,000 ACFM , 8 MG F/ACF

PRAYON
FILTER

15,000 ACFM , 8 MG F/ACF

FILTRATE SUMP
FILTRATE SEAL TANKS
FSA SCUB SEAL TANKS
WEST 30% TANK
EAST 34% TANK
WEST 54% TANK

3,000 ACFM , 9.8 MG F/DRY ACF

FILTRATION TANKS
GYPSUM SLURRY TANK

55 MG F/DRY FT3

55,000 ACFM
95 - 100 DEGF

AVERAGE: .67 LBS/HR F
.09 MG F /ACF

36,000 ACFM
95 - 100 DEGF

AVERAGE: .41 LBS/HR F
~~.09 MG F/ACF~~

TOTAL AVERAGE EMISSION 1.08 LBS/HR F
FROM PRAYON/DORRCO SCRUBBERS:

SITUATION WITH 3RD FILTER AND ADDITIONAL SCRUBBER

B

139 T/HR ROCK P2O5 MAX

40,000 ACFM , 73 MG F/ACF
122 MG F/ DRY ACF

170 DEGF
DORRCO
REACTOR

13,000 ACFM , 73 MG F/ACF

170 DEGF
PRAYON
REACTOR

14,000 ACFM , 8.7 MG F/ACF
9.9 MG F/DRY ACF

120 DEGF
DORRCO
FILTER

5,000 ACFM , 8 MG/ACF

PRAYON
FILTER

NEW 3RD
FILTER

PRESENT DUCTING

GYPSUM TK
FILTR.TKS

15,000 ACFM , 8 MG F/ACF

FILTRATE SUMP
FILTRATE SEAL TANKS
FSA SCUB SEAL TANKS
WEST 30% TANK
EAST 34% TANK
WEST 54% TANK

3,000 ACFM , 9.8 MG F/DRY ACF

FILTRATION TANKS
GYPSUM SLURRY TANK

55 MG F/DRY FT3

45,000 ACFM
95 - 100 DEGF

AVERAGE .55 LBS/HR F
.09 MG F/ACF

33,500 ACFM
95 - 100 DEGF

AVERAGE .40 LBS/HR
.09 MG F/ACF

14,000 ACFM AT 8 MG F/ACF

90 - 95 DEGF
12,500 ACFM

NEW SCRUBBER

62,000 ACFM MAX

AVERAGE .13 LBS/HR F
~~.09 MG F/ACF~~

TOTAL AVERAGE EMISSION 1.08 LBS/HR F
FROM PRAYON/DORRCO SCRUBBERS:

NEXT PHASE

139 T/HR ROCK P2O5 MAX

40,000 ACFM , 73 MG F/ACF
122 MG F/ DRY ACF

170 DEGF
DORRCO

13,000 ACFM , 73 MG F/ACF

170 DEGF
PRAYON
REACTOR

PRESENT DUCTING

90 - 95 DEGF

27,000 ACFM AT .1 MG F/ACF
AVERAGE .36 LBS/HR F

PRESENT DUCTING

90 - 95 DEGF

9,000 ACFM AT .1 MG/ACFM
AVERAGE .12 LBS/HR F

14,000 ACFM , 8.7 MG F/ACF
9.9 MG F/DRY ACF

DORRCO
FILTER

5,000 ACFM , 8 MG/ACF

PRAYON
FILTER

NEW 3RD
FILTER

3,000 ACFM , 9.8 MG F/DRY ACF

FILTRATION TANKS
GYPSUM SLURRY TANK

15,000 ACFM , 8 MG F/ACF

FILTRATE SUMP
FILTRATE SEAL TANKS
FSA SCUB SEAL TANKS
WEST 30% TANK
EAST 34% TANK
WEST 54% TANK

14,000 ACFM , 8.7 MG F/ACF
51,000 ACFM

90 - 95 DEGF

46,000 ACFM

<.10 MG F/ACF
< .60 LBS/HR F AVERAGE

TOTAL AVERAGE EMISSION < 1.08 LBS/HR F
FROM PRAYON/DORRCO SCRUBBERS:

GARDINIER, INC.

NO. 577062034

64-1278
611

DATE NO.	DAY	YR.
8/23/90		

PAY EXACTLY ********200 DOLLARS AND 00 CENTS

DOLLARS	CENTS
$ ********200	00

TO THE ORDER OF
STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION
4520 OAK FAIR BOULEVARD
TAMPA FL 33610

GARDINIER, INC.

Tom Blank
AUTHORIZED SIGNATURE

THE CITIZENS AND SOUTHERN NATIONAL BANK
Atlanta, DeKalb County, Georgia

⑈577062034⑈ ⑆061112788⑆ 011 07 093⑈

Tallahassee, FL 32399-2400

Subject: Construction Permit Application
New Phosphoric Acid Filter

Dear Mr. Fancy:

Please find enclosed four copies of an application and the associated permit fee ($200.00) to construct a new phosphoric acid filter to be associated with the phosphoric acid production plant (A029-146224) at Gardinier's facility. This filter is being constructed primarily to improve the plant efficiency. In addition, some production capacity increase will be realized.

In conjunction with this installation, Gardinier is requesting an increase in production capacity to 139 tons per hour P_2O_5. Increase in actual emissions associated with increased production will be somewhat offset by installation of a new scrubber and improved overall scrubbing efficiency. Since the increase in fluoride emissions will be less than 3 tons/year, PSD review will not be required.

Should you have any questions or require additional information, please feel free to call me or David Jellerson at 671-6153 or 671-6207, respectively.

Sincerely,

E.O. Morris

E.O. Morris
Environmental Manager

cc: J. Campbell - HCEPC (w/$400.00 fee)
Bill Thomas - DER, Tampa
H. Mathot, D. Clark, R. Christianson, B. Weyers,
S. Kyle, D. Jellerson , P-46