

F.A. RECEIPT #535028
JUL 30 2012

RECEIVED

HUMAN CREMATORY
AIR GENERAL PERMIT REGISTRATION FORM

AUG 01 2012

Part II. Notification to Permitting Office

(Detach and submit to appropriate permitting office; keep copy on site)

DIVISION OF AIR
RESOURCE MANAGEMENT

Instructions: To give notice to the Department of an eligible facility's intent to use this air general permit, the owner or operator of the facility must detach and complete this part of the Air General Permit Registration Form and submit it to the appropriate Department of Environmental Protection or local air pollution control program office which has permitting authority. Please type or print clearly all information, and enclose the appropriate air general permit registration processing fee pursuant to Rule 62-4.050, F.A.C. (\$100 as of the effective date of this form)

Registration Type

0610085-005

Check one:

INITIAL REGISTRATION - Notification of intent to:

- Construct and operate a proposed new facility.
- Operate an existing facility not currently using an air general permit (e.g., a facility proposing to go from an air operation permit to an air general permit).

RE-REGISTRATION (for facilities currently using an air general permit) - Notification of intent to:

- Continue operating the facility after expiration of the current term of air general permit use.
- Continue operating the facility after a change of ownership.
- Make an equipment change requiring re-registration pursuant to Rule 62-210.310(2)(e), F.A.C., or any other change not considered an administrative correction under Rule 62-210.310(2)(d), F.A.C.

Surrender of Existing Air Operation Permit(s) - For Initial Registrations Only

If the facility currently holds one or more air operation permits, such permit(s) must be surrendered by the owner or operator upon the effective date of this air general permit. In such case, check the first box, and indicate the operation permits being surrendered. If no air operation permits are held by the facility, check the second box.

- All existing air operation permits for this facility are hereby surrendered upon the effective date of this air general permit; specifically permit number(s): 004
- The facility currently operates under permit: 0610085-002-AG
- No air operation permits currently exist for this facility.

General Facility Information

Facility Owner/Company Name (Name of corporation, agency, or individual owner who or which owns, leases, operates, controls, or supervises the facility.)

Seawinds Real Estate Company, LLC/Seawinds Funeral Home

Site Name (Name, if any, of the facility site; e.g., Plant A, Metropolis Plant, etc. If more than one facility is owned, a registration form must be completed for each.)

Seawinds Crematory

Facility Location (Provide the physical location of the facility, not necessarily the mailing address.)

Street Address: 735 Fleming

City: Sebastian

County: Indian River

Zip Code: 32959

8-5016

Facility Start-Up Date (Estimated start-up date of proposed new facility.) (N/A for existing facility)

NA

Owner/Authorized Representative

Name and Position Title (Person who, by signing this form below, certifies that the facility is eligible to use this air general permit.)

Print Name and Title: James W. Young, Owner

Owner/Authorized Representative Mailing Address

Organization/Firm:Cox-Gifford Funeral Home

Street Address:1950 20th Street

City:Vero Beach

County:

Zip Code:32960

Owner/Authorized Representative Telephone Numbers

Telephone:772-562-2365

Fax:772-562-0983

Cell phone (optional):

Facility Contact (If different from Owner/Authorized Representative)

Name and Position Title (Plant manager or person to be contacted regarding day-to-day operations at the facility.)

Print Name and Title:

Facility Contact Mailing Address

Organization/Firm:Seawinds Crematory

Street Address:735 Fleming

City:Sebastian

County:Indian River

Zip Code:32958-5016

Facility Contact Telephone Numbers

Telephone:772-589-1933

Fax:772-589-1939

Cell phone (optional):

Owner/Authorized Representative Statement

This statement must be signed and dated by the person named above as owner or authorized representative

I, the undersigned, am the owner or authorized representative of the owner or operator of the facility addressed in this Air General Permit Registration Form. I hereby certify, based on information and belief formed after reasonable inquiry, that the facility addressed in this registration form is eligible for use of this air general permit and that the statements made in this registration form are true, accurate and complete. Further, I agree to operate and maintain the facility described in this registration form so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof.

