



west virginia department of environmental protection

Division of Air Quality
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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3159
Plant ID No.: 011-00210
Applicant: Chapman's Mortuary Inc.
Facility Name: Huntington
Location: Huntington, Cabell County
NAICS Code: 812210
Application Type: Construction
Received Date: October 13, 2013
Engineer Assigned: David Keatley
Fee Amount: \$1,000
Date Fee Received: November 14, 2013
Complete Date: January 24, 2014
Due Date: April 24, 2014
Applicant Ad Date: December 4, 2013
Newspaper: *The Herald-Dispatch*
UTM's: Easting: 377.728 km Northing: 4,254.332 km Zone: 17
Description: Installation of a 150 lb/hr human crematory.

DESCRIPTION OF PROCESS

This permit is for a Power Pak 1 natural gas fired dual chamber human crematory with a maximum incineration capacity of 150 lb/hr. Deceased human remains are manually placed into the primary chamber of the crematory and the door is closed. The secondary chamber is preheated by a 1.2 MMBTU/hr secondary burner. Once material combustion is initiated, the rate of the combustion is controlled by the amount of air and natural gas that is supplied to the 0.7 MMBTU/hr primary burner which is in the primary chamber. The emissions from the primary chamber go to the secondary chamber where more air is supplied to ensure further oxidation and facilitate complete combustion. Once the cremation process is complete, the remains are removed from the primary chamber of the crematory. The remains are placed in urns and returned to the family.

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SITE INSPECTION

Jeff Hedgecock of DAQ's Compliance and Enforcement Section performed a site visit on January 24, 2014. Chapman's Mortuary Inc. proposes to install a crematory in a proposed addition to the existing building. The nearest residence is approximately 75 yards and the site seems acceptable. At the time of the site visit the addition had not yet been constructed.

The facility is in the city of Huntington on US 60 (2851 3rd Avenue).

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The emission factors used for this unit come from a stack test with the exception of CO₂e which comes from 40CFR98. The table below summarized the emissions based on operating 8,760 hours per year.

Table 1: Estimated Controlled Point Source Emissions

Emission Point	Emission Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
1E	Mathews Model IE43-PPI Crematory	Total Particulate Matter	0.08	0.35
		Carbon Monoxide	0.01	0.05
		Nitrogen Oxides	1.0	4.38
		Volatile Organic Compounds	0.0061	0.27
		Sulfur Dioxide	0.19	0.82
		Carbon Dioxide Equivalents	210.60	922.43

REGULATORY APPLICABILITY

45CSR4 - To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors

This facility shall not cause the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. 45CSR4 states that an objectionable odor is an odor that is deemed objectionable when in the opinion of a duly authorized representative of the Air Pollution Control Commission (Division of Air Quality), based upon their investigations and complaints, such odor is objectionable.

45CSR6 - *Control of Air Pollution From Combustion of Refuse*

From section 2.7 this facility's crematory meets the definition of an incinerator and is subject to applicable Rule 6 requirements. From section 4.1 the maximum allowable total particulate matter emission rate is 0.41 lb/hr. This facility's potential to emit of total particulate matter (0.08 lb/hr) is below this threshold. The opacity limit due to this rule is 20%.

45CSR13 - *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation*

45CSR13 applies to this source due to section 2.24.a. 45CSR6 is a substantive rule promulgated by the secretary and the reason this facility requires a construction permit.

45CSR22 - *Air Quality Management Fee Program*

The facility is required to get a construction permit due to 45CSR13 and is therefore subject to the requirements of 45CSR22. This source is a 9B crematory incinerator source and shall pay an annual fee of \$200.

This facility is not subject to the following rules and regulations:

45CSR30 - *Requirements for Operating Permits*

This facility will not be classified as a major source of air pollutants as can be seen from Table 1. In addition, the emission unit is not subject to New Source Performance Standards. Thus, the facility is not subject to Title V and will not be required to obtain a operating permit under 45CSR30.

40CFR60 - *Subpart EEEE Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006*

This facility proposes to combust at least 90% human remains. Human remains is considered pathological waste and this facility is therefore not subject to this regulation. This facility will only combust human remains and the cardboard/wood container.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the pollutants being emitted from this facility are only trace amounts of regulated hazardous air pollutants.

AIR QUALITY IMPACT ANALYSIS

Based on the annual emission rates this facility will not be a major source as defined by 45CSR14, so air quality modeling was not required. This facility will be located in Cabell County, WV, which is currently in attainment for all criteria pollutants.

MONITORING OF OPERATIONS

Visible emission testing, measuring and recording the temperature of the secondary chamber on a continuous basis, and recording the charge weights.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates Chapman's Mortuary Inc.'s Huntington crematory should meet all state and federal air quality requirements. It is recommended that Chapman's Mortuary Inc. proposed Huntington crematory should be granted a 45CSR13 construction permit for their facility.

David Keatley
Permit Writer

January 28, 2013

Date

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