Variation Notice with introductory note

Pollution Prevention and Control Regulations 2000

Sheffield Energy Recovery Facility
Veoila ES Sheffield Ltd
Bernard Road
Sheffield
South Yorkshire
S4 7YX

Variation Notice number

QP3936US

Permit number

BM4082

Introductory note

This introductory note does not form a part of the Variation Notice.

The following Notice is issued under Regulation 17 of The Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No. 1973 (as amended) (the "Regulations") to vary the conditions of Permit number BM4082 as amended (the "Permit") issued under the Regulations to operate an Incineration installation (the "Installation").

The Notice comprises: Schedule 1 containing conditions to be deleted; Schedule 2 conditions to be amended; and Schedule 3 conditions to be added. The Notice is subject to the express conditions set out in Schedules 1 to 3.

The Permit, as amended by this Variation Notice, contains conditions which have to be complied with. It should be noted that aspects of the operation of the Installation which are not regulated by those conditions are subject to the condition implied by Regulation 12(10) of the Regulations, 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.

Reason for Variation

The purpose of this variation to the Permit is to include the operation of the standby gas fired boilers within the scope of the Installation. A consolidated permit has been provided for clarity.

Brief description of the Installation regulated by this permit

The main purpose of the activity at the Installation is to burn mixed municipal waste and to recover energy in the form of heat for export to the district heating scheme and to generate electricity for export to the national grid.

The Installation comprises the entire incineration plant, including the incineration line, waste reception, storage, on-site pre-treatment facilities, waste fuel and air supply systems, boiler, facilities for the treatment of exhaust gases, on-site facilities for treatment and storage of residues and waste water, stack, devices and systems for controlling incineration operations, recording and monitoring conditions and standby boilers providing heat to the district heating scheme.

The Installation has a design capacity of 28 tonnes per hour, which approximates to 225,000 tonnes per annum at 8000 hours operation per annum. The thermal capacity of the grate is such that waste hourly throughput will vary between 16.8 and 28.0 tonnes per hour, depending upon the calorific value of the waste. There is one incineration line. The incineration process will generate a maximum of approximately 39 MWth of heat for export to the district heating scheme and 17.5 MW of electricity for export to the national grid.

Raw Materials

Waste is delivered to the plant in covered vehicles. These are first weighed before proceeding to the tipping hall. This is a building, maintained under slight negative pressure to minimise the risk of odours, dust or litter escaping from the building. The vehicles tip into a waste storage pit from where a grab transfers waste to the feed hopper of the combustion plant. The grab is also used to homogenise the waste and to remove any items not suitable for incineration as far as is practicable.

Hydrated lime for the flue gas cleaning process is delivered by bulk road tanker and offloaded pneumatically into a silo fitted with a dust filter.

Activated carbon for the flue gas cleaning process is delivered by bulk road tanker and off-loaded pneumatically into a silo fitted with a dust filter.

Solid urea for the flue gas cleaning process is delivered in bulk bags. A dedicated emptying station feeds the urea preparation and injection process.

Various water treatment chemicals are delivered in proprietary containers and stored in the appropriate contained areas.

A bunded fuel oil tank provides fuel oil for the site vehicles.

Various other materials including maintenance materials (oils, greases, antifreezes, welding gases and fire fighting agents) are stored in the appropriate manner.

Combustion Process

The incinerator hearth, an inclined reciprocating grate bar design, promotes continuous mixing of the waste and hence promotes good combustion. As the waste enters the incinerator, it passes through a drying zone, followed by a combustion zone and a burnout zone. Combustion air is extracted from within the tipping hall. Primary air is fed in below the waste through the grate bars and secondary air is injected above the waste mass to promote mixing for good combustion.

Urea is injected into the combustion gas path to react with the oxides of nitrogen, chemically reducing them to nitrogen and water.

Auxiliary natural gas burners are fitted for start-up sequencing and to maintain temperatures above 850℃ for 2 seconds at approxima tely 6% oxygen. The oxygen concentration and temperature are carefully controlled to promote combustion of organic matter.

Ash from the grate (“Bottom Ash”) is discharged from the lower end of the grate into a water filled quench pit. It is then removed from the quench pit by conveyor, to a Bottom Ash storage area located within the main incinerator building prior to off-site disposal. Ferrous metals are removed by magnetic separator and stored separately prior to recycling off-site. Liquids collected from the Bottom Ash and ferrous storage areas are returned to the ash quench pit.

Energy Recovery

The incinerator operates as a combined heat and power plant generating both electricity and supplying heat to an existing district heating scheme. Such a plant ranks more highly in the Government's Waste Strategy 2000 than an incinerator without the benefit of energy recovery.

Hot gases arising from the combustion of waste pass through a steam generator (boiler) consisting of a series of heat exchangers, which remove heat, from the gas stream to evaporate water and hence generate steam. The heat recovery system will rapidly reduce the waste gas temperature through the temperature range at which dioxins and furans can form thus inhibiting their formation.

Steam from the heat recovery boiler is fed to a steam turbine driven generator, which supplies electricity to the National Grid. Pass out steam from the turbine, together with surplus steam from the boiler, is be used for heating water supplied to the District heating Scheme.

Water for steam generation is taken from a town's water main and is treated prior to use in the boiler. Exhaust steam from the turbine steam is condensed in air-cooled condensers and the condensate returned to the boiler.

Soot blowing facilities are included to remove particulate matter fouling the boiler tubes and feeding this material into the Bottom Ash collecting system.

Gas Cleaning

The abatement of oxides of nitrogen (NO_x) is achieved by the use of both controlled air combustion techniques in the combustion chamber and selective non-catalytic reduction ("SNCR"). The SNCR is based on the injection of urea solution into the combustion gas stream. Downstream of the boiler, lime is injected to neutralise acid gases and activated carbon is injected to absorb (primarily) dioxins, furans and dioxin-like PCBs ("PCBs"), volatile organic compounds ("VOCs") and mercury. The lime injection rate is controlled, in relation to the measurement of acid gases to optimise the efficiency of gas scrubbing and lime usage. Lime usage is further optimised by the use of the emission monitoring system control and the recirculation of spent lime. Bag filters remove particulate matter carried with the combustion gases, including lime which has been injected upstream of the bag filter. Pulses of compressed air are used to remove the accumulated particulate ("APC Residues") from the bags. The APC Residues fall into a collection hopper and are then conveyed to a storage silo. The cleaned gas then discharges to atmosphere via a 76 metre stack at an efflux velocity in excess of 15 m sec^{-1} at maximum throughput.

Ancillary Operations

Demineralised water is required to compensate for steam system losses. An ion exchange demineralisation plant provides the make-up water. The ion exchange resins are regenerated using sodium hydroxide and hydrochloric acid and the regeneration effluent is routed to the water treatment plant, with the boiler blowdown and other process effluent, for treatment prior to reuse within the Installation.

Ash Handling and Disposal

Bottom Ash and APC Residues are sent separately for disposal or recovery, off site, by licensed contractors, subject to waste licensing legislation. The Operator is investigating options for the reuse and recycling of the ash. The ferrous metals are sent for recovery off site by licensed contractors subject to waste licensing legislation. The Bottom Ash is periodically monitored to ensure effective burn out is being achieved. All other solid waste residues arising from the operation of the process are removed from site for disposal by suitable contractors.