I will promptly notify the Department of any changes to the information contained in this registration form.

Signature



Date

7/23/2012

Design Calculations

If this is an initial registration for a proposed new human crematory unit, provide design calculations to confirm a sufficient volume in the secondary chamber combustion zone to provide for at least a 1.0 second gas residence time at 1800 degrees F.

- Manufacturer's design calculations attached.
- Registration is not for proposed new human crematory unit(s).

Description of Facility

Below, or as an attachment to this form, provide a description of all crematory operations at the facility in sufficient detail to demonstrate the facility's eligibility for use of this air general permit and to provide a basis for tracking any future equipment or process changes at the facility. Describe all air pollutant-emitting processes and equipment at the facility, and identify any air pollution control measures or equipment used.

Equipment Description

The scope of this application is to add a second crematory model "Classic" Plus to the existing facility. The serial number for this crematory is not available at the time of the application. The "Classic" Plus is a multi-chamber unit having an average 150 - 200 lbs/hr fired with LPG. The primary chamber burner is rated at 1,000,000 Btu/hr, and the secondary chamber burner is rated at 1,500,000 Btu/hr, for a total of 2,500,000 Btu/hr. Control of air pollution is achieved through the design of the "Classic" Plus crematory, including its ability to operate the secondary chamber between 1600 - 1850 degrees Fahrenheit at a residence time in excess of 1.0 second. The design also includes fully automatic PLC based controls, independent fuel/air systems, preheated combustion air, secondary chamber temperature monitor and recorder, primary burner temperature interlock (prevents primary burner from firing prior to the secondary chamber reaching its set point temperature), UV continuous scanning flame detectors on burners, and an opacity sensor which can temporarily suspend operation of the primary chamber burner. In attachment 2 we have include a copy of the crematory spec.

Emissions Summary

Emission Summary and Calculations – In Attachment 1 we have included our retention time calculations. See Attachment 3 for tabular summary of emissions. Criteria pollutant emissions values, except CO and PM are based on emission factors from AP-42, Table 2.1-12. The emission for CO and PM are derived from results of the identical source stack test.

Attachment 1
Retention Time Calculation

The following are our calculations for the retention time for the "Classic" Plus crematory manufactured by U.S. Cremations Equipment:

