Ricupt
96171

GARDINIER INC.

Post Office Box 3269 ○ Tampa, Florida 33601 ○ Telephone 813 – 677 - 9111 ○ TWX 810 – 876 - 0648 - 52666 ○ Cable - Gardinphos

DER
JUL 13 1987
BAQM

June 9, 1987

Mr. Clair H. Fancy
Deputy Bureau Chief
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 323-99-2400

SUBJECT: Phosphate Fertilizer Dock Conveying System
Permit Application

Dear Mr. Fancy:

Please find attached with the appropriate fee, four copies of an air construction permit application for a phosphate fertilizer storage to dock conveying system. The implementation of this system will improve Gardinier's operational efficiency and have negative impact on the environment.

Gardinier requests we arrange a meeting to discuss any question on the subject application and related application to the Gardinier Chemical Facility.

Please advise as soon as possible if we need to supply any additional information.

Sincerely,

Ogie Morris

E. O. Morris
Manager, Environmental & Development

cc: Jerry Campbell, HCEPC
Bill Thomas, DER, Tampa
Nettles
Pinney
Cabina
Mathot

Bagrowski, Bldg. #2

Subcode 15
Reynolds
D. 40 C 29

Baghouse
Gardinier
Ruskin

File Copy

AIR CONSTRUCTION PERMIT APPLICATION

DOCK CONVEYING SYSTEM

Gardinier, Inc.
Tampa, Florida

July 1987

DER
JUL 13 1987
BAQM

Prepared by:

KBN Engineering and Applied Sciences, Inc.
P.O. Box 14288
Gainesville, Florida 32604
(904) 375-8000

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

AC 29-136776

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Dock Loading Conveyor System [X] New[1] [ ] 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) Bag Filters 1-4, Transfer Tower Bag Filter

SOURCE LOCATION: Street U.S. 41 South & Riverview Drive City South of Tampa

UTM: East 363.2 North 3082.3

Latitude 27 ° 51' 28"N Longitude 82° 23' 15"W

APPLICANT NAME AND TITLE: Rudy J. Cabina, Vice President

APPLICANT ADDRESS: P.O. Box 3269, Tampa, Florida 33601

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. Furthe I agree to maintain and operate the pollution control source and pollution cont facilities in such a manner as to comply with the provision of Chapter 403, Flori Statutes, and all the rules and regulations of the department and revisions thereof. also understand that a permit, if granted by the department, will be non-transferab and I will promptly notify the department upon sale or legal transfer of the permitt establishment.

*Attach letter of authorization

Signed: Rudy J. Cabina

Rudy J. Cabina, Vice President
Name and Title (Please Type)

Date: 7/9/87 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 ha been designed/examined by me and found to be in conformity with modern engineeri principles applicable to the treatment and disposal of pollutants characterized in t permit application. There is reasonable assurance, in my professional judgment, th

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

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

P.O. Box 14288, Gainesville, Florida 32604
Mailing Address (Please Type)

Florida Registration No. 19011 Date: July 8, 1987 Telephone No. (904) 375-8000

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 Onl

Start of Construction October 1, 1987 Completion of Construction March, 1988

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

Total cost of all five baghouses (capital cost plus installation):

$200,000

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

Vessel Loading - West Bag Filter - A029-68996 Issued 11-4-83 Expires 10-4-88

E. Requested permitted equipment operating time: hrs/day 11 ; days/wk 7 ; wks/yr 52

if power plant, hrs/yr_____; if seasonal, describe: 4000 hr/yr maximum

F. If this is a new source or major modification, answer the following questions. (Yes or No) Not Applicable - not a major modification.

1. Is this source in a non-attainment area for a particular pollutant? _____

   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. _____

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. _____

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

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this scurce? _____

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? Yes

   a. If yes, for what pollutants? Particulate Matter

   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 Products	Particulate	100	1,500,000	Conveyors #2,#5,#6,#8,#9
DAP, MAP, GTSP				

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

1. Total Process Input Rate (lbs/hr): 1,500,000

2. Product Weight (lbs/hr): 1,500,000

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

See Attachment A

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/yr	T/yr	

[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 without 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 fo Efficienc (Section Item 5)
Fuller 64DS8*	Particulate	99.9%	Submicron	Manufacturer
Fuller 120DS8	Particulate	99.9%	Submicron	Manufacturer
Flex-Kleen 100-WM-510	Particulate	99.5%	Submicron	Manufacturer
-TR-10**				

* Four identical baghouses
** Existing baghouse to be relocated

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, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/g

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

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

Annual Average Not Applicable Maximum _____

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

Dust collected in baghouses is discharged back onto conveyor belts. Oversize material from scalping screen slides down an inclined chute and into a building.

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

Stack Height: See Attachment B ft. Stack Diameter: _____ f

Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °

Water Vapor Content: _____ % Velocity: _____ F

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (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: _____ FP

*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 device: [ ] 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)]
   See Section III.A.
2. To a construction application, attach basis of emission estimate (e.g., design calcul tions, design drawings, pertinent manufacturer's test data, etc.) and attach propos methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with a plicable standards. To an operation application, attach test results or methods us to show proof of compliance. Information provided when applying for an operation pe mit from a construction permit shall be indicative of the time at which the test w made.
   See Attachment C
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test)..
   See Attachment C
4. With construction permit application, include design details for all air pollution co trol systems (e.g., for baghouse include cloth to air ratio; for scrubber inclu cross-section sketch, design pressure drop, etc.)
   See Attachment B
5. With construction permit application, attach derivation of control device(s) efficie cy. Include test or design data. Items 2, 3 and 5 should be consistent: actual emi sions = potential (1-efficiency).
   See Attachment B
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify t individual operations and/or processes. Indicate where raw materials enter, where so id and liquid waste exit, where gaseous emissions and/or airborne particles are evolv and where finished products are obtained.
   See Attachment A
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of ai borne emissions, in relation to the surrounding area, residences and other permane structures and roadways (Example: Copy of relevant portion of USGS topographic map).
   See Attachment A
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing process and outlets for airborne emissions. Relate all flows to the flow diagram.
   See Attachment A

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

Not Applicable

[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources 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: f

c. Flow Rate: ACFM d. Temperature: °

e. Velocity: FPS

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

1.