All APC Residues are transported and handled within enclosed systems.

Liquid Effluent and Site Drainage

All effluent (including excess rainwater) arising from the Installation, which cannot be recycled, is discharged to sewer.

Emissions Monitoring

Emissions from the main stack are continuously monitored for:- particulate, carbon monoxide (CO), ammonia (NH_3), sulphur dioxide (SO_2), hydrogen chloride (HCl), oxygen (O_2), oxides of nitrogen (NO and NO_2 expressed as NO_2) and volatile organic compounds (VOCs as Total Organic Carbon ("TOC")). In addition periodic measurements will be carried out for hydrogen fluoride (HF), metals (cadmium (Cd), thallium (Tl), mercury (Hg), antimony (Sb), arsenic (As),lead (Pb), chromium (Cr), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni), vanadium (V)), dioxins/furans, PCBs, and nitrous oxide (N_2O). The frequency for periodic measurements is specified in the Permit.

In addition, the flue gas flow is monitored continuously to determine the mass release of pollutants.

Gas-fired standby boilers

The Installation also includes 5 gas-fired hot water boilers (direct-fired calorifiers) providing standby heating capacity to the District Heating Scheme in the event that the main Energy from Waste Plant is out of service. The total installed design thermal input is 54.26MW(Th). The boilers will only burn natural gas. The boilers are connected to multi-flue chimneys discharging combustion gases to atmosphere.

Other PPC Permits relating to this Installation		
Permit holder	Permit Number	Date of Issue
None		

Superseded Licenses/Consents/Authorisations relating to this Installation		
Holder	Reference Number	Date of Issue
Sheffield CC	AG7784	16/07/93

Talking to us

If you contact the Agency about this Permit please quote the Permit Number.

The Operator should use the Emergency Hotline telephone number (0800 80 70 60) or any other number notified to it to give a notification under condition 5.1.1 of the Permit.

Confidentiality

The Permit/Variation requires the Operator to provide information to the Agency. The Agency will place the information onto the public registers in accordance with the requirements of the PPC Regulations. If the Operator considers that any information provided is commercially confidential, it may apply to the Agency to have such information withheld from the register as provided in the PPC Regulations. To enable the Agency to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

Variations to the permit

This Permit may be varied in the future. The Status Log within the Introductory Note to any such variation will include summary details of the 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

Before this Permit can be wholly or partially surrendered, an application to surrender the Permit has to be made. For the applicant to be successful, they would have to be able to demonstrate to the Agency, in accordance with Regulation 19 of the PPC Regulations, that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 18 of the PPC Regulations. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the Installation or will not ensure compliance with the conditions of the transferred Permit. If the Permit authorises the carrying out of a specified waste management activity, then there is a further requirement that the transferee is considered to be a “fit and proper person” to carry out that activity.

Status Log

Detail	Date	Comment
Application BM4082	Received 10/12/01	
Response to request for information	Request dated 05/03/02	Response dated 03/05/02
Further Information	Received 10/05/02	Methodology for soil sampling
Further Information	Received 13/06/02	Summary of air dispersion sensitivity analysis and comparison of annual average NO_x concentrations with existing plant.
Further Information	Received 14/06/02	Comments on use of FGR
Further Information	Received 17/06/02	Clarification of site plan, CFD analysis, combustion temperature, sample point standards, energy factors, emissions of chromium.
Further Information	Received 17/06/02	Clarification of use of raw materials, use of carbon monoxide monitoring, FGR, surface water drainage, background noise monitoring
Further Information	Received 05/08/02	Assessment of metal deposition rates
Further Information	Received 22/08/02	Change of registered office address
Further Information	Received 27/08/02	Clarification of HF monitoring, fuel oil storage conditions, feedstock waste definitions, incorporation of formal environmental management system.
Permit BM4082	Determined 04/09/02	
Variation Application Received	Received 16/03/05	WIR variation
Variation PP3332SL	Determined 21/12/05	Consolidated permit issued
Variation QP3936US	Received 21/08/07 Determined 01/11/07	Inclusion of the standby boilers within the Installation. Consolidated permit issued

End of introductory Note

Variation Notice
Pollution Prevention and Control
(England and Wales) Regulations 2000

ENVIRONMENT AGENCY

Variation Notice

Permit number

BM4082 (the "Permit")

Variation Notice number
QP3936US

The Environment Agency in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I. 2000 No. 1973) (as amended) (the "Regulations"), hereby varies the Permit held by
Veolia ES Sheffield Ltd (the "Operator"),

Whose Registered Office is
Veolia House,
154a Pentonville Road,
London
N1 9PE

Company registration number 3709317

which relates to the operation of the Installation at
Sheffield Energy Recovery Facility
Bernard Road
Sheffield
South Yorkshire
S4 7YX
(the "Installation"**)**

to the extent set out in Schedules 1 to 3 of this Variation Notice.

This notice shall take effect from 1 November 2007 at 00.01hours

Signed

I Foster

Authorised to sign on behalf of the Environment Agency

Date

SCHEDULE 1 - CONDITIONS TO BE DELETED

1. All the conditions in Parts 1 to 11 and schedules 1 to 3 of Permit Number BM4082 as varied by PP3332SL

SCHEDULE 2 - CONDITIONS TO BE AMENDED

1. None

SCHEDULE 3 CONDITIONS TO BE ADDED

1 All the conditions in Parts 1 to 11 and schedules 1 to 3 of Permit Number BM4082 as varied by this variation notice QP3936US

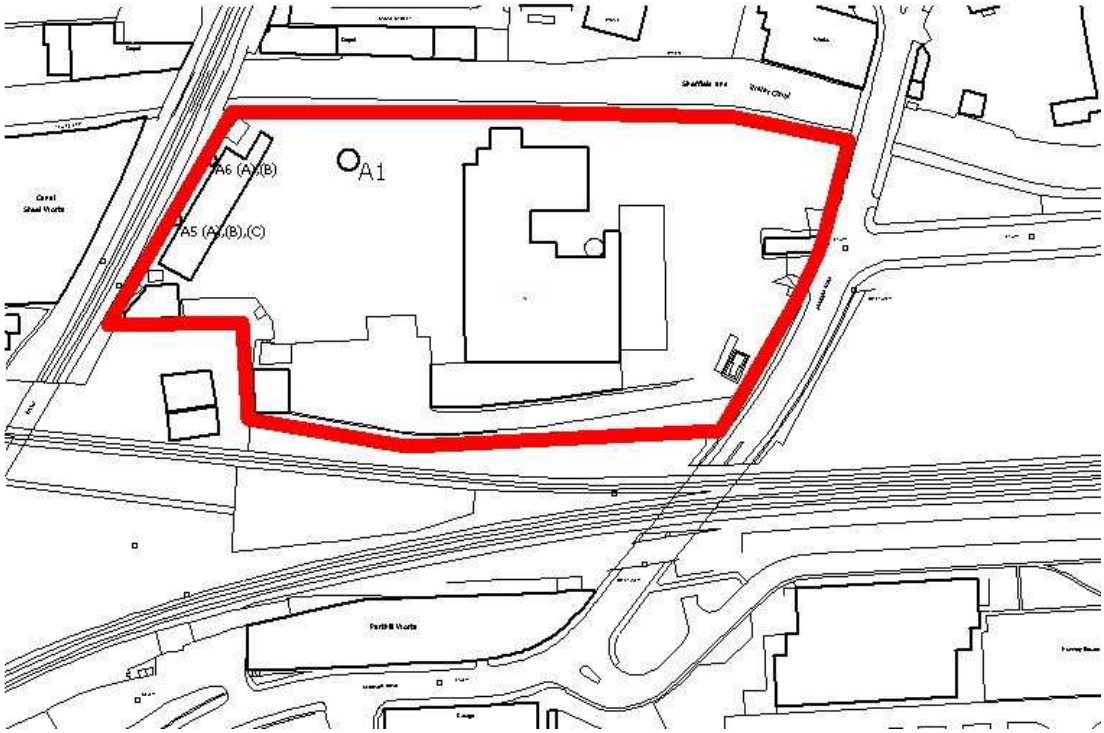
The Introductory Note, which is not part of the permit, has also been amended