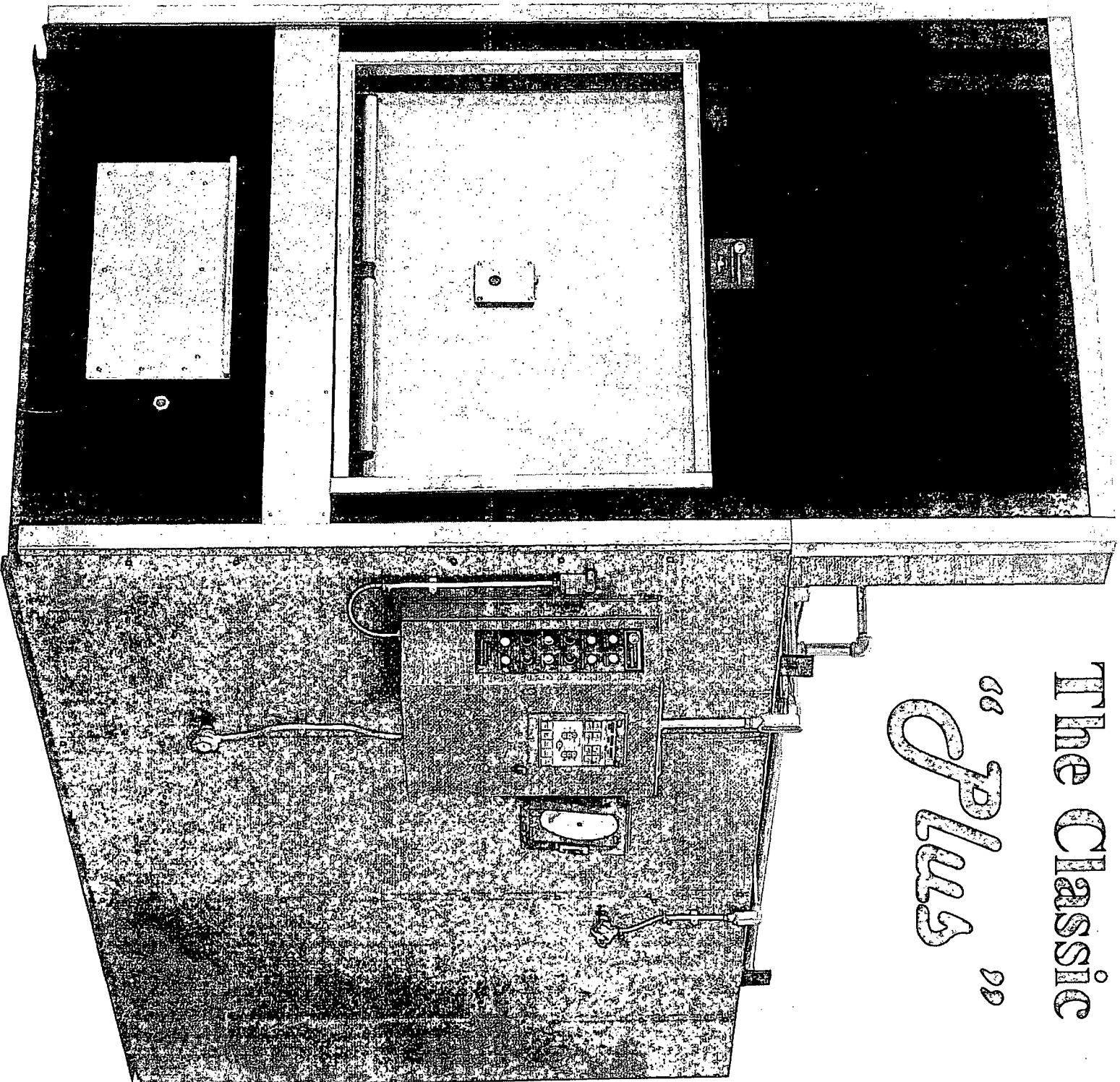
Secondary Chamber Volume: 88 cubic ft
ACFM from "Classic Cremator: 2827

Therefore:

