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ST DISTRICT
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STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Point Source Air Pollution [XX] New[1] [ ] Existing[1]

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

COMPANY NAME: Amax Phosphate, Inc. COUNTY: Hillsborough

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Conveyor Belt Transfer Point Dust Collector (SSD-25)

SOURCE LOCATION: Street Coronet Road City Plant City

UTM: East 17-393.8 North 3096.3

Latitude ____ ° ____ ' ____ "N Longitude ____ ° ____ ' ____ "W

APPLICANT NAME AND TITLE: J. J. Lewis, Plant Manager

APPLICANT ADDRESS: P.O. Box 790, Plant City, Florida 33566

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Amax Phosphate, 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: J. J. Lewis

J. J. Lewis, Plant Manager
Name and Title (Please Type)

Date: 8/6/84 Telephone No. (813) 752-1161

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 judgment, that 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: Anthony R. Lenkei

Anthony R. Lenkei
Name (Please Type)

(Affix Seal)

Amax Phosphate, Inc.
Company Name (Please Type)

P.O. Box 790, Plant City, Florida 33566
Mailing Address (Please Type)

Florida Registration No. 8716 Date: 8, 2, 84 Telephone No. (813) 752-1161

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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.

A DCE Vokes model DLM-V7# dust collector will be installed at the transfer point of the east-west, north-south CDP product conveyor belt.

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

Start of Construction September 1, 1984 Completion of Construction December 1, 1984

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.)

Dust collector ----$2,091

Installation ------$2,072 mechanical, electrical, air line Ø 3/4"

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

Not Applicable

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes XX No

F. Normal equipment operating time: hrs/day 16 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr N/A ;

if seasonal, describe: ____

G. 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? Yes
   a. If yes, has "offset" been applied? N/A
   b. If yes, has "Lowest Achievable Emission Rate" been applied? N/A
   c. If yes, list non-attainment pollutants.

      VOC and Ozone

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements 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? No
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

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		
CDP(defluorinated)	Particulate	10%	80,000	See Attachment E
Animal Feed				
Supplement				

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

1. Total Process Input Rate (lbs/hr): N/A (Product Transfer)

2. Product Weight (lbs/hr): 80,000 lbs/hr

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	0.12	0.35	*see below	0.12	34.32	100	See attachment E

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
DLM - V7,F	Particulate	99+%	N/A	manufacturers specification

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

*An emission limitation of 0.02 grains per DSCF was jointly agreed upon by Amax and the Hillsborough County Environmental Protection Commission.

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

E. Fuels

Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr Not Applicable

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.

Collected material is returned to conveyor belt for input into storage bin.

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

Stack Height: 70 ft. Stack Diameter: 7.36" (equivalent dia.) ft.

Gas Flow Rate: 700 ACFM Gas Exit Temperature: Ambient °F.

Water Vapor Content: N/A % Velocity: 19.02 FPS

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.)
Lbs/hr Incinerated							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ days/week _____

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 Diameter _____ 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 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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation. See Attachment A

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. See Attachment B

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

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, etc.). See Attachment C-1, C-2, & C-3

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). See Attachment B

6. An 8½" 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. See Attachment D-1 & D-2

7. An 8½" 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 (Example: Copy of relevant portion of USGS topographic map). See Attachment E

8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram. See Attachment E

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. 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.

Not Applicable

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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 Device:

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy*:

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*:

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy**:

h. Maintenance Costs:

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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

*Explain method of determining efficiency above.

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*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

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*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

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

Not Applicable

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

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.

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 on 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.

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

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

Transfer Rate

80,000 Lbs./Hr. CDP (Coronet Defluorinated Phosphate)

Transferred to Storage Bin

80,000 Lbs./Hr. CDP

Note: Collected material is returned to the conveyor belt.