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 oper 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 oper 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 oper within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

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 opera 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 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 descriptio

2. _____ Modified? If yes, attach descriptio

3. _____ Modified? If yes, attach descriptio

4. _____ Modified? If yes, attach descriptio

Attach copies of all final model runs showing input data, receptor locations, and pri ciple 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 point source (on NEDS point number), UTM coordinates, stack data, allowable emission 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 applic ble technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Inclu assessment of the environmental impact of the sources.

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

ATTACHMENT A

ATTACHMENT A

PROJECT DESCRIPTION

1.0 EXISTING PRODUCT LOADOUT FACILITIES

Gardinier, Inc. operates a phosphate fertilizer complex just south of Tampa on U.S. 41. Finished fertilizer products manufactured at the plant include diammonium phosphate (DAP), monoammonium phosphate (MAP), and granular triple superphosphate (GTSP). Currently, GTSP is stored in Building #2, while DAP and MAP are stored in Buildings #4, #5, and #6.

The fertilizer products are loaded into leased railcars by payloaders (frontend loaders) at each of the individual storage buildings. Loaded railcars at the storage buildings are then pulled by the plant switch engines to the front yard where they are weighed. After weighing, the railcars are either shuttled to a storage siding or directly to the dock for loadout. When a vessel arrives and is docked, the railcars are moved off of the storage siding to the unloading track at the dock. The railcars are then dumped into a pit and the product is conveyed to the shiploader for transfer onto the vessel.

The present system of product loadout has several disadvantages that result in excessive costs for loadout. The high costs are incurred as a result of three basic and interrelated problems:

1) low loadout unit capacities,
2) duplication of equipment to avoid demurrage, and
3) high manpower requirements

Low Loadout Unit Capacities

The loadout units in Buildings #2, #4 and #5 have a rated capacity of 200 tons/hr with an actual average 24-hour capacity of 140 tons/hr. The loadout unit in Building #6 has a rated capacity of 280 tons/hr, with an actual average 24-hour capacity of 220 tons/hr. In comparison,

typical vessel loading rates require an average of approximately 400 tons/hr per hour to avoid demurrage.

Duplication of Equipment to Avoid Demurrage

In order to avoid demurrage with the capacities of the loadout units mentioned above, a fleet of 120 leased hopper cars is maintained in a shuttle service. This allows for the preloading of one-half to two-thirds of the largest vessels that can be loaded at the dock.

Even with this extra storage capacity, it is quite often necessary to load from two loadout units simultaneously in order to move the product at a rate that will avoid demurrage. Loading from two loadout units results in the need for extra frontend loaders to move product from the pile to the loadout point. Extra payloaders are also needed when the piles in storage are at a point farthest from the loading unit and payloader travel can be up to 500 feet in each direction.

A total of three switch engines and eleven miles of in-plant trackage are maintained. Approximately three and one-half miles of track are used solely for product loadout from the storage building.

Each loading unit is equipped with a separate screening unit for removal of lumps that have resulted from "pile set" of the product. As a result of this, four separate sets of essentially the same equipment must be maintained in order to achieve loadout rates that avoid demurrage.

High Manpower Requirements

The need for a large number of people to operate this system is based on the initial layout design and capacity of both the loadout units and the car dumping operation at the dock. Full staffing for the Loading Department, exclusive of maintenance, is thirty-two (32) personnel. These personnel are on rotating shifts and operate the loadout units as well as the vessel loading unit at the dock.

In addition to the Loading Department personnel, eleven (11) people are required in the Switching Department to handle inbound wet rock, dry rock, and all outbound product weighing and delivery to the CSX railroad system.

2.0 PROPOSED OPERATIONS

In order to resolve many of the problems and disadvantages associated with the current method of transporting products to the dock for loadout, a system of conveyor belts is proposed to move product directly from the storage buildings to the dock area where it is screened to remove lumps, weighed, and then loaded into either railcars or vessels. Individual collection conveyors will be installed at floor level in the GTSP, DAP and MAP storage buildings (Buildings #2, #5, and #6). Inside the storage buildings, concrete enclosures will cover the belts and will be equipped with feed hoppers every forty feet. Product will be fed onto the belts by payloader through the feed hoppers. The flow of product from the feed hopper to the belt will be controlled by variable position feed gates.

Each belt in the storage buildings will then discharge onto a single, common collection belt running perpendicular to the buildings at one end (Conveyor #7 - see attached flow diagram and plot plan). This collection belt will then transfer to an overland conveyor (Conveyor #8) that will transport the product to a screening tower located adjacent to the dock. After any oversized material is screened out, the product is conveyed (on Conveyor #9) to a bulk scale for weighing, prior to loading into either railcars or vessels. All control of the belts and scale will be done from a new control room located beside the loading track and/or from the control room of the shiploader.

This system will show both operational and cost advantages over the existing system in the following ways:

Low Loadout Unit Capacities

After installation of the belt system, the existing low capacity loadout units will not be used. The new system has a design rate of 750 tons/hr and should easily be able to maintain and average 600 tons/hr over a 24 hour period while loading a vessel. This rate is in excess of the typical load rate necessary to avoid demurrage on most vessels and allows for some downtime without incurring demurrage costs.

Duplication of Equipment

The installation of the belt system for transporting product directly to the dock will eliminate the need for leased hoppers that are currently used to shuttle product to the dock. With the elimination of railcars as the transport method to the dock and the consolidation of all rail loading activities at the dock, three and one-half miles of rail within the plant will no longer be used and will be abandoned. Also, as a result of this, only two of the existing three locomotives will be necessary.

With the installation of the conveyor belts with multiple feed hoppers and large product movement capacity, the need for extra payloaders and loading at more than one building at a time will be eliminated. The installation of a single high capacity screening station to replace the four existing units will result in a significant reduction in maintenance and spare parts for that part of the operation.

High Manpower Requirements

The installation of the proposed system will result in a significant reduction in the number of personnel required to load products. Through design and basic system changes, the number of personnel required in the loading department, exclusive of maintenance, will be reduced from the current staffing level of thirty-two (32) to a staffing level of fourteen (14).

The use of conveyors to move product instead of railcars and the incorporation of a scale into the conveyor system will result in the reduction of Switching Department staffing from eleven (11) to six (6).

3.0 AIR POLLUTION ASPECTS OF PROPOSED PROJECT

3.1 Air Emission Sources

Finished phosphate products stored in Buildings #2, #5, and #6 will continue to be loaded by frontend loader. However, the frontend loaders will now load hoppers located within the storage buildings. As a result, overall frontend loader travel will decrease as compared to the present operations. From the load hoppers, the product is discharged onto the conveyor belts located within each storage building (Conveyors #2, #5 and #6).