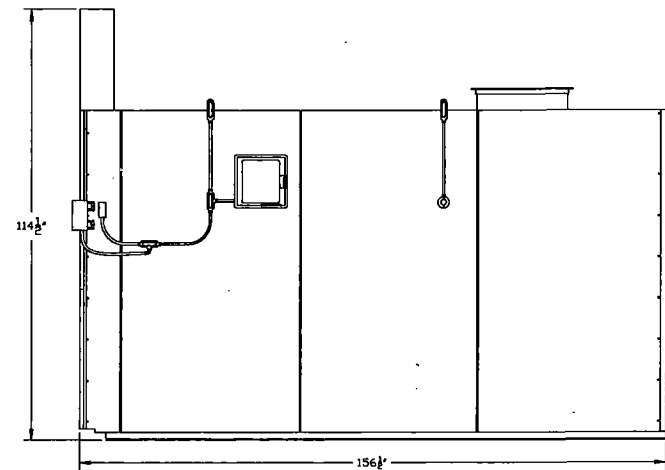
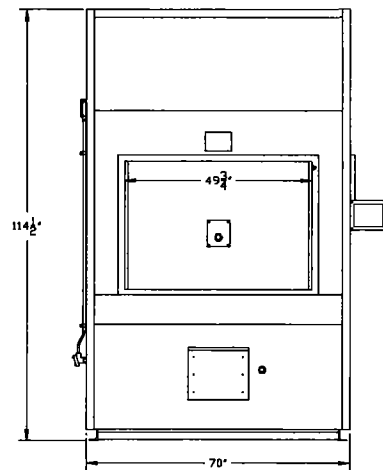
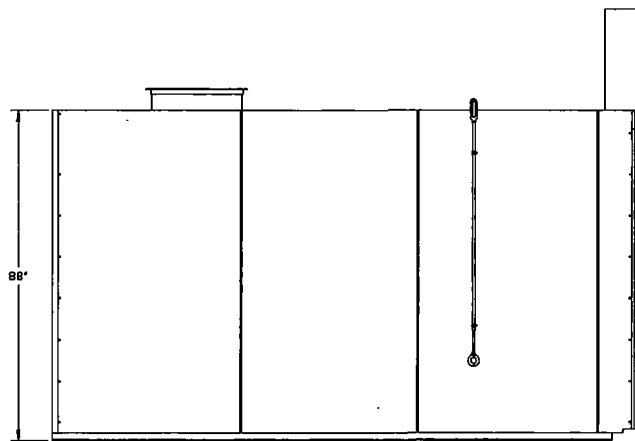
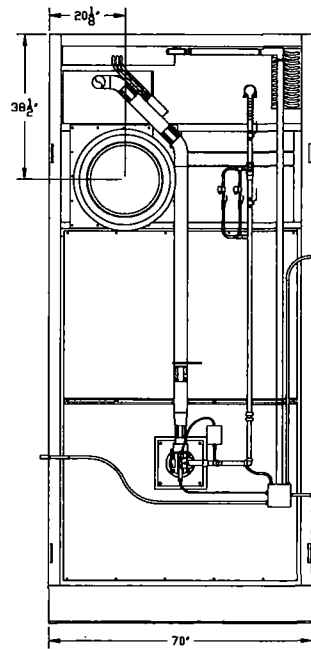
$88 \text{ CF} / 2827 \text{ ACFM} \times 60 \text{ Sec/min} = 1.87 \text{ Seconds}$

Attachment 2
Crematory Spec

The Classic
"Plus"



