

**CHARNWOOD BOROUGH COUNCIL****POLLUTION PREVENTION AND CONTROL ACT 1999
ENVIRONMENTAL PERMITTING (ENGLAND AND WALES)
REGULATIONS 2016****PERMIT REF. NO. 009**

Charnwood Borough Council hereby permits, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

Dignity Caring Funerals Ltd

whose registered office is:

4 King Edwards Court, Sutton Coldfield , West Midlands. B73 6AP

To operate a crematorium at:

Loughborough Crematorium Leicester Road, Loughborough

subject to the conditions outlined in this document. The conditions contained herein shall apply from the date of the Permit unless otherwise stated.

Name	Date
Ann Green	21/03/17

Authorised on behalf of Charnwood Borough Council

Permit issued by:
Regulatory Services, Environmental Protection Southfields, Southfields Road,
Loughborough, Leicestershire LE11 2TX

Introductory note***This introductory note does not form a part of the permit***

The following Permit is issued under the Environmental Permitting (England and Wales) Regulations 2016 (SI 2016/1154), as amended, ("the EP Regulations") to operate an installation carrying out one or more of the activities: namely: the cremation of human remains (hereinafter referred to as the 'Activity').

Status Log

The status log of the permit sets out the permitting history, including any variations issued.

<u>Detail</u>	<u>Date</u>	<u>Comment</u>
Permit Issued	20 Oct 1992	
Permit Variations Issued	23 July 1998 29 June 2006 13 August 2008 1 st March 2010	Consolidated Permits Issued Consolidated Permits Issued Consolidated Permits Issued Consolidated Permits Issued
Variation Notice	30 April 2010	Additional condition added
Variation Notice	21 March 2011	Front Sheet and revised notes
Variation Notice	31 March 2014	Revised in line with mercury abatement plant
Variation Notice	21 March 2017	Revised Permit

Origins of the conditions contained in the permit

The Secretary of State has issued various guidance notes to local authorities to assist with determining conditions. The conditions within this permit have been derived from the following guidance note;

PG 5/2 (12) Statutory Guidance for Crematoria

Plant Detail

The purpose of the plant is to carry out the cremation of human remains, together with the coffin.

There are two cremators, 1xFTIII and 1xFTII located in the cremation room together with mercury abatement plant consisting of gas cooling and filtration equipment.

The installation boundary and key items of equipment mentioned in permit conditions are shown in the Appendices attached to this permit.

Plant Operation

The cremators comprise of a primary chamber into which the coffin is inserted and within which the primary combustion takes place. The primary chamber is equipped with a single burner and two sets of air jets. Waste gas produced from this phase of the process exits the primary chamber via transfer ports in the chamber sidewall into the secondary combustion zone in which gas phase combustion takes place.

The flue gases make numerous passes through the secondary combustion zone, where the temperature is maintained at 850°C. Temperatures within the primary and secondary chambers are measured by thermocouples which relay data to the PC control station.

Flue gas from the cremators enters an air to water cooler (boiler) via refractory lined ducts to cool the gases too approximately 120-150°C. A reagent additive **Factivate** is added to the flue gasses before they pass through a cyclone to remove coarse particles and onto a fabric filter. The adsorption of mercury, dioxins and furans occurs with the Factivate in the air stream and in the filter.

Principle Emissions

Emission Point		Emissions
1.	Stack containing the two flues from both cremators	Particulate matter from: -Alkali compounds added to flue gasses to control acid gas (HCL) -activated carbon powder used to control dioxins and mercury emissions -incomplete combustion, char and soot particles.

End of Introductory Note.

The above named company is permitted to operate a crematorium activity subject to compliance with the following conditions:

Residual BAT condition

The best available techniques shall be used to prevent, or where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the activity which is not specifically regulated by any condition of this permit.