1 The permitted installation

1.1.1 The Operator is authorised to carry out the activities and/or the associated activities specified in Table 1.1.1.

Table 1.1.1 - Permitted Activities		
Activity listed in Schedule 1 of the PPC Regulations or Directly- Associated Activity	**Description of specified activity**	**Limits of specified activity**
Section 5.1A(1)(c) :	The incineration of non-hazardous wastes in an incineration plant with a capacity of 1 tonne or more per hour.	Receipt of waste at incinerator to incineration of waste..
Section 1.1A(1)(a)	Burning of fuel in appliances with an aggregate thermal input of 50MW or more.	From receipt of fuel gas to connection to district heating scheme
Directly Associated Activities		
Waste feedstock management.	Receipt of waste on site, tipping and mixing in bunker and delivery of mixed feedstock to incinerator grate feed system.	From receipt of waste on site to delivery to incinerator.
Carbon and lime storage	Storage of carbon and lime on site	From receipt of carbon and lime on site to delivery to the abatement system.
Steam and electricity generation	Removal of useful heat from incineration waste gases in a boiler system to produce steam and the use of the steam in a turbine to produce electricity.	From receipt of feedwater by the water treatment plant to export of electricity and heat from the installation
Air Pollution Control	The removal of certain pollutants from the waste gas stream by the operation of the reactor and bag filter, the recirculation of residues and the removal and containment of the bag filter residues.	From delivery of carbon and lime to the scrubber/filter to storage of the residues.
Management of bottom ash and air pollution control residues	The quenching and storage of bottom ash and the storage of waste boiler cleaning ash and air pollution control residues.	From production and containment of on-site waste to collection for disposal off site.

1.1.2 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the area shown edged in red on the plan below



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2 Operational Matters

2.1 Management techniques and control

2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be managed and controlled as described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency.

Table 2.1.1 : Management and control

Description	Parts	Date Received
Application	The response to question 2.1 given in section 4 of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	Response to questions 3, 19 and 20	03/05/02
Further Information	Headed 'Environmental Management System'	27/08/02

2.1.2 All plant, equipment and technical means used in operating the Permitted Installation shall be maintained in good operating condition.

2.1.3 The Permitted Installation shall be supervised by Staff who are suitably trained and fully conversant with the requirements of this Permit.

2.1.4 A copy of this Permit and those parts of the Application referred to in this Permit shall be available, at all times, for reference by all Staff carrying out work subject to the requirements of the Permit.

2.1.5 All Staff shall be fully conversant with those aspects of the Permit conditions, which are relevant to their duties and shall be provided with appropriate training and written operating instructions to enable them to carry out their duties.

2.2 Raw materials (including water)

2.2.1 The Operator shall, subject to the conditions of this Permit, use raw materials (including water) as described in the documentation specified in Table 2.2.1, or as otherwise agreed in writing by the Agency.

Table 2.2.1 : Raw materials (including water)		
Description	**Parts**	**Date Received**
Application	The response to question 2.2 given in section 5 and figures 6.4 and 6.7 of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 5/03/02	Response to question 4, excluding references to sulphuric acid in box 1.	03/05/02
Further information	Response to further questions raised 14/6/02, question 1	17/06/02
Further Information	Headed 'Fuel Oil Storage'	27/08/02

2.2.2 The materials detailed in Table 2.2.2 shall be stored in the location, manner and storage conditions specified in that table.

Table 2.2.2: Raw Materials (including water)			
Material	**Location of Storage on site**	**Manner of Storage**	**Storage Conditions**
Municipal Waste	As detailed in the Application	Enclosed waste bunker	Dedicated contained concrete bunker
Lime	As detailed in the Application	Silo with self cleaning filter on vent.	Designated storage area with contained drainage
Urea	As detailed in the Application	Sealed bags	Designated storage area with contained drainage
Activated Carbon	As detailed in the Application	Silo with self cleaning filter on vent.	Designated storage area with contained drainage
Fuel oil for on site vehicles	As detailed in the Application	Bulk tanks	Bunded area, including transfer connections.
Lubricating oils and other maintenance fluids	As detailed in the application	Sealed drums and other sealed containers	Within bunded, covered storage area
Water treatment chemicals	As detailed in the application	Sealed drums and other sealed containers	Within bunded, covered storage area

2.3 Operating Techniques

2.3.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.3.1, or as otherwise agreed in writing by the Agency.

Table 2.3.1: Operating techniques		
Description	**Parts**	**Date Received**
Application	The response to questions 2.3 given in section 6 and annex C of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 5/03/02	Response to questions 5, 14, 15 and 21 and in appendices A and B of the response.	03/05/02
Further information	Whole document	14/06/02
Further information	Response to further questions raised 14/06/02, questions 2 to 5	17/06/02
Further information	Response to further questions raised 5/06/02, questions 2 and 3	17/06/02
Further Information	Headed 'Waste Categories'	27/08/02
Application for variation PP3332SL	The response to questions in sections C2.1, C2.2, C2.7 and C2.10 of the Application for variation	16/03/05
Application for variation QP3936US	The response to questions in sections C2.1, C2.2, C2.7 and C2.10 of the Application for variation	21/08/07

2.3.2 Only the wastes specified in Schedule 5 shall be incinerated in the Permitted Installation subject to the limitations and in quantities not exceeding those specified for the waste types specified in Table 2.3.2

Table 2.3.2: Permitted Waste Types		
Waste type	**Limitations**	**Maximum throughput**
Municipal waste	mixed municipal waste separately collected waste fractions garden and park wastes	225 000 tonnes/yr
Non-hazardous commercial and industrial wastes	Only in combination with mixed municipal waste	

2.3.3 Note 1: The Operator shall apply waste acceptance procedures with the objective of :

- Preventing hazardous waste being incinerated
- Ensuring waste is incinerated which supports auto-thermal combustion without the need for support fuel
- Ensuring that commercial and industrial wastes and separately collected municipal waste fractions are only accepted for incineration with energy recovery where there is no reasonable prospect of the waste being recycled or composted.

2.3.4 The Operator shall adopt procedures and practices to, as far as practicable, identify and manage the wastes delivered to the Permitted Installation such that the conditions of this Permit are not breached.

2.3.5 The Operator shall adopt effective procedures and practices to monitor and control pests, odour and litter.

2.3.6 The Operator shall carry out and record the results of a daily olfactory assessment along the boundary of the Permitted Installation.