ITEM	QTY	DESCRIPTION
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NO.	DATE	DESCRIPTION	BY



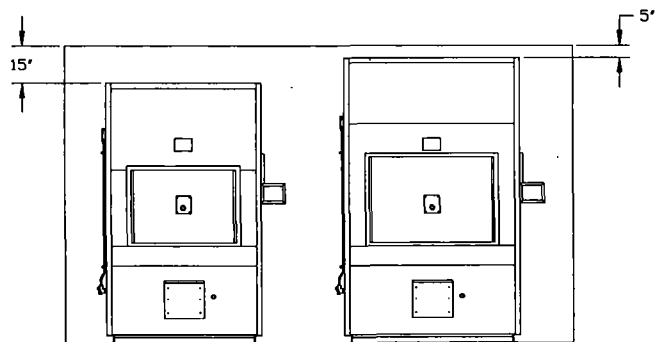
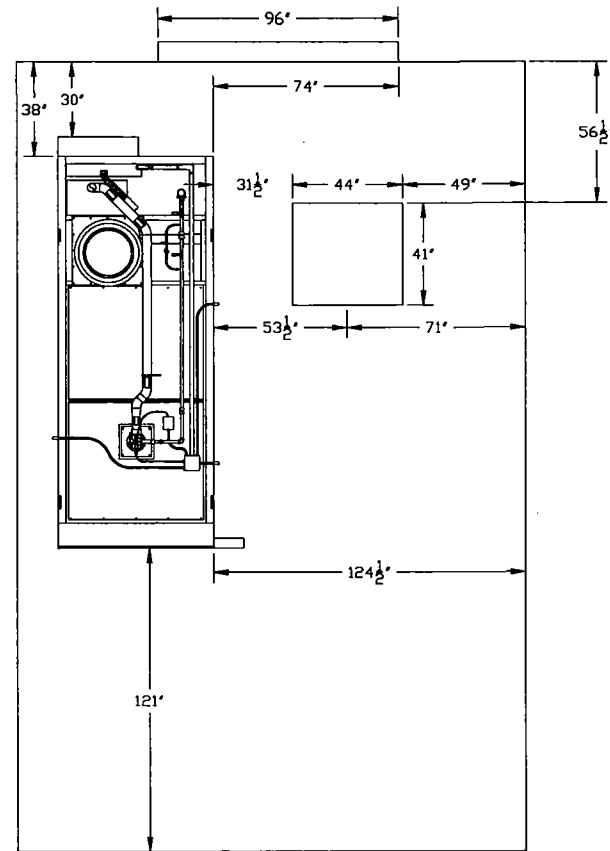
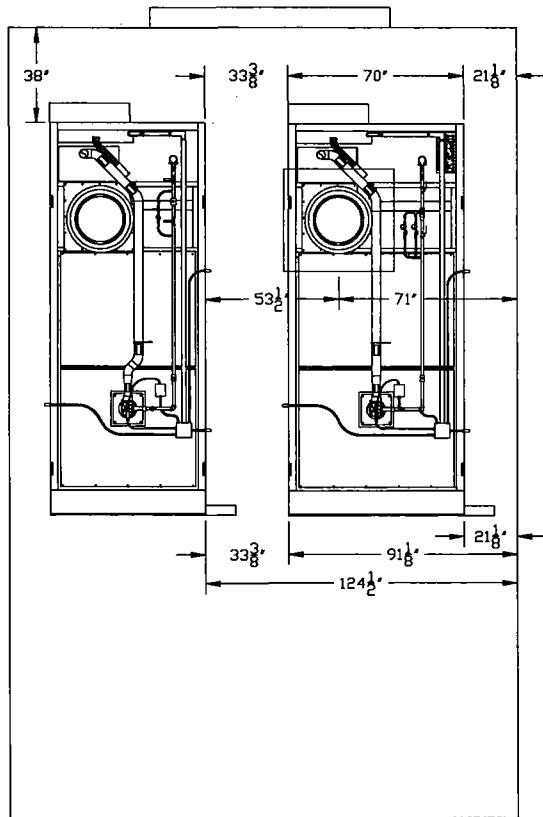
US Cremation Equipment
A Division of *Beair*

REV.	DATE	BY	DESCRIPTION

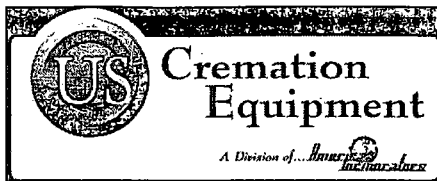
US CREMATION EQUIPMENT			
CLASSIC PLUS			
PLAN, FRONT & SIDES			
NO.	REV.	DATE	BY

ITEM QTY

DESCRIPTION



		 US Cremation Equipment <i>A Division of American Equipment</i>		MADE IN USA DATE		US CREMATION EQUIPMENT	
				MODEL NO.		SEAWINDS CL PLUS BUILDING LAYOUT I	
NO.	DATE	DESCRIPTION	BY	DATE	SCALE	REV.	DATE
						1	



DRAFT SPEC FOR NEW PRODUCT

HUMAN CREMATION CHAMBER SPECIFICATION

Model US 150 "Classic-Plus"

EQUIPMENT:

U.S. Cremation Equipment, a division of American Incinerators Corporation - Multiple Chambered Human Cremator; Natural Gas, Propane (LP) or Oil fired.

MANUFACTURER:

U.S. Cremation Equipment a division of American Incinerators Corporation.