Conditions

1. If the operator proposes to make a change in operation of the installation he shall, at least 14 days before making the change, notify Charnwood Borough Council in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition 'change of operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.
2. The operator shall send Charnwood Borough Council, by no later than 1 April each year, a certificate issued by the CAMEO Burden Sharing Scheme or appropriate evidence from a comparable audited burden sharing arrangement or scheme which specifies, (excluding those cremations involving stillbirths, neonatal deaths, and deaths of infants under 5 years old):-
 - a) the total number of cremations in the previous 12 months; and
 - b) the number of cremations undertaken in the previous 12 months in cremators fitted with operational mercury abatement equipment; or
 - c) the proportion of cremations undertaken in the previous 12 months subject to burden sharing arrangements under which money is paid for the benefit of abated crematoria; or
 - d) in cases where operational mercury abatement equipment is fitted but fewer than 50% of cremations at the installation were undertaken in cremators fitted with such equipment in the previous 12 months, the relevant information in both b) and c).

Emission Limits, monitoring and other provisions

3. The emission requirements and methods and frequency of monitoring set out in Table 1 shall be complied with. Sampling shall be representative.

Table 1			
Pollutant	Concentration Limits	Type of monitoring	Monitoring Frequency
Mercury	50 micrograms/ m ³	Periodic	Annual
Hydrogen chloride	30 mg/ m ³ hourly average	Periodic	Annual
Total particle matter	20mg/m ³ Hourly average	Filter leak monitor <ul style="list-style-type: none">) Provide visual alarms and record levels and alarms) Set reference level at which alarms will activate Plus Service instrumentation according to manufacture's instructions Plus Periodic monitoring	Continuous Plus Annual Plus Every 3 years
Carbon monoxide	100mg/mg3 Reported as 2 x 30minute averages	Qualitative monitoring <ul style="list-style-type: none">) Record data at 15 sec intervals or less) Provide visual alarms and record alarm events Plus Periodic test: <ul style="list-style-type: none">) Validation of continuous monitor output through comparison with periodic test results 	Continuous Plus Annual
Organic compounds	20mg/m ³ Averaged over an hour of cremation	Periodic	Annual
Plus	Combustion Provision	Type of monitoring	Monitoring Frequency
Temperature	Minimum of 800°C (1073K) in secondary combustion chamber	<ul style="list-style-type: none">) Measured at exit of secondary combustion zone, at last measuring thermocouple) Automatically record temperature) Visual alarm when temp falls below 800°C) Record alarm activations) Interlock to prevent loading below 800°C 	Continuous
Residence time	Minimum of 2 seconds	Measurement and calculation of volume rate of the flue gases throughout the cremation cycle at the cremator exit	On commissioning
Oxygen	Measured wet or dry, minimum average 6%and minimum 3%	<ul style="list-style-type: none">) Record concentration at outlet of secondary combustion zone) Visual alarm and record alarm activations) During discontinuous tests, continuous reference oxygen 	Continuous

		measurement at the same sampling location as the parameters tested.	
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All pollutant concentrations shall be expressed at reference conditions; 273 K, 101.3 kPa and 11% oxygen, dry gas.

4. The introduction of dilution air to achieve the emissions concentration limits specified in condition 3 above shall not be permitted.
5. All Continuous Emission Monitors (CEM) shall provide reliable data for >95% of the operating time. A manual or automatic procedure shall be in place to detect instrument malfunction and to monitor instrument availability.
6. The temperature of combustion gases at the last admission of secondary air into and at the exit from the secondary combustion zone must be continuously monitored and recorded. An alarm shall be triggered when the temperature in the secondary combustion zone falls below 1123°K (850°C).
7. An interlock shall prevent the cremator loading when conditions 6 or 36 are not met.
8. In the event of the crematoria plant being unable to maintain compliance with condition 6 and 36 the following emission limit will be required to be achieved:

Pollutant	Concentration	Type of Monitoring	Monitoring Frequency
Polychlorinated dibenzo-p-dioxin and furan (PCDD/F)	0.1 nanogram/m ³ as ITEQ	Periodic	Upon commissioning of new or replacement cremators

9. The compliance with condition 36 relating to the residence time of gases in the secondary combustion zone shall be demonstrated by measurement and calculation of the volume flow rate of gases through the cremators when any new cremators are commissioned.

