



west virginia department of environmental protection

Division of Air Quality
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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2926
Plant ID No.: 083-00131
Applicant: Randolph Funeral Home & Cremation Services
Facility Name: Elkins
Location: Randolph County
NAICS Code: 924110
Application Type: Construction
Received Date: March 16, 2012
Engineer Assigned: David Keatley
Fee Amount: \$1,000
Date Fee Received: March 23, 2012
Complete Date: August 8 2012
Due Date: November 6, 2012
Applicant Ad Date: March 20, 2012
Newspaper: *The Inter-Mountain*
UTM's: Easting: 593.923 km Northing: 4,295.384 km Zone: 17
Description: Installation of a human cremation unit.

DESCRIPTION OF PROCESS

This permit is for a B & L Systems Model N-20SA natural gas fired multiple 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 to 1600 °F by a 1.0 MMBTU/hr auxiliary 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 0.5 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 insure 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.

SITE INSPECTION

The permit writer performed a site inspection on the afternoon of May 24, 2012. The crematory will be put on a concrete pad behind the existing funeral home building. The surrounding area is fairly flat. Two houses are across a gravel road on the side of the existing funeral home building.

Directions from Charleston. Take I 79 N until exit 99. Turn right onto US 33 E. Turn south onto US 219 S. Once in Valley Bend take a left onto Oak Lane (CR 37/5). Take first left onto gravel road (Meadow Lane). Field on the left, then townhouses, facility at the end on the right.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The emission factors are from stack tests performed by Southern Environmental Sciences, Inc. Emission factors are the highest numbers from all three stack tests. Emission factors are: PM, 0.038 gr./dscf; CO, 4.98 ppm; NO_x, 115.7 ppm; VOC, 1.41 ppm; and SO₂, 59.7 mg. Annual emissions are based on running the unit

Emission Point	Emission Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
S1	Crematory Model N-20SA	Total Particulate Matter	0.21	0.92
		Carbon Monoxide	0.018	0.08
		Nitrogen Oxides	0.74	3.24
		Volatile Organic Compounds	0.009	0.04
		Sulfur Dioxide	0.167	0.74

REGULATORY APPLICABILITY

45CSR6 - Control of Air Pollution From Combustion of Refuge

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 (0.21 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 9M source and shall pay an annual fee of \$200.

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.

MONITORING OF OPERATIONS

Visible emission testing, measuring and recording the temperature of the secondary chamber, and weighing remains.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates Randolph Funeral Homes and Cremation Services Inc.'s crematory should meet applicable requirements of applicable state rules and applicable federal regulations. It is recommended that Randolph Funeral Homes and Cremation Services Inc.'s proposed Elkins crematory should be granted a 45CSR13 construction permit for their facility.

David Keatley
Permit Writer

Date