CONSTRUCTION STANDARDS:

The cremator shall be constructed of U.L./CSA listed components and will meet or exceed nationally accepted incinerator construction standards as originally established per the Incinerator Institute of America (IIA) publication guidelines; i.e.:

- A. Primary chamber will not exceed 60% of total furnace volumes. Flue connection shall not be considered part of furnace volume.
- B. Flame supervision through continuous ultraviolet scanning flame detectors on all burners.
- C. High temperature refractory construction with air-cooled walls to prevent excessive heat radiation.
- D. Exhaust gas temperature reduction.

CREMATOR DIMENSIONS:

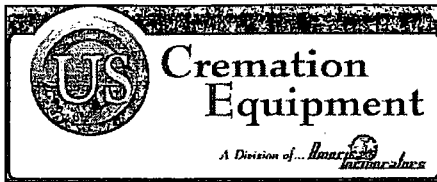
Chamber volumes: Primary - 92 CF (2.6 CM)
Secondary - 88 CF (2.5 CM)
Primary Chamber: 96" L x 46" W x 36" H (2438 mm x 1168 mm x 914 mm)
Structural footprint: 156½" L x 70" W (3975 mm x 1778 mm)
Over-all dimensions: 156½" L x 81" W (incl. Control Panel) x 114½" H
(3975 mm x 2057 mm x 2908 mm)

POWER CHARGING DOOR:

Door Height: 38" (965 mm)
Door Width: 49¾" (1264 mm)

PRIMARY CHAMBER OPENING:

Width: 46" (1168 mm)
Height: 36" (914 mm)



DRAFT SPEC FOR NEW PRODUCT

OPERATING TEMPERATURE:

Temperatures are determined as a result of federal, state or local permitting authority operating standards.

Typical primary chamber setting: 1,000°F-1,200°F (538°C - 648°C)

Typical secondary chamber setting: 1,400°F-1,800°F (760°C - 982°C)

RETENTION TIME:

In excess of 2 second.

CAPACITY:

Single load capacity of 1000 lbs per cremation cycle. Burn Rate of 150 - 300 lbs/hr

DRAFT:

Induced via a refractory lined draft inducer.

SHIPPING WEIGHT:

30,000 lbs (1360 kg)

EMISSIONS:

The U. S. Cremation Equipment cremator shall meet or exceed federal, state/provincial and local environmental regulations.

EMISSION CONTROL:

Secondary chamber equipped with one, 2,000,000 BTU/HR burner. Also equipped with an electronic exhaust gas scanner system which temporarily suspends operation of the primary chamber burner if the opacity of the exhaust gases reaches the maximum locally authorized level.

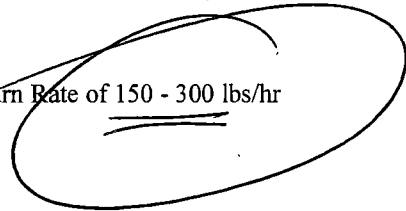
STEEL CONSTRUCTION SPECIFICATIONS:

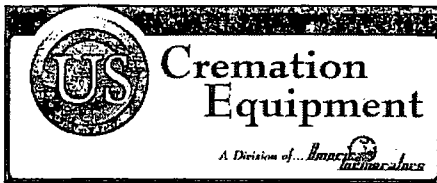
- A. The structure to be heavy 3" steel angle, square tube; 3/8" steel plate, seal welded construction.
- B. Subfloor to be 3/16" steel plate, seal welded construction.
- C. The exterior shell to be 12 gauge steel removable panels.
- D. Interior shell to be 10 gauge steel, seal welded construction.

INSULATION & REFRACTORY SPECIFICATIONS:

- A. Hot Hearth: 3000°F (1650°C) abrasion resistant cast refractory monolithic cast 7" - 13" thick, 1 -1/2" recessed top and rounded, stressed arched bottom.
- B. Chamber Floors: 3000°F (1650°C) abrasion resistant cast refractory, 5" thick on top of 2" 2400°F (1316°C) light weight insulating castable.
- C. Chamber Ceilings: 3000°F(1650°C) cast refractory, monolithic cast, rounded, stressed arched, 5"-9" thick, topped by 2" 2400°F (1360°C) light weight insulating castable.