Gas usage, carbon dioxide emissions and carbon footprint

10. The operator shall keep a record of the quarterly gas consumption for the site which shall be made available for inspection by an authorised officer of Charnwood Borough Council on request.
11. Consumption shall be converted into the CO₂ equivalent emission using the following conversion equation:

Gas usage (kWh) X conversion factor =KgCO₂e

Monitoring, investigations and recording

12. The operator shall monitor emissions and make tests and inspections of the process. All sampling and tests required must be carried out when the cremator is operated at its usual operating capacity. The emissions which are required to be sampled are given in condition 3 above, together with their sampling frequency and suggested sampling technique.
13. The oxygen concentration at the outlet from the secondary combustion zone and at the point of continuous measurement of parameters referred to in condition 3 shall be continuously monitored.
14. Visual and olfactory assessments of emissions emanating from the top of the chimney stack shall be made at least once a day from within the crematorium grounds, in particular to confirm continued operation of the particulate matter continuous monitoring instrument. Remedial action must be taken immediately in the case of abnormal emissions.
15. A summary of continuous monitoring results shall be forwarded to the local authority at least every twelve months. This information shall include the information outlined in paragraph 4.37 of the Secretary of State's Process Guidance Note for Crematoria (and the reporting template produced by DEFRA).

Information required by regulator

16. The results of all monitoring and inspections (including continuous monitor charts and records) shall be recorded and retained at the crematorium for a minimum of two years and made available by the operator for examination by the local authority inspector. The operator will investigate any adverse results and take any corrective action immediately, and the action taken recorded in a log book.
17. The results of all non-continuous emission testing shall be forwarded to the local authority within 8 weeks of the completion of the sampling.

Visible and odorous emissions

18. All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist. All emissions to air shall be free from persistent fume and free from droplets.
19. Emissions from the cremator shall, in normal operation, be free from visible smoke and no emission from the cremator shall exceed the equivalent of Ringelmann Shade 1 (BS 2742: 1969).

20. All emissions shall be free from offensive odour beyond the process boundary as perceived by the inspector.

Abnormal events

21. In any case where the emission measurement exceeds the concentration limits specified, the results shall be forwarded to the local authority. Where any emission concentration is more than twice the specified emission concentration limit, the local authority shall be advised immediately.
22. Where abnormal emissions, malfunctions or breakdown leading to abnormal emissions occur the Operator shall.
-) Investigate immediately and undertake corrective action
 -) Adjust the process or activity to minimise those emissions and
 -) Promptly record the events and actions taken in the log book (within one working day)
23. The Regulator shall be informed immediately by telephone where;
-) The emission is likely to have an effect on the local community or
 -) In the event of the failure of key arrestment plant, for example flue gas cleaning plant or the use of the dump stack.

Continuous monitoring

24. All continuous monitoring instruments shall be checked daily and calibrated in accordance with the manufacturer's recommendations and at least once a year.
25. All continuous monitoring readings shall be on display to appropriately trained staff.
26. All continuous monitoring instruments shall be fitted with audible and visual alarms, situated to warn the operator of arrestment plant failure or malfunction.
27. The activation of alarms shall be automatically recorded. Records of the activations shall be made available to an authorised officer of Charnwood Borough Council on request.
28. All continuous monitoring equipment shall be operated, maintained and calibrated in accordance with the manufacturer's instructions. Documented evidence of maintenance and calibration results shall be recorded in the

logbook and made available for inspection by an authorised officer of Charnwood Borough Council on request.