As discussed previously, product will be loaded from only one building at a time. All three building conveyor belts discharge to a conveyor belt (Conveyor #7) which runs adjacent and perpendicular to the storage buildings. Conveyor #7 is a covered conveyor belt, and particulate matter (PM) emissions from the three conveyor transfer points are controlled by three identical baghouses - one for each transfer point (Baghouses #1, #2 and #3). The conveyor system will operate a maximum of 4,000 hr/yr. Therefore, the combined maximum operating time of Baghouses #1, #2 and #3 will be 4,000 hr/yr.

Conveyor #7 will discharge onto Conveyor #8 en route to the rail/vessel loading system. This conveyor transfer point will also be controlled by a baghouse (Baghouse #4). This baghouse will be identical to the three baghouses discussed previously. Conveyor #8 is also a covered conveyor.

From Conveyor #8, the phosphate product will be discharged to a scalping screen where large, oversize product will be removed. The oversize product will discharge down an inclined chute and into a

building. The screened product discharges onto Conveyor #9, a covered conveyor. PM emissions from the screening process and the discharge onto the conveyor belt are controlled by a single baghouse (Baghouse #5). Maximum operating hours for the conveyor belt and the baghouse is 4,000 hr/yr.

From Conveyor #9, the product discharges into a surge bin. The surge bin provides short-term storage for loading of railcars and vessels. Railcars can be loaded directly from the weigh hopper by an enclosed discharge chute. Vessels are loaded using the existing conveyor belt which serves the shiploader. Product is first discharged from the weigh hopper into a small surge hopper via a gravity feed chute. The surge hopper then discharges directly onto the existing shiploader conveyor belt.

The railcar/vessel loading facility will be constructed at the site of the present railcar unloading facility permitted under Permit No. AO29-68996. The provision for unloading railcars at the existing facility will be maintained. The Flex-Kleen baghouse now used at the existing railcar unloading facility (West Bag Filter) will be relocated approximately 30 feet to allow room for the new facilities. In addition, the baghouse will be modified to control not only the existing railcar unloading facility, but also the transfer points associated with the new loadout facility. This includes transfer from Conveyor #8 to the surge bin, transfer from the weigh hopper to railcars, transfer from the weigh hopper to the shiploader conveyor surge hopper, and transfer from the shiploader conveyor surge hopper to the existing shiploader conveyor. This baghouse will operate a maximum of 4,000 hr/yr.

3.2 Air Pollutant Emissions

PM will be the only air pollutant emitted by the proposed sources. Emissions from each source are summarized in Table A-1. Emission calculations are presented in Attachment C.

Table A-1. Airborne Contaminants Emitted (6/29/87)

Name of Contaminant	Source Description	Relate to Flow Diagram	Emission Maximum (lbs/hr)	Emission Actual (tons/yr)	Allowed Emission Rate per Rule 17-2	Allowable Emission (lbs/hr)	Potential Emission (lbs/hr)	Potential Emission (tons/yr)	
PARTICULATES	BAGHOUSE #1- CONVEYOR TRANSFER PT.	BUILDING #2	0.62		0.03 gr/dscf**	0.93	0.62		AC 29-136776
PARTICULATES	BAGHOUSE #2- CONVEYOR TRANSFER PT.	BUILDING #5	0.62	1.24 *	0.03 gr/dscf**	0.93	0.62	1.24 *	AC 29-136779
PARTICULATES	BAGHOUSE #3- CONVEYOR TRANSFER PT.	BUILDING #6	0.62		0.03 gr/dscf**	0.93	0.62		AC 29-136783
PARTICULATES	BAGHOUSE #4- CONVEYOR TRANSFER PT.	CONVEYOR #7,#8	0.62	1.24	0.03 gr/dscf**	0.93	0.62	1.24	AC 29-136787
PARTICULATES	BAGHOUSE #5- SCREEN/TRANSFER TOWER	SCALPING SCREEN	1.19	2.38	0.03 gr/dscf**	1.78	1.19	2.38	AC 29-136790
PARTICULATES	EXISTING WEST BAG FILTER	RAIL/SHIP LOADING	4.29	8.58	0.03 gr/dscf**	6.43	4.29	8.58	AC 29-136791
		Total =		13.44			Total =	13.44	

* TOTAL OF BAGHOUSE #1, #2 AND #3 COMBINED

** BASED UPON FLORIDA ADMINISTRATIVE CODE, CHAPTER 17-2.650(2)(c)12.

Gardinier is located in the Hillsborough PM nonattainment area, and is therefore subject to the Reasonable Available Control Technology (RACT) requirements of Florida Administrative Code (FAC), Chapter 17-2. The product loadout activities to which this permit application applies is not covered under the specific RACT requirements for phosphate processing operations (FAC, Chapter 17-2.650(2)(c)5.). The proposed operations therefore are regulated under "Miscellaneous Manufacturing Process Operations", FAC, Chapter 17-2.650(2)(c)12 (see Attachment D for copies of pertinent sections). This RACT emission limitation requires that PM emissions not exceed 0.03 gr/dscf.