*Not consistent w/ Page 10
of the form,
150-200 lbs/hr*





DRAFT SPEC FOR NEW PRODUCT

D. Interior Walls: 2800°F (1538°C) alumina-silicate firebrick, 2½" x 4½" x 9", all chambers are backed by 4" of 1900°F (1038°C) ceramic fiber insulation

E. Stack: Lined with 2-3" of 2200°F (1205°C) insulating refractory.

SKIN TEMPERATURE CONTROL:

Integral dual casing, completely air-cooled design to prevent excessive heat radiation.

COMBUSTION EQUIPMENT:

A. Combustion Air - One (1) 3 phase, 208-230/460V, 17-15.5/7.6 amp, 7.5 hp air blower motor (1,700 CFM (158 CMM))

B. Primary Chamber - One 1,000,000 BTU/HR nozzle mix, gas-fired burner. Eclipse, North American, or equal.

C. Secondary Chamber - One, 2,000,000 BTU/HR modulating, nozzle mix, gas-fired burner. Eclipse, North American, or equal.

D. Burner Flame Safeguard - Control supervision on each burner via a flame safeguard relay and ultra-violet light detector.

E. Low Air Pressure Safety Switch - Interlocked to all burners.

EXHAUST GAS TEMPERATURE REDUCTION:

Hot air duct operating exit temperature: 900°F (482°C)

HOT AIR DUCT:

10 gauge carbon steel, high temperature 2-3" refractory lining, pre-drilled flanges, 24" Outside Diameter, 28" at flanges.

UTILITY REQUIREMENTS:

A. GAS:

1. Pressure:

- a) Natural Gas: 7-9" W.C. (178-228 mm)
- b) Propane: 11-14" W.C. (288-355 mm)

2. Flow Rate: 3,000,000 BTU/hr

B. ELECTRICAL:

Voltage: 220 Volts

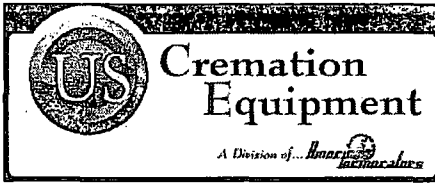
Phase: Single or 3 Phase

Frequency: 50/60Hz

Amperage: 70Amp for Single Phase - 40Amp for 3 Phase

CREMATION CHAMBER LOADING/CLEAN-OUT DOOR:

Hydraulically operated, refractory lined, upward movement guillotine style door with view port. It is a front loading-front cleanout design with cremated remains collection cooling hopper and removal system. The hydraulic system pump is a 1 HP with a capacity of 15 liters per minute or equivalent system.



DRAFT SPEC FOR NEW PRODUCT

CREMATION PROCESS CONTROL:

The cremation cycle is controlled by a programmable logic control (PLC) system. A visual confirmation of the system status is provided through a Color Touch Screen Panel which displays temperatures, elapsed time, burner operation and other functions. Continuous fuel and air modulation is automatically controlled by a time/temperature actuated system. Operator interface performed through the Color Touch Screen. The Temperature Chart Recorder (if applicable) is a single pen Partlow model MRC 5000 Series.

EXTERIOR FINISH:

The top and rear compartments are finished with two coats of high-temperature, textured, black polyurethane. The front and side panels are powder coated in a dark grey color. The cremator is trimmed in stainless steel.

TOOLS:

A 700 lbs. capacity **Battery hydraulic Lift Table** and cleaning tools are provided. The tools consist of a steel wire brush and rake with long handles, and a short handle rake. A trigger Hand Magnet for removal of metal is also included.