Calibration and compliance monitoring

29. Calibration and compliance monitoring shall meet the following requirements as appropriate.

No result obtained from non-continuous monitoring shall exceed the emission concentration limit specified in condition 3 except where either:-

- a) Data is obtained over at least 5 sampling hours in increments of 15 minutes or less, or
- b) At least 20 results are obtained where sampling time increments of more than 15 minutes are involved
And in the case of a) or b)
- c) No daily mean of all 15 minutes mean emissions concentrations shall exceed the specified emission concentration limits during normal operation (excluding start-up and shut-down)

And

- d) No 15 minute mean emissions concentration shall exceed twice the specified emissions concentration limits during normal operations (excluding start-up and shut-down)

30. Non- continuous emissions monitoring of particulate matter should be carried out according to the main procedural requirements of BS ISO 9096:2003, with averages taken over operating periods, excluding start up and shutdown.

Coffin materials and cremator design

31. PVC and melamine materials shall not be cremated. Cardboard coffins shall not contain chlorine in the wet-strength agent. Packaging for stillbirth, neonatal and foetal remains shall not include chlorinate plastics.
32. Coffins containing lead or zinc shall not be cremated.
33. The cremator shall be designed and operated in order to prevent the discharge of smoke, fumes, or other substances during charging.
34. The cremator and all ductwork shall be made and maintained leakproof if under negative pressure and gastight if under positive pressure to prevent the escape of gases from the ductwork or cremator to the air.

Good combustions

35. All cremators shall be designed to ensure complete combustion and shall be fitted with a secondary combustion zone. The temperature of gases at the entrance to and exit from the secondary combustion zone shall be
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continuously monitored and continuously recorded. Visual alarms must be triggered when the temperature in the secondary combustion zone falls below that specified in condition 36 below.

36. The gases shall be held at 1123K (850°C) for two seconds in the secondary combustion zone. The concentration of oxygen at the outlet of the secondary combustion zone shall be not more than 6% by volume if measured on a wet basis or an average of 6% by volume with a minimum of 3% by volume if measured dry.
37. The charging system shall be interlocked to prevent the introduction of a coffin to the primary combustion zone unless the secondary combustion zone temperature exceeds that specified in condition 36 relevant to the cremator residence time of gases in the secondary combustion zone.

Cremated remains

38. The remains in the cremator shall only be moved when calcination is completed.
39. The removal of ash and non-combustible residues shall be undertaken carefully so as to prevent dust emissions. Cremated remains shall be moved and stored in a covered container.
40. Dust emissions during the treatment of cremated remains shall be minimised. In meeting this requirement, all activities involving the handling of cremated remains which are likely to generate fugitive dust shall be undertaken in the ash processor and the ash transfer vent with the dust extraction facilities in operation

It is acceptable to monitor emissions from any arrestment plant fitted on commissioning testing only. Subsequent performance can be demonstrated indicatively, for example by the use of a pressure drop indicator on the bag filter.

Dispersion and dilution

41. The chimney height shall be 12.5 metres above ground level and 4.5 metres above the roof ridge level.
42. Chimneys or vents shall be designed to achieve an efflux velocity of not less than 15m/sec in normal operation.
43. Chimney flues and the ductwork leading to the chimney shall be insulated to minimise the cooling of waste gases and prevent liquid condensation on internal surfaces.

Chimney flues and ductwork shall be cleaned every 6 months to prevent accumulation of material. Care shall be taken in handling residues produced whenever the chimney flues and ductwork are cleaned. (Operators should bear in mind their obligations under waste disposal legislation as to the safe disposal of these residues. The Environment Agency will advise on suitable disposal outlets).

44. Chimneys or process vents shall not be fitted with any restriction at the final opening, for example a plate, cap or cowl, where it is necessary to achieve dispersion of the residual pollutants.

Management

45. A nominated person shall, at all times, be responsible for the implementation of the conditions of this Permit. Charnwood Borough Council will be informed within 21 days of issue of the Permit of the name of the nominated person. Any changes in the identity of the person so nominated under this condition shall be notified to Charnwood Borough Council within 21 days of the changing taking place.

Adequate arrangements shall be made for deputising for the nominated person in the event of a holiday, sickness or other absence.