2.3.7 Where other technical measures of control are used to supplement or replace emission limit values in accordance with Regulation 12(8) of the PPC Regulations, the Operator shall comply with the requirements specified in Table 2.3.6.

Table 2.3.6: Equivalent parameters and technical measures

Parameter or measure	Requirement or description of measure, and frequency if relevant
Bottom ash burn-out quality	The Permitted Installation must be operated to ensure that the bottom ash shall have a loss on ignition of less than 5% of the dry weight of the ash

2.3.8 Waste shall not be charged, or shall cease to be charged, into the incinerator if:

- the combustion chamber temperature is below, or falls below, 850^{o}C; or
- the average oxygen level is below, or falls below, 6% (wet) by volume; or
- any continuous emission limit value in Table 6.1.2(a) is exceeded; or
- any continuous emission limit value in Table 6.1.2 is exceeded, other than under abnormal operating conditions ; or
- monitoring results required to demonstrate compliance with any continuous emission limit value in Table 6.1.2 are unavailable other than under abnormal operating conditions.

2.3.9 The Operator shall operate at least one auxiliary burner in each line of the Permitted Installation at start-up or shut-down or whenever the operating temperature falls below that specified in condition 2.3.8, as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3. is maintained in the combustion chamber, such burner(s) may be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.

2.3.10 The Operator shall record the beginning and end of each period of abnormal operation.

2.3.11 During a period of abnormal operation, the Operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.

2.3.12 Where, during abnormal operation, any of the following situations arise, the Operator shall, as soon as is practicable, cease the burning of waste until normal operation can be restored:

- continuous measurement shows that an emission exceeds any emission limit value in Table 6.1.2, or continuous emission monitors are out of service, as the case may be, for a total of four hours uninterrupted duration;
- the cumulative duration of abnormal operation periods over one calendar year exceeds 60 hours on an incineration line;
- continuous measurement shows that an emission exceeds any emission limit value in Table 6.1.2 (a);
- the alternative techniques to demonstrate compliance with the abnormal operation emission limit value(s) in Table 6.1.2 (a), as detailed in the Application or as agreed in writing by the Agency, are unavailable.

2.3.13 The Operator shall interpret the end of the period of abnormal operation as the earliest of the following:

- when the failed equipment is repaired and brought back into normal operation;
- when the Operator initiates a shut-down of the waste combustion activity, as described in the Application;
- when a period of 4 hours has elapsed from the start of the abnormal operation;

- when, in any calendar year, an aggregated period of 60 hours abnormal operation has been reached for a given incineration line.

2.3.14 The bag filter bypass use shall be minimised and only used when feedstock waste is not present in the furnace, or in the event of an emergency. Any use of the bypass when waste is present in the furnace shall be notified to the Agency in accordance with condition 5.1.1.6. The CEM equipment shall be located such that releases from Release Point A1 shall be monitored (within the instrument range) during periods when the bag filter bypass operates.

2.3.15 The Operator shall reduce or close operations as soon as practical on becoming aware of a substantiated grounding of a visible plume from release point A1.

2.4 Groundwater protection

2.4.1 The Permitted Installation shall, subject to the conditions of this Permit, be controlled as described in the documentation specified in Table 2.4.1, or as otherwise agreed in writing by the Agency.

Table 2.4.1: Groundwater protection

Description	Parts	Date Received
Application	The response to questions 2.4 given in section 7 of the application	10/12/01

2.5 Waste handling and storage

2.5.1 The Operator shall maintain and operate all facilities for the storage and handling of waste on the Permitted Installation such that there are no releases to water or land during normal operation and that emissions to air and the risk of accidental release to water or land are minimised.

2.5.2 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of litter from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.5.3 The Operator shall, subject to the conditions of this Permit, handle and store waste as described in the documentation specified in Table 2.5.1, or as otherwise agreed in writing by the Agency.

Table 2.5.1: Waste handling and storage

Description	Parts	Date Received
Application	The response to question 2.5. given in section 8 of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	Response to question 7	03/05/02

2.5.4 Waste materials specified in Table 2.5.2 shall only be stored on the site in the location, manner and storage conditions specified in that Table.

Table 2.5.2: Waste stored on site			
Description of Waste	**Location of Storage on Site**	**Manner of Storage**	**Storage Conditions**
Reject loads and oversize	As detailed in the Application	Segregated area. Loose and liquid loads in containers	Impermeable hard standing within tipping hall.
Waste oil, grease and solvents	As detailed in the Application	Drums	Drums to be clearly marked, held on contained concrete hard standing
Bottom ash	As detailed in the Application	Dedicated storage bay	Covered concrete hard standing with contained drainage
APC Residues	As detailed in the Application	Silo and sealed big bags	Inside building in dedicated area with contained drainage
Metals for recycling	As detailed in the Application	Dedicated storage bays	Covered concrete hardstanding with contained drainage and three side walls.

2.5.5 Bottom Ash and APC Residues shall not be mixed prior to recovery / disposal.

2.5.6 Effective dust control measures shall be installed and used for the raw ash storage and processing and removal of products and unused and rejected wastes.

2.6 Waste recovery and disposal

2.6.1 Waste produced at the Permitted Installation shall be:

2.6.1.1 recovered to no lesser extent than described in the Application; and

2.6.1.2 where not recovered, disposed of while avoiding or reducing any impacts on the environment provided always that this is not done in any way that would have a greater effect on the environment than that described in the application.

2.6.2 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and, where relevant, removal date of any waste that is produced at the Permitted Installation.

2.6.3 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin and delivery date of any waste that is received for disposal or recovery at the Permitted Installation.

2.6.4 The Operator shall, subject to the conditions of this Permit, recover and dispose of waste as described in the documentation specified in Table 2.6.1, or as otherwise agreed in writing by the Agency.

Table 2.6.1: Waste recovery and disposal		
Description	**Parts**	**Date Received**
Application	The response to question 2.6 given in section 9 of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	Response to questions 8	03/05/02

2.6.5 Waste produced at the Permitted Installation shall, as a minimum, be sampled and analysed in accordance with Table 2.6.2. Additional samples shall be taken and tested and appropriate action taken whenever:

a. disposal or recovery routes change; and / or

b. it is suspected that the nature or composition of the waste has changed such that the route selected may no longer be appropriate.

Table 2.6.2 : Emission limits and monitoring frequency for solid residues				
Emission point reference	**Substance**	**Limit (including Reference Period)**	**Monitoring frequency**	**Monitoring method**
Bottom Ash	LOI	5% (dry weight)	Quarterly	Agency ash sampling protocol.

2.7 Energy Efficiency

2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by 31 January each year, providing the information required by condition 4.1.3.

2.7.2 The Operator shall maintain and update annually an energy management system which shall include, in particular, the monitoring of energy flows and targeting of areas for improving energy efficiency.

