

Site Reference: EPR/B/5.1/PWC

Date Inspected: 30<sup>th</sup> October 2015

Inspection Type: Full Inspection

Person Seen: Jason King  
David Loudfoot

Site Name & Address: Parndon Wood Crematorium, Parndon  
Wood Road, Harlow, Essex CM19 4SF

Inspected By: Fay Rushby

### 1. Best available techniques

**Condition 1.1 to 1.2:** Residual BAT conditions:

- The residual BAT conditions do not need to be used at this time.

### 2. Extent of the installation

**Condition 2.1:** Installation boundary:

- All permitted activities are being undertaken within the installation boundary.

### 3. Combustion conditions

**Condition 3.1 and table 3.1:**

Combustion parameters:

- Secondary combustion chamber temperatures are continuously monitored and recorded. Cremators are interlocked to prevent cremator loading if the secondary chamber is less than 800°C.
- Secondary combustion chamber oxygen % is continuously monitored and recorded.
- Secondary combustion chamber gas residence time has been confirmed as > 2 seconds.
- A summary of the parameters at the time of the inspection is as follows:

Parameter	Cremator 1	Cremator 2	Limit
Time into cremation	52	21	-
Primary chamber temperature	918	1003	-
Secondary chamber inlet temperature	888	974	>800°C
Secondary chamber outlet temperature	867	960	>800°C
Suction	3.1	6.5	-

### 4. Emissions release points

**Condition 4.1:** Emissions release points

- Emissions release points remain as permitted.

### 5. Emission limits

**Conditions 5.1 to 5.8:**

Extractive emissions monitoring is next due in January 2015.

- Please ensure that 7-days' notice of the date of the monitoring exercise is provided.

A summary of the emissions at the time of the inspection is as follows:

Parameter	Cremator 1	Cremator 2	Limit
Time into cremation	52 mins	21 mins	-
%O <sub>2</sub>	16.4%	8.2%	Min 3%
Particulate matter	0.0 mg/m <sup>3</sup>		20 mg/m <sup>3</sup>
Carbon monoxide	0.0 mg/m <sup>3</sup>		100 mg/m <sup>3</sup>

- Emissions were free from visible smoke.

**Conditions 5.1 to 5.8 (continued):**

- No odours (offensive or otherwise) were noted.
- There were no persistent visible emissions.
- Emissions were free from droplets.
- A record of gas consumption is kept. Quarterly figures are available for inspection on request.

**6. Monitoring techniques**

**Conditions 6.1 to 6.10:**

Continuous emissions monitors (CEMs) were operational at the time of the inspection:

- Readings were on clear display to operating staff.
- Alarm activations are automatically recorded.
- Analysers are maintained and calibrated. Service reports are reviewed by email.
- Ducts are fitted with sampling points.
- Each cremator has a gas meter.

**7. Controlling techniques**

**Conditions 7.1 to 7.20:**

Control techniques are designed to minimise emissions from the cremation process as far as practicable:

- Cremators appear to be designed and operated to minimise emissions during charging.
- The volume of the secondary combustion chamber is to be confirmed with the residence time calculation.
- Cremator charge systems are interlocked.
- Cremators and ductwork were gas-tight.
- It is recommended that funeral directors be periodically reminded about coffin construction.
- Construction standards for cardboard and wicker coffins are noted. Cardboard coffins in particular must not contain chlorine in the wet strength agent e.g. not using polyamidoamine-epichlorhydrin based resin (PAA-E).
- 100% of cremators are abated for mercury (single abatement plant serves multiple cremators).
- The by-pass system has been used, however the correct notifications were made, and the bypass event was less than 48-hours.
- Dusty filter wastes are contained.
- Calcination was complete on rake-out of remains.
- Dusty emissions from cremated remains were minimised as far as practicable.
- A simple plan for mass fatalities is in place.

**8. Reporting and notifying**

**Conditions 8.1 to 8.12:**

Reporting and notifications:

- The 2014 CAMEO certificate was received.
- Monthly cremation reports are received by email. Many thanks.
- Monthly reports indicate that few secondary combustion chamber temperature excursions are reported.
- Extractive sampling results are required within 8 weeks of the sampling date.

**9. Maintenance**

**Conditions 9.1 to 9.3:**

A maintenance programme for the cremators is in place.

- A maintenance programme is in place.
- A record of reagent use is kept.
- Cremator service reports are emailed on receipt.

10. Training

Conditions 10.1 to  
10.2:

Training certificates for cremator operators are displayed in the crematory area.

11. Logbook

Conditions 11.1 to  
11.3:

Records amounting to the logbook are generally available on site or on request.

**Requirements for action:** *You must ensure that requirements are completed within any timescale detailed below, otherwise the requirement must be implemented immediately (i.e. without delay):*

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1. **Extractive Emissions Monitoring.**

Please ensure that at least 7-days prior notification of the extractive testing is received.

Signed:



**Environmental Health Officer**

Date of Report:

**19<sup>th</sup> November 2015**