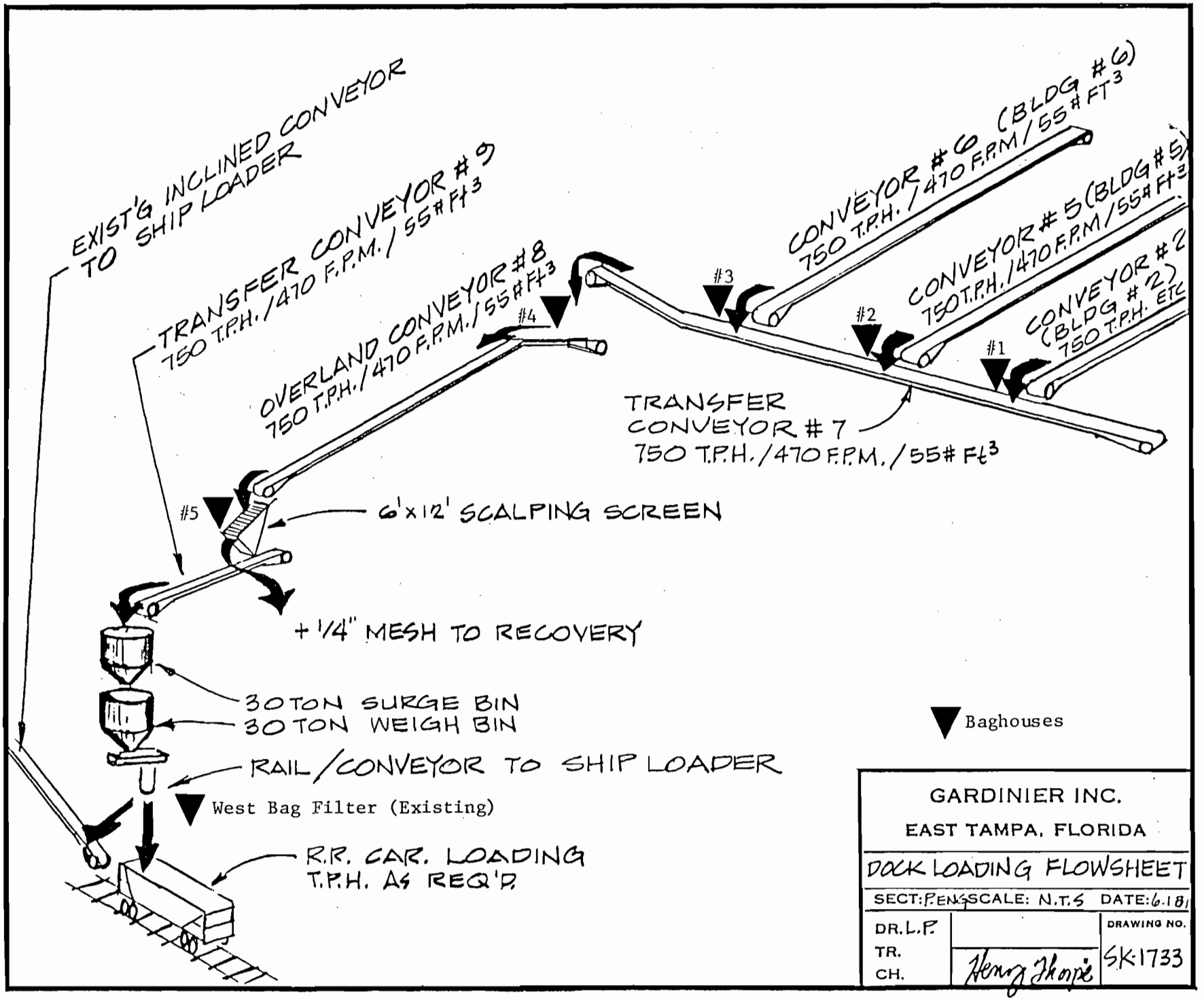
The air pollution control equipment proposed to be used by Gardinier, including the existing West Bag Filter, will all meet an outlet grain loading of 0.02 gr/dscf, and therefore will comply with the RACT requirements. Gardinier also proposes to meet a visible emissions standard of 5% opacity. Because the proposed sources are minor PM sources equipped with baghouses, Gardinier further requests that the PM compliance test requirements be waived, as allowed by FAC, Chapter 17-2.700(3)(d).

3.3 Source Applicability

PM emissions from the proposed new and modified sources (i.e., Baghouses #1-#5 and the West Bag Filter) total 13.44 tons/yr. The existing West Bag Filter is currently permitted to emit 7.7 tons/yr. Therefore, the net emissions increase from the proposed project is 5.74 tons/yr.

Recently, Gardinier submitted a permit application for expansion of the No. 5 DAP plant. The proposed increase in PM emissions from the No. 5 DAP plant was 43.8 tons/yr. In conjunction with this increase, PM emission offsets totalling 56.87 tons/yr in actual emissions were documented. Considering all of these contemporaneous emissions increases and reductions results in a total net emissions decrease of

7.26 tons/yr. Therefore the proposed project is not subject to the nonattainment new source review requirements of FAC, Chapter 17-2.510.


EXIST'G INCLINED CONVEYOR TO SHIP LOADER
TRANSFER CONVEYOR #9 750 T.P.H./470 F.P.M./55# Ft³
OVERLAND CONVEYOR #8 750 T.P.H./470 F.P.M./55# Ft³
#4
#3
CONVEYOR #6 (BLDG #6) 750 T.P.H./470 F.P.M./55# Ft³
#2
CONVEYOR #5 (BLDG #5) 750 T.P.H./470 F.P.M./55# Ft³
#1
CONVEYOR #2 (BLDG #2) 750 T.P.H. ETC
TRANSFER CONVEYOR #7 750 T.P.H./470 F.P.M./55# Ft³
#5
6'x12' SCALPING SCREEN
+1/4" MESH TO RECOVERY
30 TON SURGE BIN
30 TON WEIGH BIN
RAIL/CONVEYOR TO SHIP LOADER
West Bag Filter (Existing)
R.R. CAR. LOADING T.P.H. AS REQ'D.
Baghouses
GARDINIER INC.
EAST TAMPA, FLORIDA
DOCK LOADING FLOWSHEET
SECT: P.E. SCALE: N.T.S DATE: 6.18.81
DR. L.P.
TR.
CH.
Henry Thorpe
DRAWING NO.
SK-1733

ATTACHMENT B

ATTACHMENT B

CONTROL EQUIPMENT

As described in Attachment A, a total of five (5) new baghouses and one (1) existing baghouse will be used to control PM emissions from the dock loading conveyor system. Control equipment specifications and stack emission parameters for the baghouses are shown in Table B-1. The specifications are based upon equipment manufactured by Fuller Company (model numbers shown in Table B-1.). Final selection of equipment by Gardinier will depend upon a number of factors, but the equipment selected will meet the specified outlet grain loading of 0.02 gr/dscf. The Fuller Company baghouses are typical of industry design, and have air-to-cloth ratios of 6 or less. Locations of the baghouses within the Gardinier complex are shown in the attached plot plan.