2.7.3 The Operator shall maintain and operate the Permitted Installation so as to secure energy efficiency, taking into account relevant guidance including the Agency's Energy Efficiency Horizontal Guidance Note as from time to time amended. Energy efficiency shall be secured in particular by:

- ensuring that the appropriate operating and maintenance systems are in place;
- ensuring that all plant is adequately insulated to minimise energy loss or gain;
- ensuring that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss;
- employing appropriate basic controls, such as simple sensors and timers, to avoid unnecessary discharge of heated water or air;
- where building services constitute more than 5% of the total energy consumption of the Installation, identifying and employing the appropriate energy efficiency techniques for building services, having regard in particular to the Building services part of the Agency's Energy Efficiency Horizontal Guidance Note H2; and
- maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated

environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.7.4 The Operator shall, subject to the conditions of this Permit, use energy as described in the documentation specified in Table 2.7.1, or as otherwise agreed in writing by the Agency.

Table 2.7 1: Energy efficiency

Description	Parts	Date Received
Application	The response to question 2.7 given in section 10 of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	Response to questions 9 and 23	03/05/02
Further Information	Response to further questions raised 5/06/02, question 5.	17/06/02

2.8 Accident prevention and control

2.8.1 The Operator shall, subject to the conditions of this Permit, prevent and limit the consequences of accidents as described in the documentation specified in Table 2.8.1, or as otherwise agreed in writing by the Agency.

Table 2.8.1 : Accident prevention and control

Description	Parts	Date Received
Application	The response to question 2.8 given in section 11 of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	Response to questions 10	03/05/02

2.9 Noise and vibration

2.9.1 The Operator shall, subject to the conditions of this Permit, control noise and vibration as described in the documentation specified in Table 2.9.1, or as otherwise agreed in writing by the Agency.

Table 2.9.1 : Noise and vibration		
Description	**Parts**	**Date Received**
Application	The response to question 2.9 given in section 12 of the application	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	Response to questions 11 and 24	03/05/02
Further Information	Response to further questions raised 14/06/02, question 6	17/06/02

2.9.2 The Operator shall maintain a written Noise and Vibration Management Plan with the objective of reducing to a minimum noise and vibration emissions, so as to avoid harm or nuisance within the local community. The plan shall include an inspection and corrective maintenance regime for the noise abatement measures adopted within the Permitted Installation. The plan shall also include a procedure for recording, investigating and resolving noise complaints.

2.10 Monitoring

2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Tables 6.1.2 and 6.1.2a, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.

2.10.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in Tables 6.1.2 and 6.1.2a, the Operator shall perform a QAL2 test as specified in BS EN 14181 at least every three years and when there are significant changes to either the process, the fuel used or to the CEMs themselves.

2.10.3 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in Tables 6.1.2 and 6.1.2a, the Operator shall perform an Annual Surveillance Test (AST) at least annually, as specified within BS EN 14181.

2.10.4 The Operator shall carry out environmental or other specified substance monitoring to the frequencies and methods described in Table 2.10.1

Table 2.10.1 : Other monitoring requirements				
Emission point reference or source or description of point of measurement	**Substance or parameter**	**Monitoring frequency**	**Monitoring method**	**Other specifications**
Emission Point A1	temperature	continuous	As described in the Application	
Emission Point A1	pressure	continuous	As described in the Application	
Emission Point A1	oxygen content	continuous	As described in the Application	
Emission Point A1	water vapour content	continuous	As described in the Application	
Emission Point A1	Ammonia (NH_3) - Half	continuous	As described in the	

Table 2.10.1 : Other monitoring requirements				
Emission point reference or source or description of point of measurement	**Substance or parameter**	**Monitoring frequency**	**Monitoring method**	**Other specifications**
	hour average and daily average		Application	
Emission Point A1	Nitrous oxide (N_2O) - Periodic over minimum 1- hour period	Bi-annual[1]	ISO 10849	
Emission Point A1	Dioxin-like PCBs (WHO-TEQ[2] Humans / Mammals)	Bi-annual periodic measurement[1], average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	
Emission Point A1	Dioxin-like PCBs (WHO-TEQ[2] Fish)	Bi-annual periodic measurement[1], average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	
Emission Point A1	Dioxin-like PCBs (WHO-TEQ[2] Birds)	Bi-annual periodic measurement[1], average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	
Emission Point A1	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in condition 6.1.1	Bi-annual periodic measurement[1], average value over sample period of between 6 and 8 hours.	Procedure shall use BS ISO 11338-1 and BS-ISO 11338-2.	
Emission Point A1	Dioxins / furans (WHO-TEQ Humans / Mammals)[2]	Bi-annual periodic measurement[1], average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	
Emission Point A1	Dioxins / furans (WHO-TEQ Fish)[2]	Bi-annual periodic measurement[1], average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	
Emission Point A1	Dioxins / furans (WHO-TEQ Birds)[2]	Bi-annual periodic measurement[1], average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	
Emission Point S1	Flow l/s	continuous	BS 3680	

Table 2.10.1 : Other monitoring requirements				
Emission point reference or source or description of point of measurement	**Substance or parameter**	**Monitoring frequency**	**Monitoring method**	**Other specifications**
Bottom Ash	Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Quarterly[3]	Sampling and analysis as per Agency ash sampling protocol.	
Bottom Ash	Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Before use of a new disposal or recycling route	Sampling and analysis as per Agency ash sampling protocol.	
APC Residues	Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Quarterly[3]	Sampling and analysis as per Agency ash sampling protocol.	
APC Residues	Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc soluble fractions	Before use of a new disposal or recycling route	Sampling and analysis as per Agency ash sampling protocol.	
Close to the Combustion Chamber inner wall	Temperature (° C)	Continuous	Traceable to National Standards	

Note 1: Quarterly in first year of operation

Note 2: The TEQ sum of the equivalence factors to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum.

Note 3: Monthly in the first year of operation.

2.10.5 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit and the environmental or other monitoring specified in condition 2.10.4 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in Table 6.1.2. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

2.10.6 Where requested in writing by the Agency, the Operator shall provide at least 14 days advance notice of undertaking monitoring/spot sampling.

2.10.7 The Operator shall provide:

a safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2, unless otherwise specified in that Schedule; and

b safe means of access to other sampling/monitoring points when required by the Agency.

2.10.8 The Operator shall ensure that sampling ports are compliant with the requirements of BS EN 13284-1.

2.10.9 Measurements for the determination of concentrations of substances specified in this Permit shall be carried out representatively.

2.11 Decommissioning

2.11.1 The Operator shall, subject to the conditions of this Permit, make provision for decommissioning the Permitted Installation as described in the documentation specified in Table 2.11.1, or as otherwise agreed in writing by the Agency.

Table 2.11.1 : Decommissioning

Description	Parts	Date Received
Application	The response to question 2.11 given in section 14 of the application and specifically excludes section 3 of the application.	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	Response to questions 13	03/05/02

2.11.2 A site closure plan shall be maintained such that, upon definitive cessation of activities, the Permitted Installation can be decommissioned safely and that pollution risks from the site are minimised.

2.12 Multi-operator installations

2.12.1 This is not a multi-operator installation

3 Records

3.1.1 A record (a "Specified Record") shall be made of:-

a any malfunction, breakdown or failure of plant, equipment or techniques (including down time and any short term and long term remedial measures) that may have, has had or might have had an effect on the environmental performance of the Permitted Installation. These records shall be kept in a log maintained for that purpose;

b all monitoring and sampling taken or carried out and any assessment or evaluation made on the basis of such data;

c CEM data before and after subtraction of the uncertainty errors;

d raw data for all specified congeners of dioxins/furans and PCBs;

e any other Specified Records for the Permitted Installation / sector as stipulated from time to time by the Agency.