ATTACHMENT B

Particulate Emission Estimate

Estimated Dust Collector Loading = 5.72 Grains/Ft.^{3}

100% - 99.65% (Dust Collector Efficiency) = 0.35%

5.72 Grains/Ft.^{3} x 700 SCFM Air Flow =

4,004 Grains/Min x 60 Min/Hour =

240,240 Grains/Hour ÷ 7,000 Grains/Lb. =

34.32 Lbs./Hour Loading x 0.35% =

0.12 Lbs./Hour Emissions

0.12 Lbs./Hour Emissions x 5,824 Hours Annual Operating Time =

699 Lbs./Year Emissions ÷ 2,000 Lbs./Ton =

0.35 Tons/Year Emissions

Potential Emissions

34.32 Lbs./Hour Dust Collector Loading

34.32 Lbs./Hour x 5,824 Hours Annual Operating Time =

199,880 Lbs./Year ÷ 2,000 Lbs./Ton =

100 Tons/Year Potential Emissions

EPA Method 9 shall be used to demonstrate compliance.

ATTACHMENT C-1

The DCE Vokes DLM-V Type F, Dalmatic is a reverse jet fabric filter collector with integral fan.

Collector Specification:

Model ----------DLM V7F

Filter Area ----------70 Sq. Ft.

No. of Elements ----------10

Air Volume ----------700 CFM

Air-to-Cloth Ratio ----------10 to 1

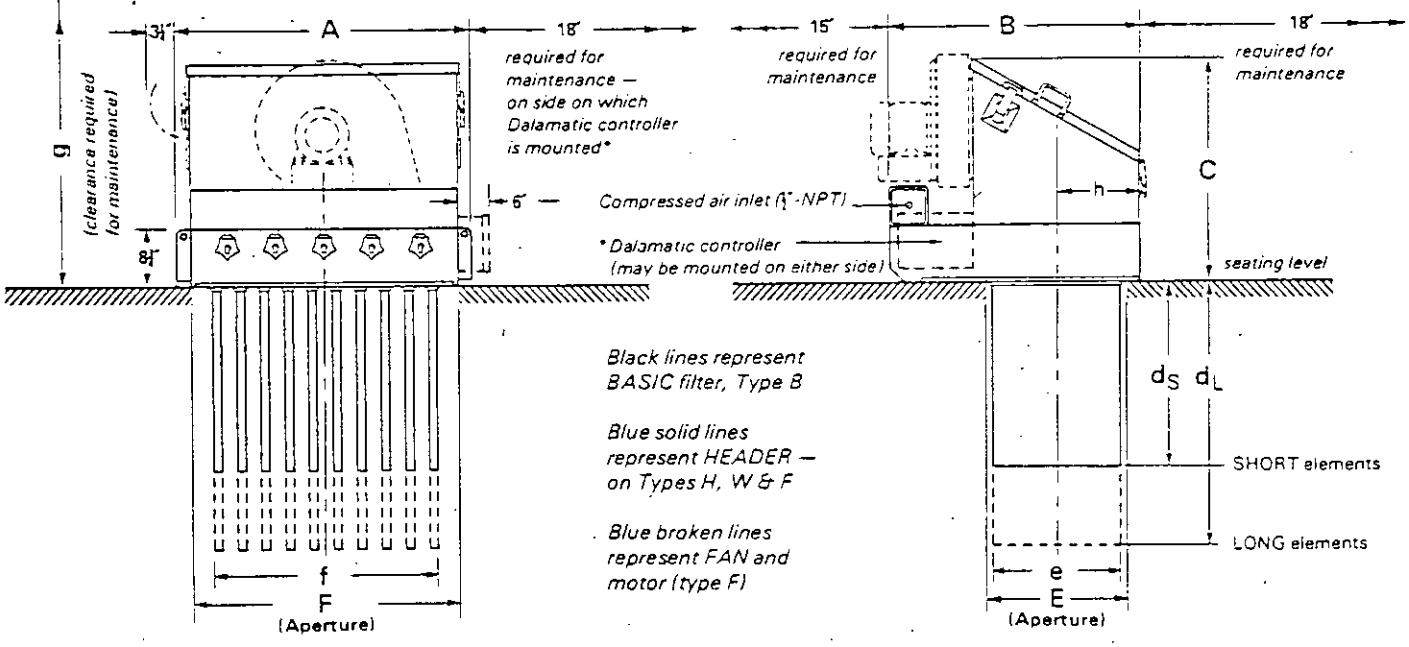
Compressed Air Required -----5.1 CFM @ 90 PSI G

Fan Size ----------2 HP

Approximate Weight ----------620 Lbs.