Table B-1. Summary of Control Equipment Specifications and Stack Parameters

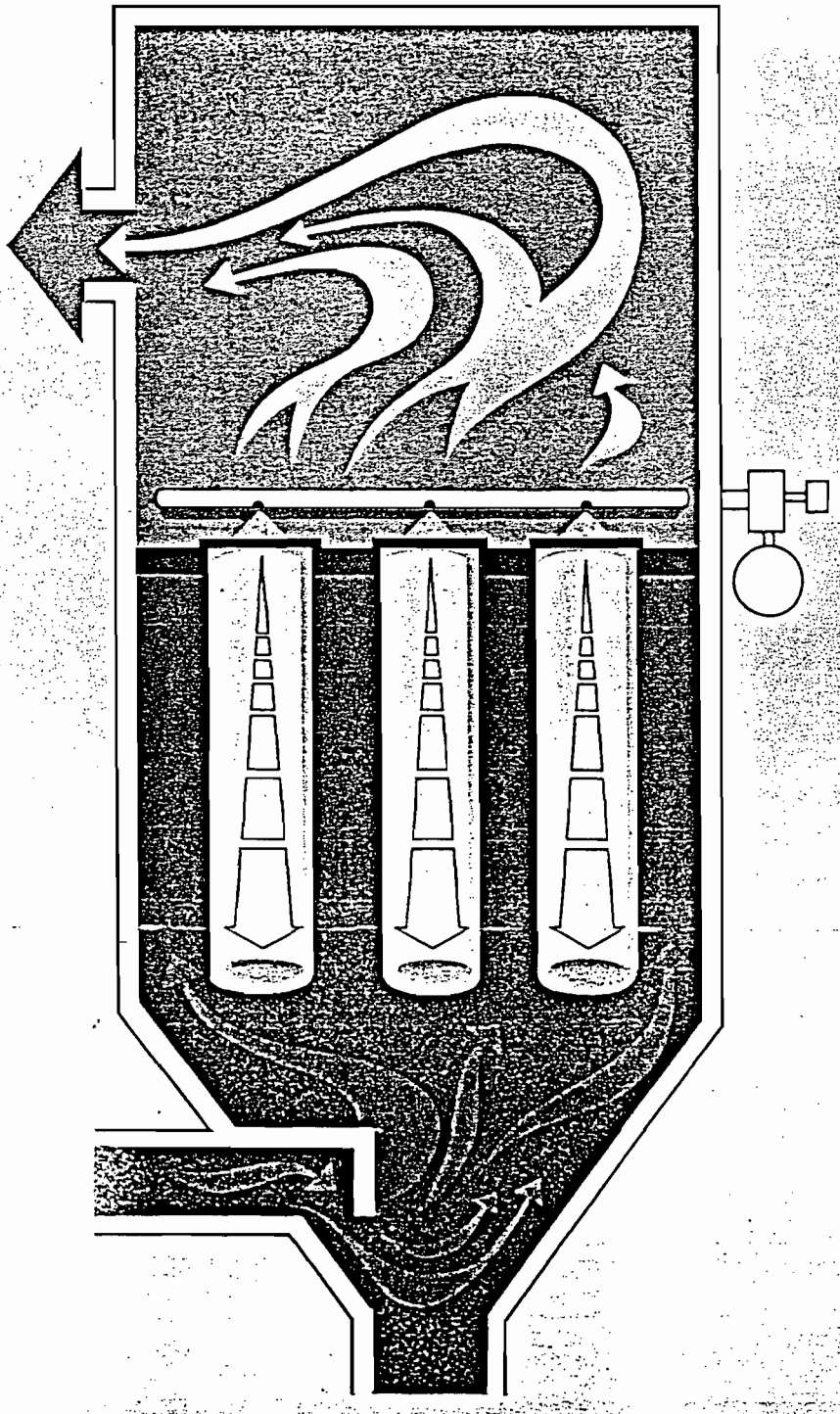
Source	Manufacturer's Model No.*	Stack Size	Exhaust Gas Flow (scfm)	Exhaust Gas Temp (deg F)	Exhaust Gas Flow (acfm)	Discharge Velocity (ft/sec)	Stack Height (ft)	Cloth Area (sq ft)	Actual Air/Cloth Ratio
Baghouse #1	Fuller 64DS 8	11"x15"	3,630	Ambient	3,630	52.8	20	670	5.4
Baghouse #2	Fuller 64DS 8	11"x15"	3,630	Ambient	3,630	52.8	20	670	5.4
Baghouse #3	Fuller 64DS 8	11"x15"	3,630	Ambient	3,630	52.8	30	670	5.4
Baghouse #4	Fuller 64DS 8	11"x15"	3,630	Ambient	3,630	52.8	45	670	5.4
Baghouse #5	Fuller 12DS 8	14"x20"	6,930	Ambient	6,930	59.4	75	1,250	5.5
Existing West Bag Filter	Flex-Kleen 100-WM-510 TR-10	3.5' dia.	25,000	Ambient	25,000	43.3	30	6,120	4.1

* Baghouses have not yet been purchased. Baghouses selected will meet or exceed the performance specifications shown for the Fuller Company baghouses.

Fuller®

JET-PULSE

High-ratio fabric filter collector



ADVANCED DESIGN

a product of Fuller Company's experience

Wherever pollution control is a problem, Fuller Company offers innovative design solutions. The experience accumulated through the design and manufacture of more than 8,000 baghouses resulted in the development of the Fuller Jet-Pulse collector.

The high-ratio Jet-Pulse collector is compact, easy to service and designed to meet the most stringent pollution control code requirements for a wide variety of applications...minerals processing, power plant operations, metals, paints and chemicals processing, and food processing.

1 Jet-Pulse Cleaning

How it works

Dust-laden air enters the collector through the hopper inlet. As the air flows around and through the caged filter bags, dust particles collect on the exterior of the bags.
The bags are cleaned by using compressed air from a header located outside the unit. A solenoid valve periodically releases this compressed air through a lateral pipe located over each row of bags. The sudden release of compressed air into the bags generates a shock wave, causing the bags to expand instantly and break the dust cake from their outer surface. Dislodged dust particles fall into the collection hopper for disposal through a discharge outlet.

2 Easy Maintenance

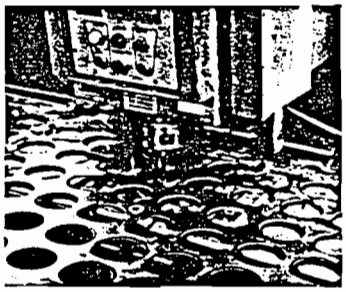
Fast, easy and safe

After removal of blow pipes and cages, access to bag assemblies from the top of the unit permits easy servicing from the clean air side. Bags are five inches in diameter, with lengths up to 14 feet. Snap-in design permits simple bag replacement.

