

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N829326497

FACILITY: SMITH CONCRETE PRODUCTS		SRN / ID: N8293
LOCATION: 3282 S CRAPO RD, NORTH STAR		DISTRICT: Lansing
CITY: NORTH STAR		COUNTY: GRATIOT
CONTACT: Bill Smith, Operator		ACTIVITY DATE: 07/24/2014
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled, unannounced compliance inspection		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow (author) and Kim Sakowski (RRD)

Personnel Present: Bill Smith, co-owner (3282 S. Crapo Rd, North Star, MI, 48847)
Bob Smith, co-owner

Purpose:

Perform an unannounced scheduled compliance inspection of Smith Concrete Products by determining compliance with their PTI No. 150-09 for a human crematory. The last and only inspection conducted was in 2010, shortly after the permit was issued.

Facility Background/Regulatory Overview: Smith Concrete Products is involved with producing concrete vaults as well as a location to cremate human remains using an "incinerator," a Mathews Cremation Division Power Pak II, fired on natural gas. The concrete vaults are made by buying bulk cement and gravel and mixing these items with water.

Inspection: This was an unannounced scheduled compliance inspection. On July 24, 2014 at approximately 9:15 a.m. I met with Bob Smith co-owner, and his son, Bill Smith (co-owner and operator). I provided them with a DEQ "Environmental Inspections: Rights and Responsibilities" brochure and a May 2012 Permit to Install Exemptions handbook and explained to them the reason for my visit. Bill said incinerator operating hours can range from 7 a.m. through 10 p.m. but generally try to operate between the hours of 8 a.m. and 5 p.m. Bill said that they have conducted 1264 burns since the permit was issued. He believes that the maximum number of burns is 3000 before the "floor" of the unit has to be replaced.

While conducting the inspection there was a body being cremated in the incinerator. Bill said the burn started at 7:45 a.m. that morning. The burn takes about 2 hours to complete, depending on the body size, and an additional 1.5 hours to cool the unit down before the ashes can be removed. There were no signs of opacity coming from the stack during the burn and no signs of opacity during the cool-down. Bill explained that the unit has an opacity sensor. When opacity is detected the unit will shut off and within 15 seconds the opacity stops. He said that opacity usually only occurs when the body is burned in a heavy plastic military bag. Opacity may also occur as a result of burning the plastic liner on the cardboard box that the body is in.

Material Limits

Smith Concrete is only allowed to incinerate bodies and associated materials. Bill verified that no animal waste or medical waste is incinerated, only bodies.

Smith Concrete is allowed to charge no more than 750 lbs at one time. Bill said that they've never had bodies that heavy. He said the heaviest bodies they've received were around 400 – 500 pounds and any bodies beyond that would not be able to fit in the incinerator. He said they have had to turn some away because of their weight. Smith Concrete is in compliance with the material limits.

Process/Operational Restrictions

The temperature of the incinerator during the burn was set at 1500°F, the actual temperature was 1544°F. On cold days, Bill explained that the incinerator takes approximately a half hour to get up to temperature. I skimmed through all of Smith Concrete's temperature records and verified that since they have been operating, the incinerator has always been set at or above the permit-required 1450°F. There was one instance in 2011 where the temperature of the incinerator reached 2250°F. Bill explained that temperatures can rise based on how much body fat the body had. Essentially the fat can fuel the burn. The incinerator will shut off its burners around 1650°F. Smith Concrete is in compliance with the minimum temperature requirement.

The permit contains Incinerator Operation and Maintenance Guidelines that are recommended:

One of the guidelines recommends that a trained operator be designated to run the unit and be responsible for air pollution control requirements. Bill Smith said that he is the only person that runs the incinerator

He explained that after every burn, the remains are swept out of the incinerator with a broom to be collected in a box below the incinerator.

To minimize opening the charging door, Bill explained that the door is only opened once after 1-1.25 hours into each burn to reposition the bodies and typically burn 3 bodies per day, 20 minutes between each body. The unit is

allowed to cool down to approximately 600°F before charging another body. This procedure that Smith Concrete has in place would meet the guideline for minimizing smoke caused by the inlet of too much cold air/quenching the fire.

The guidelines also recommend that quarterly inspections be conducted to check and service all the incinerator equipment. Bill explained that they have contracted out professionals to come in and inspect/maintain the incinerator: Universal Cremation Service out of Roscommon. He said Patrick Crockett is the inspector that comes out once per year to conduct a 6-hour checkup of the unit. This includes the looking for cracks in the refractory cement in the stack, as well as checking the thermocouples, gas control wiring, burners, burner igniters, etc. In addition to this, Bill said that every 100 hours he will do his own checkup which generally involves checking the gas control wiring, changing the thermocouples if the temperature readout appears inaccurate. Smith Concrete I believe has done more than what is required in the guidelines and is running the incinerator in an exceptional manner.

Smith Concrete is in compliance with all Process/Operational Restrictions at this time.

Monitoring/Recordkeeping

In addition to keeping continuous temperature records of the secondary combustion chamber, Smith Concrete is also required to keep daily records of the time, description and weight of waste combusted in the incinerator. The temperatures are recorded on a circular stripchart. For each body that is charged into the incinerator, Bill records the time the burn started, the name, and the weight of the "waste" on this strip chart. Bill explained that they do not weigh the bodies on a scale, but rather make a guess as to how heavy they are. Smith Concrete has all the temperature/weight/time records from the very beginning of the operation in 2010. Smith Concrete is in compliance with all Monitoring/Recordkeeping requirements at this time.

Smith Concrete is in compliance with all state and federal regulations at this time.

NAME Michelle M. Lyden DATE 8-20-14 SUPERVISOR M. M. V. [Signature]