Generally baghouses are considered to be 99+% efficient in applications such as this one. This unit will meet or exceed this level.

ATTACHMENT C-2

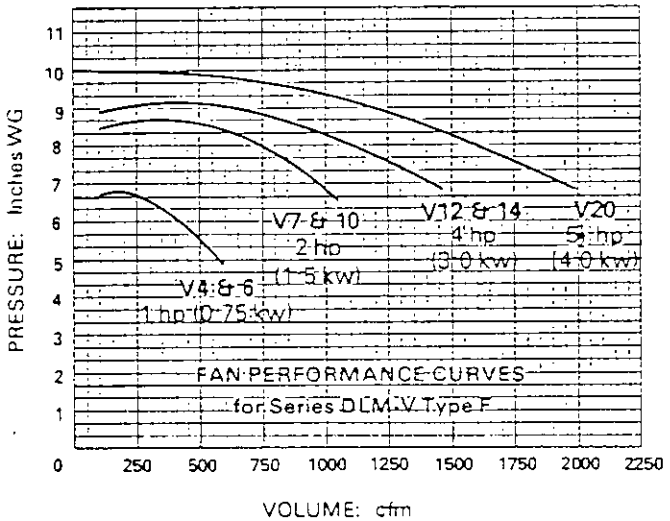


Size DLM-V7 illustrated, larger elements representing DLM-V10

MODEL*	DIMENSIONS (Tolerance ±⅛" on main dimensions)												
	All Types								Type B			Types H, W & F†		
	A	d_S	d_L	E	e	F	f	h	B‡	C	g	B‡	C‡	g
DLM-V4	2'3½"	2'3½"	–	20½"	19"	23½"	18½"	12¼"	2'11½"	14¾"	2'10"	2'11½"	2'6⅛"	3'7"
DLM-V6	2'3½"	–	3'3½"	20½"	19"	23½"	18½"	12¼"	2'11½"	14¾"	4'0"	2'11½"	2'6⅛"	4'11"
DLM-V7	3'7½"	2'3½"	–	20½"	19"	3'3¼"	2'8½"	12¼"	3'0⅜"	14¾"	2'10"	3'0⅜"	2'8⅞"	3'7"
DLM-V10	3'7½"	–	3'3½"	20½"	19"	3'3¼"	2'8½"	12¼"	3'0⅜"	14¾"	4'0"	3'0⅜"	2'8⅞"	4'11"
DLM-V12	2'3½"	–	3'3½"	3'5¼"	3'3½"	23½"	18½"	22⅜"	5'0"	15¾"	4'0"	5'0"	2'10"	4'11"
DLM-V14	3'7½"	2'3½"	–	3'5¼"	3'3½"	3'3¼"	2'8½"	22⅜"	5'0"	15¾"	2'10"	5'0"	2'10"	3'7"
DLM-V20	3'7½"	–	3'3½"	3'5¼"	3'3½"	3'3¼"	2'8½"	22⅜"	5'0"	15¾"	4'0"	5'0"	2'10"	4'11"

*For number of elements and total filter areas see chart on page 8 †For fan details see below
‡Type F fan motors and cases may project by up to 2½" beyond these dimensions