3 Installation

Simplified by shop assembly

Fuller Jet-Pulse collectors are designed, engineered and manufactured under Fuller quality-control standards. Units in the "DS" and COMPACT Series feature all-welded, 12-gauge steel housings, shipped with hoppers attached. The larger INDUSTRIAL Series units are shipped in sections for rapid site assembly. Supports for all units are shipped separately.



Computer-programmed machine punch assures consistently accurate bag spacing.

4 Automatic Timer

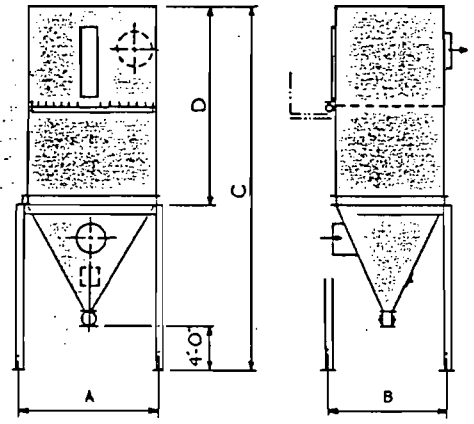
Solid-state, fully adjustable

Developed by Fuller engineers, the solid-state timer controls the timing cycle for row-by-row bag cleaning. Simple adjustment can be made during operation, permitting the Jet-Pulse to function at peak efficiency with a minimum of compressed air. Cleaning is actuated by pressure drop or may be a continuous timer function.

Walk-in Plenum Design

Dimensions and Specifications

Series C

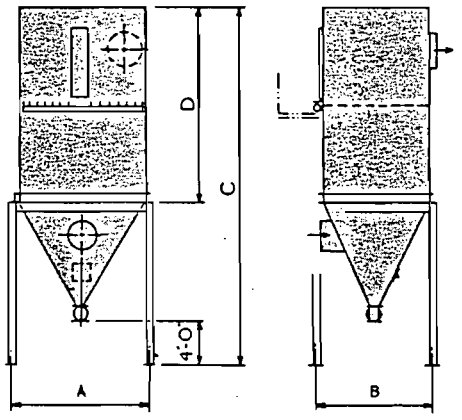


Compact Collector

Model Size	Filter Area Ft²	Dimensions, Ft.-In. A	B	C	D	No. Filter Tubes	Approx. Wt. Lbs. Module	Supports
80 C 10	1040	6-10	6-0	30-4½	20-8	80	5650	1700
80 C 12	1250			34-4½	24-8		6350	
120 C 10	1560	8-0	7-2	31-5	20-8	120	7450	2050
120 C 12	1875			35-5	24-8		8350	
168 C 10	2185	9-2	8-4	32-5½	20-8½	168	9000	2250
168 C 12	2625			36-5½	24-8½		10000	
224 C 10	2915	10-4	9-6	33-6	20-9	224	11300	2500
224 C 12	3500			37-6	24-9		12600	
272 C 10	3540	12-1	9-6	35-3¼	21-0	272	13000	2750
272 C 12	4250			39-3¼	25-0		14650	

Note: Walk-in plenum shown. Top access also available completely shop assembled.

Series S



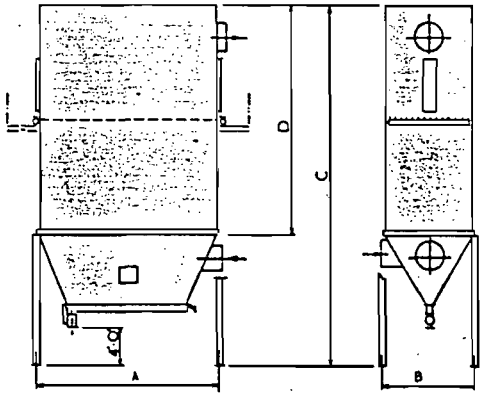
Single Collector

Model Size	Filter Area Ft²	Dimensions, Ft.-In. A	B	C	D	No. Filter Tubes	Approx. Wt. Lbs. Module	Supports
352 S 12	5500	14-0	10-3	40-6½	24-9	352	19035	2680
400 S 12	6250	15-9	10-3	42-0½	24-9	400	21635	2980
448 S 12	7000	17-6	10-3	43-7	24-9	448	24230	3240
496 S 12	7750	19-3	10-3	45-1	24-9	496	26005	3380

Note: Ships in three pre-assembled sections for easy erection.

Top access optional.

Series D



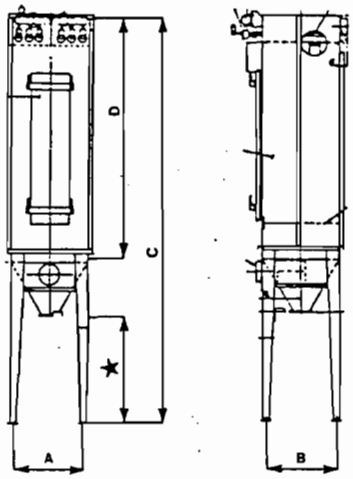
Double Collector

Model Size	Filter Area Ft²	Dimensions, Ft.-In. A	B	C	D	No. Filter Tubes	Approx. Wt. Lbs. Module	Supports
512 D 12	8000	20-0	10-3	38-7¼	24-9	512	25390	2320
608 D 12	9500	20-0	12-0	40-1¼	24-9	608	30150	2655
704 D 12	11000	20-0	13-9	41-8¾	24-10	704	34910	2915
800 D 12	12500	20-0	15-6	43-3¾	24-11	800	38610	3170

Note: Ships in three pre-assembled sections for easy erection.

Top access optional.

Series DS



★4'-4" 16DS 8 thru 80DS 12
4'-7" 100DS 8 thru 120DS 12

Series 64DS 8 thru 120DS 12 has bag access aisle with removable internal walkway.

Available with roof-mounted direct-driven fan up to 2500 CFM.