46. Effective preventative maintenance shall be employed on all aspects of the process including all plant, buildings and the equipment concerned with the control of emissions to air. In particular:
-) A Written maintenance, inspection and replacement programme for all aspects of the process shall be prepared, implemented and maintained and it shall be made available for inspection by authorised officers from Charnwood Borough Council
 -) Daily and weekly maintenance checks shall be made on the cremators and other plant associated with pollution control equipment. Records of the checks shall be made available to the local authority inspector on request.
47. Essential spares and consumables, particularly those subject to continual wear, shall be held on site when the supplier is not able to provide items from stock within one working day, so that plant breakdowns can be rectified rapidly.

Appropriate management system

48. The activity shall operate in accordance with an effective management system. This shall include a commitment to achieving compliance with the permit conditions and ensuring LAPC considerations are taken account of in the day-to-day running of the process. It may include establishing objectives for improved environmental performance by setting targets, measuring
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progress and revising the objectives according to results. The system shall include managing risks under normal operating conditions and in accident and emergency situations.

Training

49. Persons employed on the premises, whether employed by the company, or otherwise, shall be given such information, training and supervision as is necessary for the achievement of compliance with this Permit. Matters covered by such information in training shall include:-

- a) Start-up and shut-down of process operations
- b) Plant failure and other emergencies
- c) Inspection and monitoring procedures as specified in these conditions.

All operating staff must hold certification from a suitable organisation of their proficiency in operating cremators or, in the case of unqualified staff, must be under the direction supervision of an experienced certified technician. Certified evidence of this proficiency must be made available to the inspector on request.

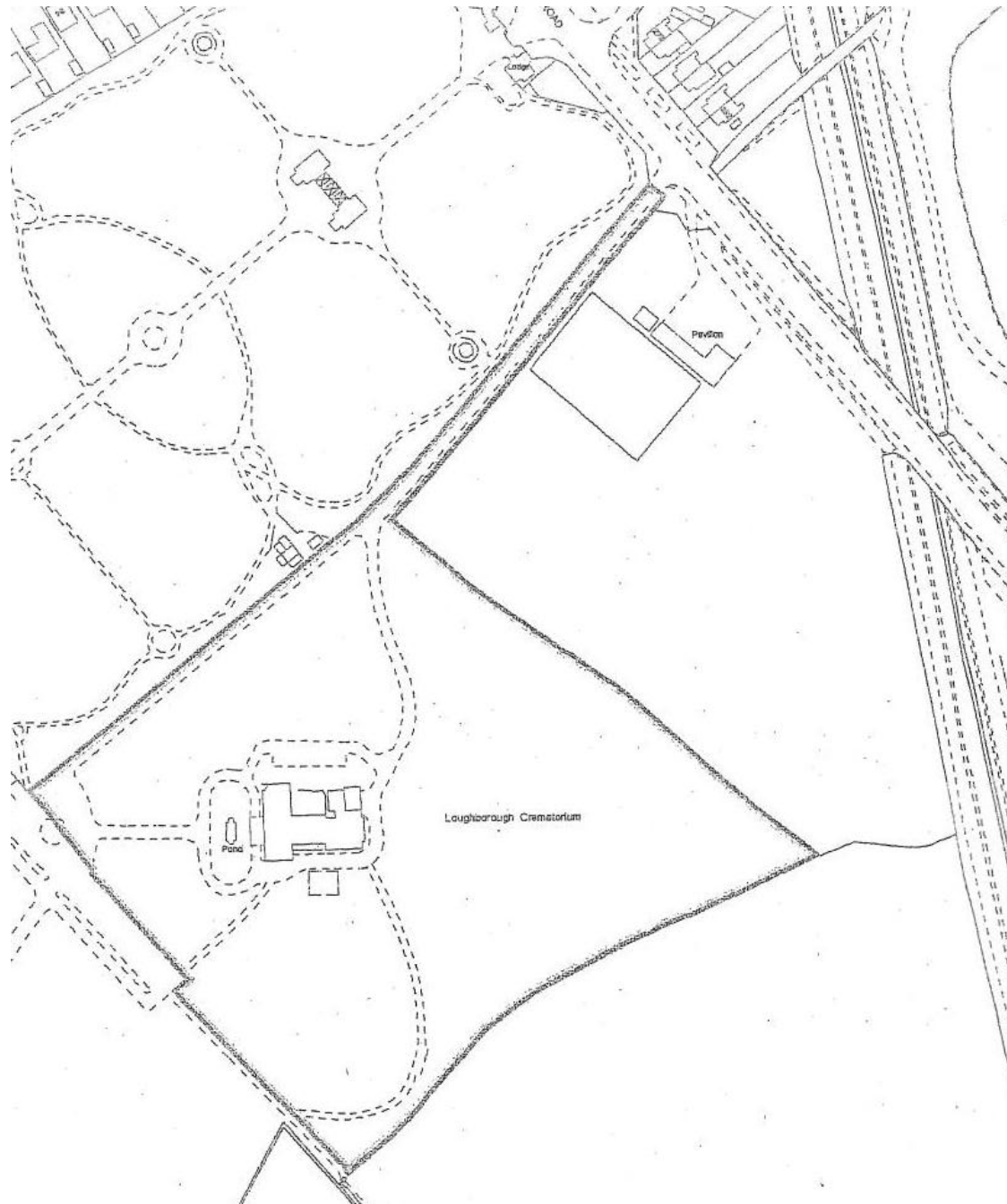
A list must be displayed at or near the cremator control panel which identifies all operators who hold such certification. This list must include the dates on which the training was given, certificate issued and the identify of the instructor.