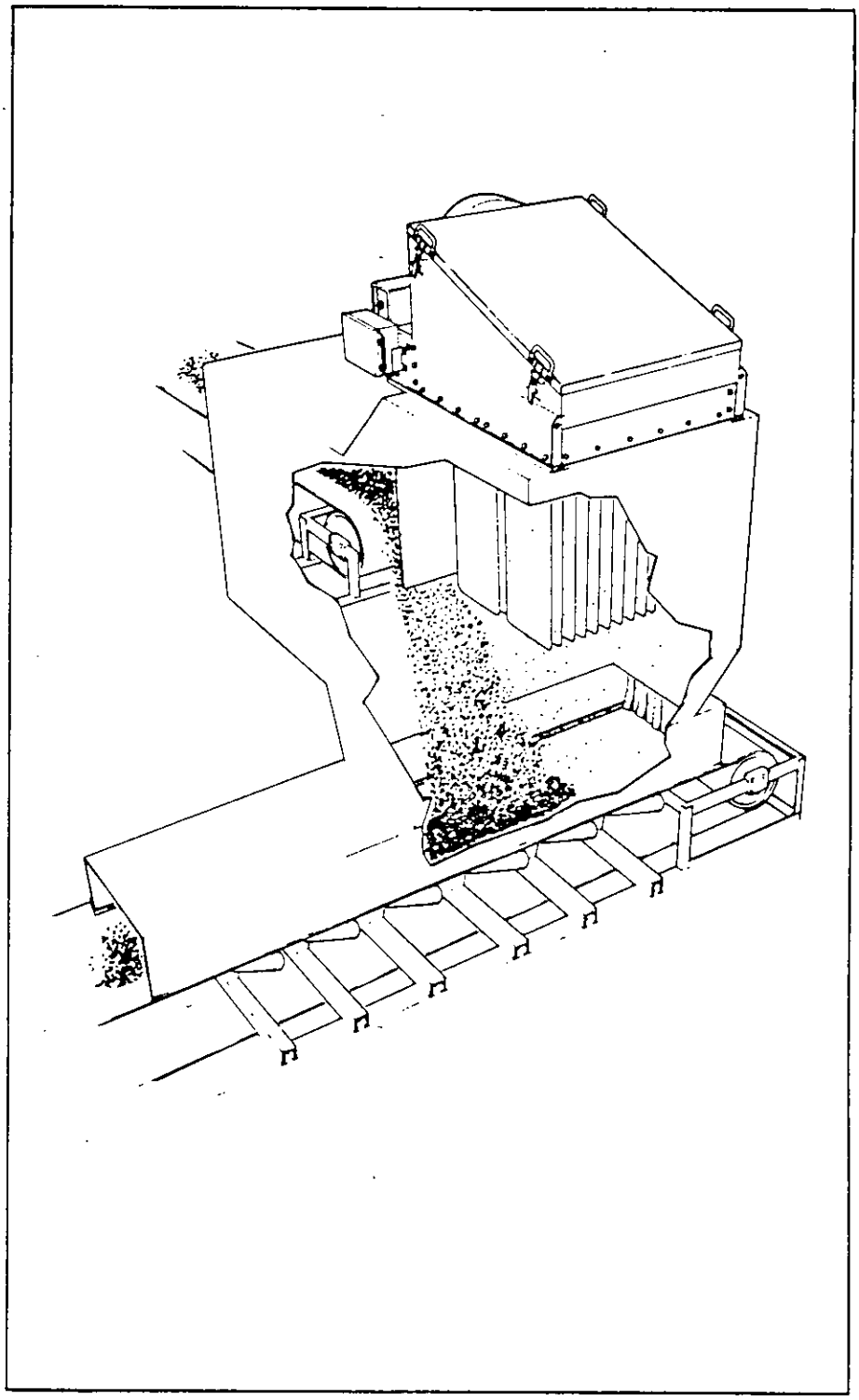
MODEL	APPROX. NET WEIGHTS			
	Type B	Type H	Type W	Type F
DLM-V4	220 lb	270 lb	280 lb	320 lb
DLM-V6	250 lb	300 lb	310 lb	350 lb
DLM-V7	490 lb	540 lb	560 lb	620 lb
DLM-V10	540 lb	600 lb	620 lb	670 lb
DLM-V12	510 lb	560 lb	580 lb	660 lb
DLM-V14	620 lb	740 lb	760 lb	850 lb
DLM-V20	710 lb	830 lb	850 lb	960 lb