3.1.2 There shall be made available for inspection by the Agency at any reasonable time:

a Specified Records;

b any other records made by the Operator in relation to the operation of the Permitted Installation (“Other Records”).

3.1.3 A copy of any Specified or Other Records shall be supplied to the Agency on demand and without charge.

3.1.4 Specified Records and Other Records shall:-

a be legible;

b be made as soon as reasonably practicable; and

c indicate any amendments, which have been made and shall include the original record wherever possible.

3.1.5 Specified Records and Other Records shall be retained for a minimum period of 4 years from the date when the records were made at the Permitted Installation.

3.1.6 For all waste received at or produced from the Permitted Installation, the Operator shall record (and shall retain such records for a minimum of 4 years)

a its composition, or as appropriate, description;

b the best estimate of the quantity received or produced;

c its disposal routes; and

d the best estimate of the quantity sent for recovery.

3.1.7 A record shall be made at the Permitted Installation of any complaints concerning the Permitted Installation’s effect or alleged effect on the environment. The record shall give the date of complaint, time of complaint, a summary of any investigation and the results of such investigation. Such records shall be made in a log kept for this purpose.

4 Reporting

4.1.1 All reports and notifications required by this Permit, or by Regulation 16 of the PPC Regulations, shall be sent to the Agency at the address notified in writing to the Operator by the Agency.

4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out in accordance with the conditions of this Permit, as follows:-

4.1.2.1 in respect of the parameters and emission points specified in Table S2 to Schedule 2;

4.1.2.2 for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;

4.1.2.3 giving the information from such results and assessments as may be required by the forms specified in those Tables; and

4.1.2.4 to the Agency within 28 days of the end of the reporting period.

4.1.3 The Operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year, by 31 January each year, providing the information listed in Tables S4.1 and S4.2 of Schedule 4, assessed at any frequency specified therein, and using the form specified in Table S3 to Schedule 3 or as alternatively agreed in writing by the Agency.

4.1.4 The Operator shall submit an annual performance report on the functioning and monitoring of the incineration plant in a format agreed with the Environment Agency by the 31st January each year. The report shall, as a minimum requirement, give an account of the running of the process and the emissions into air and water compared with the emission standards in the Waste Incineration Directive, as required by Article 12(2) of the Waste Incineration Directive. The first report shall be submitted by the 31st January 2007.

4.1.5 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the Installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement..

4.1.6 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.

4.1.7 Fugitive emissions shall be reviewed on an annual basis, or such other period as may be agreed in writing by the Agency and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to prevent or reduce them. A written report shall be sent to the Agency not later than 31 January following the review period.

4.1.8 By 31 January each year, the Operator shall submit to the Agency an annual report in writing on quantities of ash, their destinations and their components / compositions, which have been disposed of or recycled in the previous calendar year. The report shall review (with regard to BAT) opportunities for increasing waste recovery over the coming year, and report on the progress with those identified in the previous year's report.

4.1.9 The Operator shall forward without delay to the Agency, any complaints received relating to off-site noise nuisance.

5 Notifications

5.1.1 The Operator shall notify the Agency **without delay** of:-

5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;

5.1.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant pollution;

5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution;

5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution; and

5.1.1.5 any incident which has led to a period of abnormal operation of incineration or co-incineration plant, as defined in section 10.1.1.

5.1.1.6 each operation of the bag filter bypass when waste is feeding. The report shall include the reasons for operation of the bypass, and the measures taken to prevent recurrence.

5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-

5.1.2.1 for notifications under conditions 5.1.1.1 – 5.1.1.4, the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and

5.1.2.2 for notifications under conditions 5.1.1.1 – 5.1.1.4, the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;

5.1.2.3 for notifications under condition 5.1.1.5, the information listed in Part C of Schedule 1 as soon as practicable thereafter;

and such information shall be in accordance with that Schedule.

5.1.3 The Operator shall give written notification as soon as practicable prior to any of the following:-

5.1.3.1 permanent cessation of the operation of part or all of the Permitted Installation;

5.1.3.2 cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and

5.1.3.3 resumption of the operation of part or all of the Permitted Installation after a cessation notified under condition 5.1.3.2.

5.1.4 The Operator shall notify the Agency, as soon as reasonably practicable, of any information concerning the state of the Site which adds to that provided to the Agency as part of the Application.

5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:-

5.1.5.1 where the Operator is a registered company:-

1 any change in the Operator's trading name, registered name or registered office address;

2 any change to particulars of the Operator's ultimate holding company (including

details of an ultimate holding company where an Operator has become a subsidiary);

3 any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up.

5.1.5.2 where the Operator is a corporate body other than a registered company:

4 any change in the Operator's name or address;

5 any steps taken with a view to the dissolution of the Operator.

5.1.5.3 In any other case: -

6 the death of any of the named Operators (where the Operator consists of more than one named individual);

7 any change in the Operator's name(s) or address(es);

8 any steps taken with a view to the Operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership.

5.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:-

5.1.6.1 a decision by the Secretary of State not to re-certify that Agreement.

5.1.6.2 a decision by either the Operator or the Secretary of State to terminate that agreement.

5.1.6.3 any subsequent decision by the Secretary of State to re-certify such an Agreement.

5.1.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:-

5.1.7.1 a decision by the Operator to withdraw from or the Secretary of State to terminate that agreement.

5.1.7.2 a failure to comply with an annual target under that Agreement at the end of the trading compliance period.

6 Emissions

6.1 Emissions into air

6.1.1 Emissions to air from the emission point(s) specified in Table 6.1.1 shall only arise from the source(s) specified in that Table.

Table 6.1.1: Emission points into air

Emission point reference/description	Source	Location of emission point
A1	Incinerator 76m main plant stack	Marked A1 on the site plan
A2	Lime silo filter vent	Main Plant Building
A3	Activated carbon silo filter vent	Main Plant Building
A4	Fuel oil storage tank vent	To west of Main Plant Building.
A5(A)	Standby boiler stack	DHS standby Boiler House
A5(B)	Standby boiler stack	DHS standby Boiler House
A5(C)	Standby boiler stack	DHS standby Boiler House
A6(A)	Standby boiler stack	DHS standby Boiler House
A6(B)	Standby boiler stack	DHS standby Boiler House

6.1.2 The limits for emissions to air for the parameters and emission points set out in Table 6.1.2 shall not be exceeded except during a period of abnormal operation. During a period of abnormal operation, the limits for emissions to air for the parameters and emission points set out in Table 6.1.2 (a) shall not be exceeded.