No person other than those identified on the above list, their instructors, service engineers, or qualified representatives of the plant manufacturers may operate the cremator. Certified evidence of this proficiency must be made available to the inspector on request.

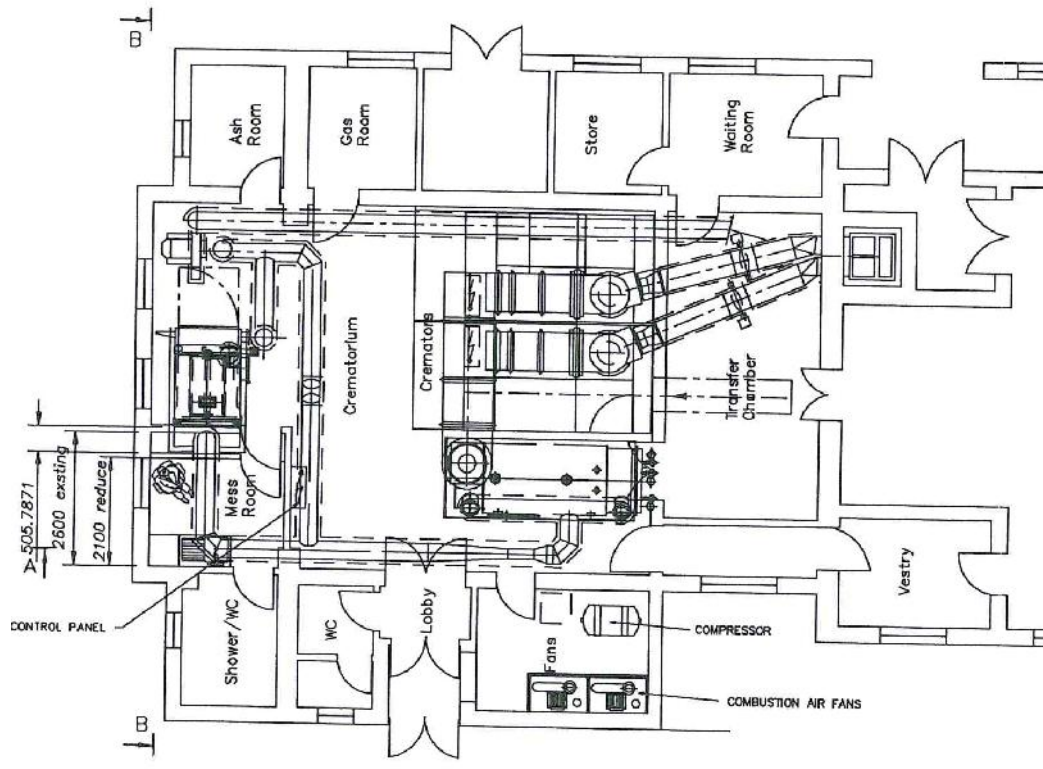
50. A statement of training requirements for each operational post and a training record shall be kept for each person whose actions may have an impact on the environment. These documents shall be kept available for inspection by authorised officers from Charnwood Borough Council.