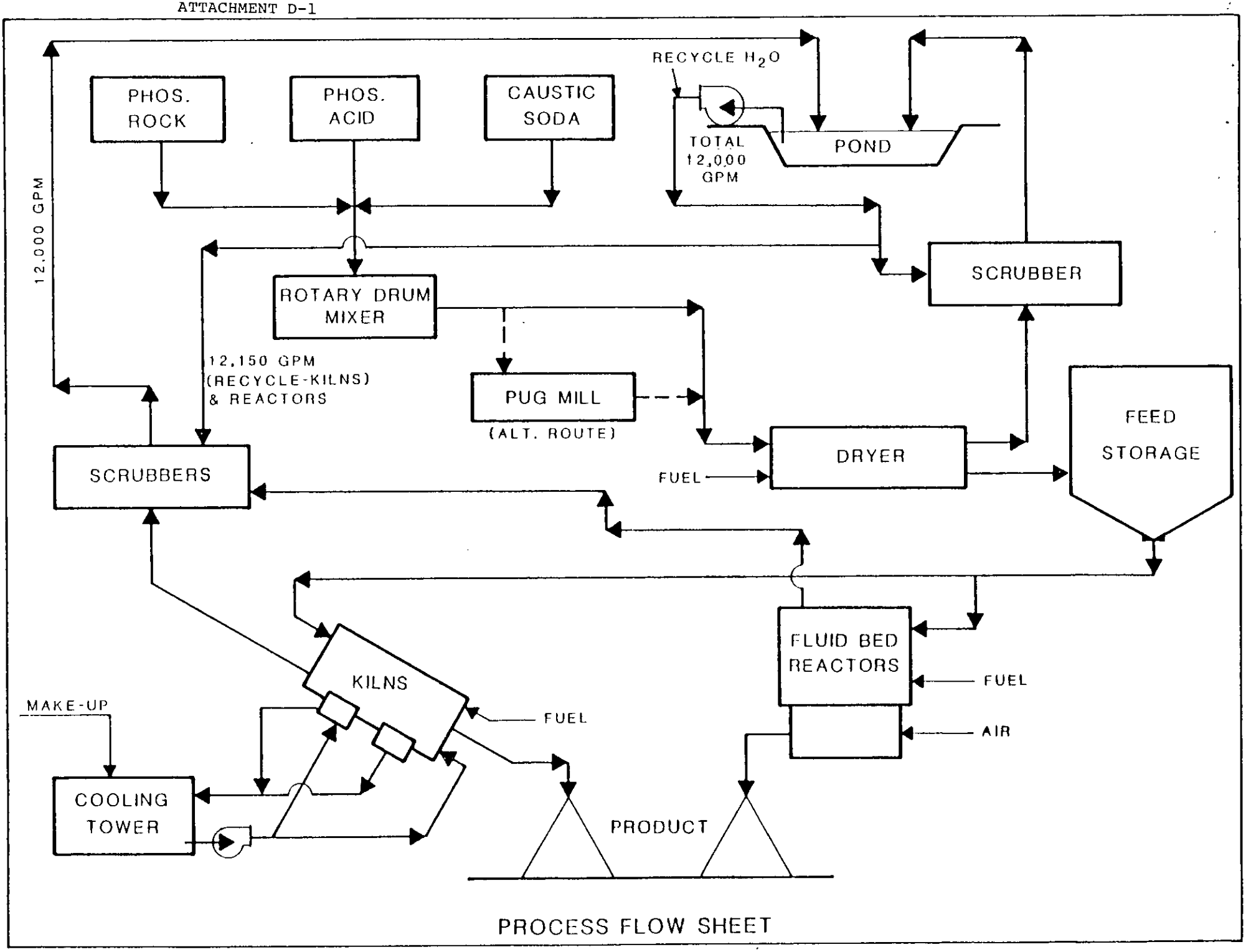
OPERATING DESIGN LIMITS

Temperature range: Types B, H & W *Two choices available:* (a) 15° to 140°F, (b) 15° to 250°F; Type F 15° to 140°F
For lower or higher temperature applications consult with DCE VOKES Inc.
Pressure limits for Type H: −15" to +2" WG.