Table 6.1.2 : Emission limits to air and monitoring during normal operation

Emission point reference	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
A1	Particulate matter	30 mg/m^3 ½-hr average	Continuous measurement	BS EN 13284-2 (6)(8)
A1	Particulate matter	10 mg/m^3 daily average	Continuous measurement	BS EN 13284-2 (6)(8)
A1	Particulate matter	30 mg/m^3 periodic over minimum ½ hour period	Bi-annual	BS EN 13284-1
A1	Total Organic Carbon (TOC)	20 mg/m^3 ½-hr average	Continuous measurement	BS EN 12619 (6)(8)
A1	Total Organic Carbon (TOC)	10 mg/m^3 daily average	Continuous measurement	BS EN 12619 (6)(8)
A1	Total Organic Carbon (TOC)	20 mg/m^3 periodic over minimum 1-hour	Bi-annual	BS EN 12619

Table 6.1.2 : Emission limits to air and monitoring during normal operation				
Emission point reference	**Parameter**	**Limit (including Reference Period)**[1]	**Monitoring frequency**	**Monitoring method**
		period		
A1	Hydrogen chloride	60 mg/m^3 ½-hr average	Continuous measurement	MCERTS certified instruments[(7)(9)]
A1	Hydrogen chloride	10 mg/m^3 daily average	Continuous measurement	MCERTS certified instruments[(7) 9)]
A1	Hydrogen chloride	60 mg/m^3 periodic over minimum ½ hour period	Bi-annual [10]	BS EN 1911
A1	Hydrogen fluoride	2 mg/m^3 periodic over minimum 1-hour period	Quarterly	USEPA Method 26/26A
A1	Ammonia	No limit – 95%ile of half hour averages to be reported	Continuous measurement	
A1	Ammonia	No limit – max daily average during reporting period	Continuous measurement	
A1	Nitrous Oxide	No limit – periodic over minimum 1-hour be reported	Bi-annual	ISO10849[(5)(8)]
A1	Carbon monoxide	100 mg/m^3 ½-hr average	Continuous measurement	ISO 12039 [(4)(8)]
A1	Carbon monoxide	50 mg/m^3 daily average	Continuous measurement	ISO 12039 [(4)(8)]
A1	Carbon monoxide	100 mg/m^3 periodic over minimum 4 hour period, data to be reported as ½-hour averages	Bi-annual [10]	ISO 12039
A1	Sulphur dioxide	200 mg/m^3 ½-hr average	Continuous measurement	BS 6069-4.4[(5)(8)]
A1	Sulphur dioxide	50 mg/m^3 daily average	Continuous measurement	BS 6069-4.4[(5)(8)]
A1	Sulphur dioxide	200 mg/m^3 periodic over minimum 4 hour period, data to	Bi-annual [10]	BS 6069-4.1

Table 6.1.2 : Emission limits to air and monitoring during normal operation				
Emission point reference	**Parameter**	**Limit (including Reference Period)**[1]	**Monitoring frequency**	**Monitoring method**
		be reported as ½ hour averages		
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m^3 ½-hr average	Continuous measurement	ISO 10849[(5)(8)]
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	180mg/m^3 daily average	Continuous measurement	ISO 10849[(5)(8)]
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m^3 periodic over minimum 4 hour period, data to be reported as ½- hour averages	Bi-annual [10]	ISO 10849 or BS ISO 11564
A1	Cadmium & thallium and their compounds (total) [(2)]	0.05 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Quarterly.	BS EN 14385
A1	Mercury and its compounds [(2)]	0.05 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Quarterly.	BS EN 13211
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) [(2)]	0.5 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Quarterly	BS EN 14385
A1	Dioxins / furans (I-TEQ)	0.1 ng/m^3 periodic over minimum 6 hours, maximum 8 hour period [3]	Bi-annual [10 11]	BS EN 1948
A5(A), A5(B), A5(C) A6(A), A6(B)	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	80 mg/m^3 periodic over minimum 4 hour period, data to be reported as a max hourly average	Annual[(12)]	ISO 10849 or BS ISO 11564

Note 1: See Section 10 for reference conditions

Note 2: Metals include gaseous, vapour and solid phases as well as their compounds (expressed as the metal or the sum of the metals as specified). Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V mean antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium respectively.

Note 3: The I-TEQ sum of the equivalence factors to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum.

Note 4: The Continuous Emission Monitors used shall be such that the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed 10%. Valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted this value of the confidence interval (10%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete half-hour period, the half-hourly average shall nonetheless be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. (The number of half-hourly averages so validated shall not exceed 5 per day). Daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value will be considered valid if no more than five half-hourly average values in any day have been determined not to be valid. No more than ten daily average values per year shall be determined not to be valid.

Note 5: As Note 4, except that the value of the confidence interval is 20% in place of 10%.

Note 6: As Note 4, except that the value of the confidence interval is 30% in place of 10%.

Note 7: As Note 4, except that the value of the confidence interval is 40% in place of 10%.

Note 8: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Note 9: The certification range for MCERTS equipment should be 1.5 times the daily emission limit value. The CEM shall also be able to measure instantaneous values over the ranges that are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

Note 10: Quarterly periodic measurement in first 12 months of operation.

Note 11: At least one monitoring result should be reported by 31st March 2006.

Note 12: When boilers are on maximum firing rate

Table 6.1.2 (a) : Emission limits to air and monitoring during abnormal operating conditions

Emission point reference	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
A1	Particulate matter	150 mg/m^3 ½-hr average	Continuous measurement	BS EN 13824-2[4 2] during abatement plant failure or alternative surrogate as specified in the Application during failure of the continuous emission monitor
A1	Total Organic Carbon (TOC)	20 mg/m^3 ½-hr average	Continuous measurement	BS EN 12619[4 2] during abatement plant failure
A1	Carbon	100 mg/m^3	Continuous	[SO 12039[4 3] during

	monoxide	½-hr average	measurement	abatement plant failure

Note 1: See Section 10 for reference conditions

Note 2: The Continuous Emission Monitors used shall be such that the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed 30%. Valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods if no waste is being incinerated) from the measured values after having subtracted this value of the confidence interval (30%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete half-hour period, the half-hourly average shall nonetheless be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. (The number of half-hourly averages so validated shall not exceed 5 per day).

Note 3: As Note 2, except that the value of the confidence interval is 10% in place of 30%.

Note 4: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

6.1.3 For periodic measurement, compliance shall be determined from the measured value after having subtracted the uncertainty error for the selected method of sampling and analysis for each relevant pollutant.

6.2 Emissions to land

6.2.1 There shall be no emission to land from the Permitted Installation

6.2.2 The Operator shall notify the Agency, as soon as practicable, of any information concerning the state of the Site which affects or updates that provided to the Agency as part of the Site Report submitted with the application for this Permit.

6.3 Emissions to water [other than emissions to sewer]

6.3.1 There shall be no emission to water from the Permitted Installation

6.4 Emissions to sewer

6.4.1 Emissions into sewer from the emission point(s) specified in Table 6.4.1 shall only arise from the source(s) specified in that Table.

Table 6.4.1 Emission points into sewer

Emission point reference	Source	Sewer
S1	Process effluent	Yorkshire Water Services
S2	Surplus rainwater from buildings, hardstanding areas and roadways to surface water drain via interceptor	Yorkshire Water Services

6.4.2 The limits for the emissions into sewer for the parameter(s) and emission point(s) set out in Table 6.4.2 shall not be exceeded.

6.4.3 The Operator shall carry out monitoring of the parameters listed in Table 6.4.2, from the emission point(s) and at least at the frequencies specified in that table.