Side Access Design

Model Size	Filter Area Ft²	Dimensions, Ft.-In. A	B	C	D	No. Filter Tubes	Approx. Wt. Lbs. Module	Supports
16DS 8	170	2-1¼	2-1¼	15-9¾	9-10	16	1080	215
16DS 10	210	2-1¼	2-1¼	17-9¾	11-10	16	1326	215
25DS 8	265	2-7¾	2-7¾	16-3	9-10	25	1400	230
25DS 10	330	2-7¾	2-7¾	18-3	11-10	25	1865	230
36DS 8	380	3-2¼	3-2¼	16-8½	9-10	36	1725	250
36DS 10	470	3-2¼	3-2¼	18-8½	11-10	36	2105	250
64DS 8	670	5-1¾	4-3¼	18-5	9-10	64	2930	305
64DS 10	840	5-1¾	4-3¼	20-5	11-10	64	3210	305
80DS 8	835	6-3	5-7½	18-11	10-2	80	3760	1270
80DS 10	1045	6-3	5-7½	20-11	12-2	80	4100	1270
80DS 12	1255	6-3	5-7½	22-11	14-2	80	4510	1270
100DS 8	1045	7-4	5-7½	19-8	10-2	100	4810	1355
100DS 10	1300	7-4	5-7½	21-8	12-2	100	5600	1355
100DS 12	1570	7-4	5-7½	23-8	14-2	100	6180	1355
120DS 8	1250	7-4	6-8½	19-10	10-2	120	5655	1355
120DS 10	1570	7-4	6-8½	21-10	12-2	120	6570	1355
120DS 12	1880	7-4	6-8½	23-10	14-2	120	7235	1355

Fuller "Follow-Thru"® is a way of life.

At Fuller, everyone is trained to think "Follow-Thru." It begins with functional, energy-efficient design and extends through quality-built equipment with reliable parts, service and technical support. Just one contact with Fuller can put the whole process in motion. Fuller Follow-Thru. It works.

U.S. Sales Offices

Atlanta, Georgia
(404) 642-0993

Bethlehem, Pennsylvania
(215) 264-6764

Chicago, Illinois
(312) 323-6390

Houston, Texas
(713) 771-3575

St. Louis, Missouri
(314) 227-4082

San Francisco, California
(415) 499-0695

International Affiliates

Australia
GATX-Fuller, Australasia Pty. Ltd.
Sydney, N.S.W.

Canada
GATX-Fuller, Limited
Toronto and Montreal

England
GATX-Fuller, Ltd.
London

France
GATX-Fuller S.A.
Paris

India
Fuller-KCP Ltd.
Madras

Mexico
Empresas Fullermex S.A. de C.V.
Mexico City

South Africa
GATX-Fuller (Pty.) Ltd.
Johannesburg

Spain
Fuller International Europe, S.A.
Madrid

West Germany
GATX-Fuller GmbH
Dusseldorf

MATERIAL LOADING EQUIPMENT CO. INC.
P O. BOX 6955
LAKELAND, FLORIDA 33807-6955
PHONE (813) 644-1611

FULLER COMPANY
We Follow Thru®
P.O. BOX 2040, BETHLEHEM, PENNSYLVANIA 18001 U.S.A.

BULLETIN DCB-336 5M 11/86

ATTACHMENT C

ATTACHMENT C

EMISSION ESTIMATES

1.0 BAGHOUSES #1, #2 and #3 (Building #2, #5, and #6 conveyor transfer points)

These are identical baghouses, and only one will operate at any given time. Emissions are based upon maximum outlet grain loading of 0.02 gr/dscf.

Maximum hourly emissions:

Each baghouse: 3630 dscfm x 0.02 gr/dscf / 7000 gr/lb
x 60 min/hr = 0.62 lb/hr

Annual Emissions:

Each baghouse may operate a variable number of hours each year. However, only one baghouse will operate at a time, therefore, maximum annual emissions are based upon the maximum hourly emission rate and a combined total of 4000 hr/yr operation.

0.62 lb/hr x 4000 hr/yr / 2000 lb/ton = 1.24 tons/yr

2.0 BAGHOUSE #4 (Overland conveyor transfer point)

Baghouse #4 is identical to Baghouses #1, #2, and #3; the only difference is that Baghouse #4 will be permitted to operate up to 4000 hr/yr

Maximum hourly emissions = 0.62 lb/hr

Maximum annual emissions = 1.24 tons/yr

3.0 BAGHOUSE #5 (Scalping Screen)

Emissions are based upon maximum outlet grain loading of 0.02 gr/dscf

Maximum hourly emissions:

6930 dscfm x 0.02 gr/dscf / 7000 gr/lb x 60 min/hr = 1.19 lb/hr

Maximum annual emissions:

1.19 lb/hr x 4000 hr/yr / 2000 lb/ton = 2.38 tons/yr

4.0 EXISTING WEST BAG FILTER

Current allowable emissions are 8.23 lb/hr and 7.7 tons/yr based on a maximum outlet grain loading of 0.03 gr/dscf. On the basis of past particulate test data on this source, it is requested that this source be permitted for a lower outlet grain loading of 0.02 gr/dscf.

Maximum emissions:

25,000 dscfm x 0.02 gr/dscf / 7000 gr/lb x 60 min/hr = 4.29 lb/hr

Maximum annual emissions:

4.29 lb/hr x 4000 hr/yr / 2000 lb/ton = 8.58 tons/yr

ATTACHMENT D

APPLICABLE RACT REGULATIONS

b. Emission Limitations - No owner or operator of an asphalt concrete plant shall cause, permit, or allow the emission of particulate matter in excess of 0.06 gr/dscf, or visible emissions the density of which is greater than Number 1 on the Ringelmann Chart (20 percent opacity).

⇒ 5. Phosphate Processing Operations.

a. Applicability - The emission limitations set forth in 17-2.650 (2)(c)5. shall apply to all unit operations and auxiliary equipment which are an integral part of the process used to manufacture the finished products specified in paragraphs (i) through (vi) below, including reactors, driers, coolers, concentrators, screens, elevators, conveyor belts, grinders, and other unit operations, which exist as part of the manufacturing system from the point of introduction of raw materials feed into the process to the point of discharge of the finished product to the storage materials handling system:

(i) Diammonium phosphate (DAP);

(ii) Run of pile triple super phosphate (ROPTSP);

(iii) Granular triple super phosphate (GTSP);

(iv) Normal super phosphate (NSP);

(v) Monoammonium phosphate (MAP); and

(vi) Phosphate animal feed ingredient (AFI).

b. Emission Limitations.

(i) No owner or operator of a phosphate processing facility shall cause, permit or allow total emissions of particulate matter from the affected unit operations and auxiliary equipment in excess of 0.30 pounds per ton of product or visible emissions the density of which is greater than Number 1 on the Ringelmann Chart (20 percent opacity) from the above listed operations ((i) through (vi)).