ATTACHMENT C-3



ATTACHMENT D-1

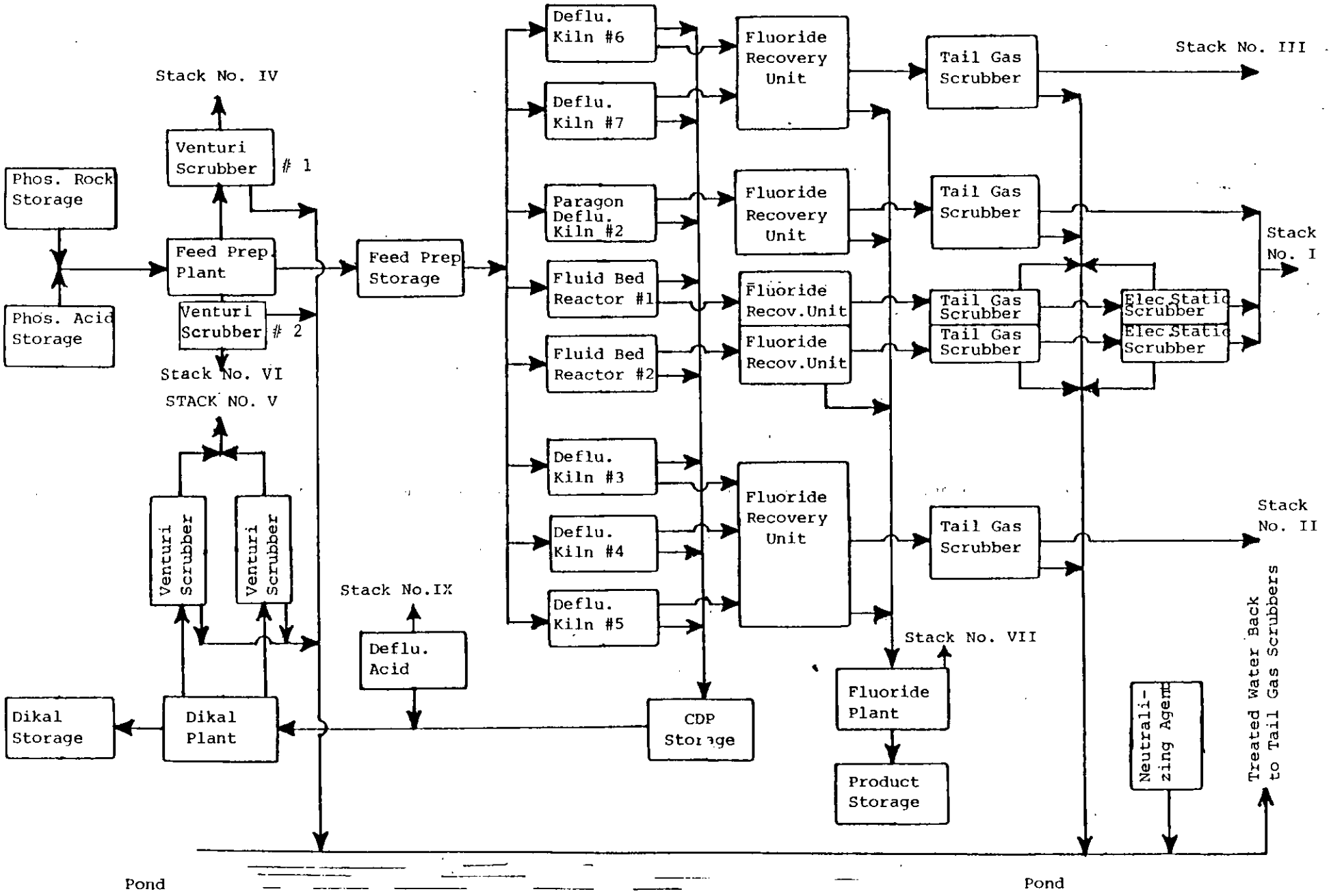


PROCESS FLOW SHEET

AMAX PLANT CITY OPERATION

FLOW DIAGRAM

ATTACHMENT D-2



ATTACHMENT E