End of conditions

Appendix 1 Site Location



Appendix 2 Site layout Plan



Explanatory Notes

These notes do not comprise part of the permit but contain guidance relevant to it.

Inspections

Regular inspections will be made by officers of Charnwood Borough Council (without prior notice), in order to check and ensure full compliance with this permit.

BAT (Best Available Techniques)

The Permit includes conditions that have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the implied condition that the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation. Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Change in Operation of the Installation

If you, the operator proposes to make a change in operation of the installation you must at least 14 days before making the change, notify Charnwood Borough Council in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. A 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

Health and Safety at Work and Other Statutory Requirements

The responsibility you have under legislation for Health, Safety and Welfare in the workplace remains in force. In addition, the Permit does not relieve you of your obligations to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency, Building Regulations approval, or some Waste Disposal Licences.

Submission of Information

Note that the Permit requires the submission of certain information to the Local Authority (LA). In addition, the LA has the power to seek further information at any time under the EP Regulations provided that it acts reasonably.

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the EP Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security. The onus is on the Operator to provide a clear justification for each item to be kept from the register. Applications for information to be excluded from the Public Register on grounds of National Security should be made to the Secretary of State.

Variations to the Permit

This Permit may be varied in the future (by the LA serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introduction will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the Permit

Where the Operator intends to cease the operation of an installation (in whole or in part) The LA should be informed in writing, such notification must include the information specified in the EP Regulations.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the LA considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit.

Annual Subsistence Fee

Under the EP Regulations the holder of a permit is required to pay a fee for the subsistence of the permit. This fee is payable annually on 1st April. You are advised that under the provisions of the EP Regulations, if you fail to pay the fee due promptly, Charnwood Borough Council may revoke the permit. You will be contacted separately each year in respect to this payment.

Talking to us

Please quote the Permit Number if you contact Charnwood Borough Council about this Permit. To contact Charnwood Borough Council please use the telephone number 01509 634636 or any other number notified in writing to the Operator by Charnwood Borough Council for that purpose.

Right To Appeal

Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State. Appeals must be sent within 6 months from the date of the permit (normally the date on the bottom of the permit).

Appeals should be addressed as follows:-

The Planning Inspectorate
Environmental Appeals Administration
Room 4/19 Eagle Wing
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN

An appeal will not suspend the effect of the conditions appealed against; the conditions must still be complied with.

There are no forms or charges for appealing. However for an appeal to be valid, appellants are legally required to provide information detailed below:

- i. A statement of the grounds of appeal
- ii. A copy of any relevant permit
- iii. A copy of any relevant correspondence between the appellant and the regulator
- iv. A statement indicating whether the appellant wishes the appeal to be in the form of a hearing or dealt with by way of written representations.

At the same time, the notice of appeal and documents (i) and (iv) must be sent to the Council.

In determining an appeal against one or more conditions, the Regulations allow the Inspector or Secretary of State to affirm or quash conditions or to add new conditions

You will be liable for prosecution if you fail to comply with the conditions of this permit. If found guilty, the maximum penalty for each offence if prosecuted in a magistrates Court is an unlimited fine and/or 12 months imprisonment. In a Crown Court it is an unlimited fine and/or a 5 years imprisonment.

Our enforcement of your permit will be in accordance with the Regulator's Compliance Code