(ii) No owner or operator of a Phosphate rock drier or phosphate rock grinding operation which is not an integral part of the operations described in sections 5.a. (i) through (vi) shall cause, permit or allow total emissions of particulate matter from the drier or grinder in excess of 0.20 lb/ton of product or visible emissions the density of which is greater than Number 1 on the Ringelmann Chart (20 percent opacity).

(iii) No owner or operator of a concentrator which is part of a phosphate processing facility shall cause, permit or allow total emissions of particulate matter from the concentrator in excess of 15 pounds per hour or visible emissions the density of which is greater than Number 1 on the Ringelmann Chart (20 percent opacity).

(iv) No owner or operator of a Diammonium Phosphate cooler producing less than 50 tons per hour of product shall cause, permit, or allow total emissions of particulate matter in excess of 0.60 pounds per ton of product or visible emissions the density of which is greater than Number 1 on the Ringelmann Chart (20 percent opacity).

6. Glass Manufacturing Process.

a. Applicability - The emission limitations set forth in 17-2.650 (2)(c)6. shall apply to glass melting furnaces producing container glass.

b. Emission Limitations - No owner or operator of a glass melting furnace shall cause, permit, or allow emissions of particulate

hour; or visible emissions greater than Number 1/2 on the Ringelmann Chart (10 percent opacity).

11. Materials Handling, Sizing, Screening, Crushing and Grinding Operations.

1. Applicability - The emission limitations set forth in 17-2.650 (2)(c)11. shall apply to the handling, sizing, screening, crushing, or grinding of materials such as, but not limited to, cement, clinker, flyash, coke, gypsum, shale, lime, sulfur, phosphatic materials, slag, and grain or grain products, including but not limited to the following types of operations:

(i) Loading or unloading of materials to or from such containers as railcars, trucks, ships, and storage structures;

(ii) Conveyor systems other than portable conveyor systems;

(iii) Storage of materials in storage structures, such as silos or enclosed bins, which have a storage capacity of fifty cubic yards or more;

(iv) crushing and/or grinding operations;

(v) sizing and/or screening operations;

(vi) static drop transfer points where the discharge point and receiving point of the materials being handled are not moving in relationship to one another.

The emission limitations set forth in 17-2.650(2)(c)11. shall not apply to emissions from materials handling, sizing, screening, crushing and grinding operations governed by 17-2.650(2)(c)5., Phosphate Process Operations or 17-2.650(2)(c)4. Asphalt Concrete Plants.

b. Emission Limitations

(i) No owner or operator of a source governed by 17-2.650(2)(c)11. shall cause, permit, or allow any visible emissions (five percent opacity) from such source(s) except that at the point where material is being discharged to the hold of a ship from a conveyor system when the conveyor and/or hatch covering is moved an opacity of 10 percent will be allowed.

(ii) If, in order to comply with the requirements of paragraph a. above, it is necessary to totally or partially enclose an operation and exhaust particulate laden gases through a vent or stack, emissions of particulate from such vent or stack shall not exceed 0.03 gr/dscf.

(iii) An owner or operator may request the Department to determine that the emission standards of 17-2.650(2)(e)11.b.(i) and (ii) do not constitute RACT for a facility. If the Department finds that the emission standards do not represent RACT, the Department shall make a determination of RACT for that facility.

12. Miscellaneous Manufacturing Process Operations.

a. Applicability - The emission limitations and other requirements of 17-2.650(2)(c)12. shall apply to miscellaneous manufacturing process operations for which a specific RACT emission limitation has not been established in 17-2.600 or 17-2.650(2)(c)1. through 11., including but not limited to such operations as heat treating furnaces, waste heat evaporators, core-baking ovens, mixing kettles, blast furnaces, puddling furnaces, driers, stills, roasters, and all other methods or forms of manufacturing or processing which emit particulate matter.

b. Emission Limitations - No owner or operator of a miscellaneous

manufacturing process operation shall cause, permit, or allow emissions of particulate matter in excess of 0.03 gr/dscf, or any visible emissions (greater than 5 percent opacity). However the owner or operator may exceed these emission limits if he utilizes a pollution control device or system for control of particulate matter which has an actual particulate matter collection efficiency of at least 98 percent.

If 17-2.650(2)(c)12. is the least restrictive standard, the opacity standard for the source shall be the average opacity level achieved during the initial compliance test which establishes compliance with the standard, plus 5 percent opacity.

(d.) Maximum Allowable Emission Rates

1. Source Data. The new or revised operating permit for each source subject to the provisions of this section shall specify:

a. The maximum heat input rate, charging rate, production rate, through-put rate, and/or materials handling rate, as appropriate;

The maximum heat input rate, charging rate, production rate, throughput rate, or materials handling rate shall be the maximum rate at which the source is capable of being operated on a continuous basis.

b. The maximum dry standard volumetric flow rate for each emission point, when applicable:

The maximum dry standard volumetric flow rate for each source or component source operation shall be the minimum dry standard volumetric flow rate that is necessary to safely and properly vent or operate the source when it is operated at its maximum continuous operating rate.

c. The control device through which each gas stream is vented and the emission point from which each gas stream is discharged to the open air;

d. The height above ground, exit diameter, UTM coordinates, and nature of each emission point through which particulate is or may be vented;

e. The exit gas temperature, actual volumetric flow rate and moisture content of each particulate bearing gas stream that is or may be vented to the open air;

f. Pertinent operating or control equipment parameters, such as pH of scrubber solution, pressure drop in scrubber, pressure on spray nozzle, etc. when such information is needed to confirm the control device is operating normally;

g. The permitted operating schedule, (hrs./day, days/wk., wk./yr.)

2. Maximum Emission Rates. The new or revised operating permit for each source shall specify the maximum allowable emission rate for each source or group of commonly vented sources in accordance with the following provisions:

a. The maximum allowable emission rate expressed in lbs/hr, lbs/day and tons/yr (or other equivalent units) shall be determined for each source (for example, each drop transfer point, screening operation, kiln, or drier) by applying the appropriate emission limitation contained in 17-2.600 or 17-2.650(2)(c) to the maximum applicable source operation rate or dry standard volumetric flow rate and the permitted operating schedule as specified in the operating permit pursuant to the provisions of 17-2.650(2)(d)1.