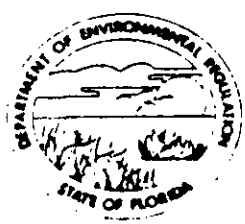


7-25-85
STATE OF FLORIDA

AC 29-115379

DEPARTMENT OF ENVIRONMENTAL REGULATION

DER



JAN 27 1986

BAQM

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

RICHARD D. GARRITY, PH.D.
DISTRICT MANAGER

SOUTHWEST DISTRICT

7801 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610-9844

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: _____ [] New¹ [] Existing¹

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

COMPANY NAME: _____ COUNTY: _____

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) _____

SOURCE LOCATION: Street _____ City _____

UTM: East _____ North _____

Latitude _____ ° _____ ' _____ "N Longitude _____ ° _____ ' _____ "W

APPLICANT NAME AND TITLE: _____

APPLICANT ADDRESS: _____

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of _____

I certify that the statements made in this application for a _____ 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: _____

Name and Title (Please Type)

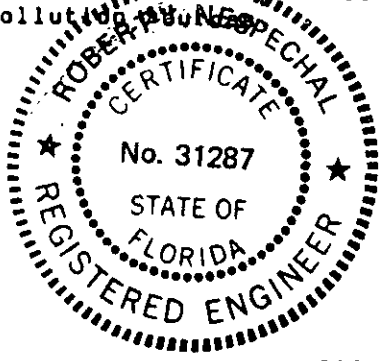
Date: _____ Telephone No. _____

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

¹ See Florida Administrative 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 control equipment.



Signed Robert J. Nespechal
 Robert J. Nespechal
 Name (Please Type)
 Vølund USA Ltd.
 Company Name (Please Type)
 900 Jorie Blvd., Suite 222, Oak Brook, IL 60521
 Mailing Address (Please Type)

Florida Registration No. 31287 Date: July 23, 1985 Telephone No. 312/655-1490

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.

Fly ash collected from the electrostatic precipitators is transported via a pressurized pneumatic conveying system to an ash storage silo. Conveying air is vented from the silo to atmosphere through a bag filter located on top of the silo. Ash from the silo will be loaded into trucks for subsequent disposal in the City's designated sanitary residue disposal site. The expected improvements to the ash storage silo performance will be improved containment of ash in the silo for proper disposal. The discharge of particulate to the atmosphere will be in compliance with the emission limitations for particulate contained in the City of Tampa's Construction Permit AC29-47277.

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

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.)
Bag Filter: \$7,150.00

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.
City of Tampa Construction Permit AC29-47277

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? Yes
a. If yes, has "offset" been applied? Yes
b. If yes, has "Lowest Achievable Emission Rate" been applied? Yes
c. If yes, list non-attainment pollutants. Particulate, 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 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 justifi-
cation for any answer of "No" that might be considered questionable.

- 1.) City of Tampa Construction Permit AC29-47277
- 2.) Florida Department of Environmental Regulation, Bureau of Air Quality Management,
Central Air permitting Technical Evaluation and Preliminary Determination for
Permit AC29-47277.

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)
FLEX KLEEN BVBC-36(IIG)/D010996	Fly Ash	99.5%	0.5 And Greater	Lab tests on similar devices

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/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.

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 1/2" 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 1/2" 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).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 5. Useful Life: 40 years with occasional bag replacement
- 7. Energy: Minimal
- 9. Emissions:

- 6. Operating Costs: Minimal
- 8. Maintenance Cost: \$ 1,820/yr

Contaminant	Rate or Concentration
Particulate	0.02 Grains/acf

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). No other method of filtering particulate from storage silo.

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 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:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

BAG FILTER - 457 SQ. FT.
OF BAG SURFACE

BAGS

DISCHARGE TO
ATMOSPHERE
7,568 LB/HR AIR
0.361 LB/HR PARTICULATE


ASH TRANSPORT
LINE FROM
PRECIPITATORS
3,120 LB/HR FLY ASH
2,750 LB/HR AIR

7,568 LB/HR AIR
72.3 LB/HR FLY ASH
(2,109 ACFM @ 200°F)

AERATION
AIR
4,890 LB/HR @
300°F

REFUSE FLY ASH
STORAGE SILO
STORAGE VOLUME =
180 TONS OF
ASH

TRUCK DISPOSAL
3,119.6 LB/HR FLY ASH

DRAWING RELEASE RECORD			DRAWN: <i>K. Miller</i> CHECKED: <i>T. Miller</i> ENGINEER: <i>T. Miller</i> APPROVED: <i>T. Miller</i>	PROJECT NUMBER: 78100 SCALE: <i>1/2"</i>	PROJECT TITLE: MSKAY BAY REFUSE TO ENERGY PROJ. TAMPA, FL. SHEET TITLE: FLOW DIAGRAM FOR FLY ASH SILO VENT FILTER	 Velund USA Ltd. OAK BROOK, ILLINOIS	DRAWING NO. _____ REV _____
REV	DESCRIPTION	ENG.					ENCLOSURE 1

Enclosure 2
July 23, 1985

BASIS OF POTENTIAL DISCHARGE

1. Uncontrolled emission rate is based on having no baghouse filter with a 4 grains/acf particulate loading in the air to be vented to the atmosphere.

Vented air to atmosphere: 2,109 acfm

Particulate loading: 4 grains/acf

Uncontrolled emission: $2,109 \frac{\text{ft}^3}{\text{Min}} \times \frac{4 \text{ grains}}{\text{ft}^3} \times \frac{\text{LB}}{7000 \text{ grains}}$
 $\times \frac{60 \text{ min}}{\text{hr}} \times \frac{8,760 \text{ hr}}{\text{year}}$
: 633,423 lb/yr

TAMPAENV