Attachment 3
Emission Calculations

US Cremation Equipment
Model "Classic" - Plus

Pounds Incinerated Per Hour (Average)	Hours Per Year	SO ₂ lb/ton	SO ₂ lb/hr	SO ₂ TPY	Nox lb/ton	Nox lb/hr	Nox TPY	TOC lb/ton	TOC lb/hr	TOC TPY
200	8760	2.5	0.25	1.095	3	0.3	1.314	3	0.3	1.314

CO=100 PPM @ 7% O₂ MAX, Actual CO Emissions Measured at 3.49 PPM

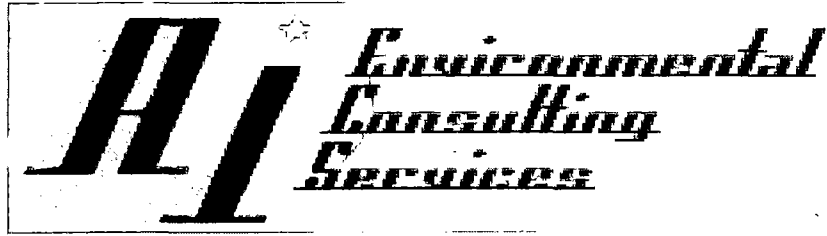
CO = 100 PPM X 28 MW X 1700 DSCFM X 2.595E-09 X 60 min/hr = 0.74 lb/hr CO

0.74 lb/hr CO X 8760 hrs/yr X 1 ton/2000 lb = 3.24 TPY CO

Actual Emissions were measured at 0.04 gr/dscfm at 7% O₂

PM = 0.08 gr/dscf X 1 pound/7000 gr X 1700 DSCFM X 60 min/hr = 1.17 lb/hr PM

1.17 lb/hr PM X 8760 hrs/yr X 1 ton/2000 lb = 5.12 TPY PM



General Permit Application

Prepared for:

***Seawinds Real Estate Company, LLC
Facility: Seawinds Funeral Home/Seawinds Crematory
735 Fleming Street
Sebastian, Florida 32958
Source ID: 0610085
Indian River County***

Prepared By:

***AI Environmental Consulting Services, Inc.
598 Northlake Blvd, Ste. 1016
Altamonte Springs, Florida 32701***

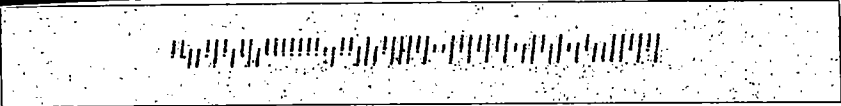
Date: July 2012

Application Contents

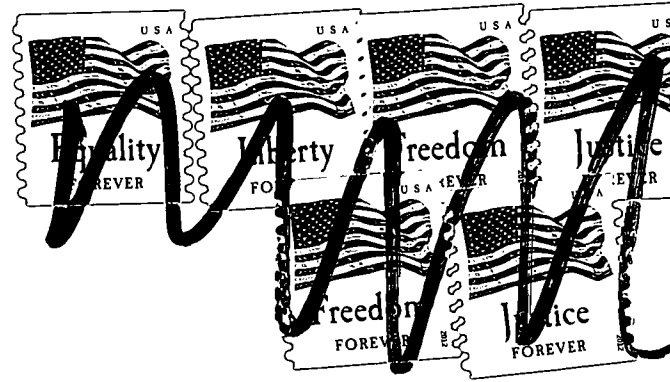
- Form 62-210.920(2)(c) General Permit Application

Attachments

Attachment 1	Retention Time Calculation
Attachment 2	Crematory Spec
Attachment 3	Emission Calculations



Cox-Gifford-Seawinds
 Funeral Home & Crematory
 1950 20th Street
 Vero Beach, FL 32960



Florida Dept of Environmental
 Protection
 FDEP

P.O. Box 3070

Tallahassee, FL 32315-307