Table 6.4.2 Emission limits into sewer

Parameter	Emission point S1	Frequency and duration
Total suspended solids mg/l	150	Weekly flow proportional composite sample
pH maximum / minimum	10 / 6	Weekly flow proportional composite sample
Chemical Oxygen Demand mg/l	1000	Weekly flow proportional composite sample
Oil and grease mg/l	5	Weekly flow proportional composite sample
Mercury and its compounds expressed as mercury (Hg), µg/l	3.0	Weekly flow proportional composite sample
Cadmium and its compounds expressed as cadmium (Cd) mg/l	0.05	Weekly flow proportional composite sample
Total other metals and their compounds (Fe, Zn, Cu, Ni, Mn, Cr, Pb, Sn and As – taken together) mg/l	5	Weekly flow proportional composite sample

6.4.4 There shall be no emission into sewer from the Permitted Installation of any substance prescribed for water for which no limit is specified in Table 6.4.2 except in a concentration, which is no greater than the background concentration.

6.5 Emissions of heat

6.5.1 There are no conditions in relation to heat.

6.6 Emissions of noise and vibration

6.6.1 There are no on-site noise or vibration conditions other than those covered by condition 2.9.

7 Transfer to effluent treatment plant

7.1.1 No transfers to the effluent treatment plant are controlled under this part of this Permit. Emissions to water (sewer) are controlled under condition 6.4.

8 Off site conditions

8.1.1	The Operator shall undertake a soil monitoring programme for the parameters specified in sections D3.8.2 and D3.8.3 of the Application, by the methodologies specified in the further information to the application supplied 10/05/02 and at locations S1 and S2 specified in the Application, in figure D3.9 as 1 and 2 respectively. The soil monitoring programme shall commence prior to the operation of the Permitted Installation to establish pre-operational values as required by condition 1.1.3 (a) in the original permit. Subsequent monitoring shall be carried out on a biennial basis commencing 1 January 2008 – or as otherwise agreed in writing by the Agency. An assessment of monitoring results compared against pre-operational values shall be reported biennially to the Agency, not later than 31 January.

9 Improvement programme

9.1.1 The Operator shall complete the requirements specified in Table 9.1.1 by the date specified in that Table, and shall send written notification of the date of completion of each requirement to the Agency, at the Reporting Address, within 14 days of the completion of each such requirement.

Table 9.1.1: Improvement programme requirements

Reference	Requirement	Date(1)
9.2	The Operator shall submit a written post commissioning report. The report shall include comparisons of process design performance against actual measured performance. This shall include but not limited to: Raw material consumption including water Waste combustion conditions and burn out performance Waste production and analysis Energy efficiency Noise and vibration Emissions into air and water.	31st July 2006
9.3	The Operator shall take measurements to demonstrate the residence time, minimum temperature and oxygen content within the incinerator whilst operating under the anticipated most unfavourable operating conditions. To include: Multiple traverse measurements of gas temperature within the qualifying secondary combustion zone. Time of flight measurements using a tracer gas to confirm the minimum residence time within the qualifying combustion zone. The results shall be submitted to the Agency in writing.	Within 3 months of completion of commissioning
9.4	The Operator shall submit, in writing, to the Agency, a report detailing Installation noise monitoring carried out in accordance with BS 4142, during commissioning. Measurements will be taken on one weekday, one Saturday and one Sunday, during the daytime (i.e. in the period 9.00am to 5.00pm) and the quietest night-time period (i.e. in the period 1.00am to 4.00am). Representative measurement periods will be used and the following parameters will be reported: ambient noise; residual noise; LA90 background; specific noise; specific noise rating level and likelihood of complaint assessment result. The measurement positions should be at the site boundary and should be agreed in writing by the Agency prior to monitoring taking place.	Within 3 months of completion of commissioning.
9.9	The Operator shall submit a proposal to the Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point A1 identifying the fractions within the PM_{10}, $PM_{2.5}$ and $PM_{1.0}$ ranges. The proposal shall include a timetable to carry out such tests and produce a report on the results. On receipt of written agreement by the Agency to the proposal and the timetable, the Operator shall carry out the tests and submit to the Agency a report on the results. Report on size distribution tests to be submitted to the Agency within 2 months of the end of the agreed timetable	Proposal to be submitted to the Agency by 31st August 2006

9.10	The Operator shall calibrate and verify the performance of Continuous Emission Monitors for release points and parameters as specified in Table 6.1.2 to BS EN 14181 and submit a summary report to the Environment Agency as evidence of compliance with the requirements of BS EN 14181.	Report to be submitted to the Agency by 28/12/2006.
9.11	The Operator shall extend the chimney flues A5(A), A5(B), A5(C), A6(A), A6(B) to a height of 23m above floor slab of the Boiler House. The chimney flues shall discharge exhaust gases at a minimum velocity of 15m/s under normal operating conditions. Emission monitoring facilities shall meet the requirements of Agency Guidance document M1. The Operator shall write to the Environment Agency confirming that the chimney modifications have been completed.	30/06/08
9.12	The Operator shall undertake a study to demonstrate that replacement low-NOx burners, fitted to the DHS boilers, reliably achieve the required emission limits and combustion gas efflux velocity. A written report shall be submitted to the Environment Agency.	30/09/08

Note

1 Or any alternative date that may be agreed in writing by the Environment Agency.

10 Interpretation

10.1.1 In this Permit, the following expressions shall have the following meanings:

"Abatement equipment"

means that equipment dedicated to the removal of polluting substances from releases from the Installation to air or water media.

"Abnormal operation"

means any technically unavoidable stoppages, disturbances, or failures of purification devices or the measurement devices, during which the concentrations in the discharges into air and the purified waste water of the regulated substances may exceed the prescribed emission limit values.

"Authorised Officer"
means any person authorised by the Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, powers specified in Section 108(4) of that Act;
"Annual release"
means the total release during any calendar year commencing 1 January;
"APC Residues"
means air pollution control residues;
"Application"
means the Application by the Operator for a PPC Permit received 10 December 2001; the Operator's response to any notices served under Schedule 4 of the PPC Regulations; the variation application received 16 March 2005; and any additional information otherwise supplied by the Operator in writing;

"Background concentration"
means the same as "background quantity" as defined in paragraph 11 to Part 2 to Schedule1 of the PPC Regulations;
"BAT"
means Best Available Techniques;
"Bi-annual"
means twice per year with at least five months between tests;
"Biennial" means very two years
"Bottom Ash"
means any ash falling though the incinerator grate or transported by the grate;
"CEM"
means continuous emission monitor;
"CEN"
means Commité Européen do Normalisation;
"Commissioning"

relates to the period after construction has been completed or when a modification has been made to the plant or the raw materials when the Permitted Installation process is being tested and modified to operate according to its design;

"Controlled waters"

shall have the same meaning as in Part III of the Water Resources Act 1991;

"COT"

means Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment;

"Daily average"

for releases of substances to air means the average of half-hourly averages over a calendar day during normal operation. Where any of abnormal operation, start-up or shut-down occur during the day in such a way that there are less than 43 half-hourly averages recorded during normal operation, no daily average shall be recorded for that day.

"Dioxins and Furans"

means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans;

"ELV"

means emission limit value;

"Fugitive emission"

means an emission from any point other than those specified in the Tables in part 6 of this Permit.

"Grounding"

means that a visible plume from Release Point A1 impinges on the ground or on any building thereon;

"Hg, Cd, Sb, As, Pb, Cr, Co, Cu, Mn, Ni, Tl and V"

mean respectively Mercury, Cadmium, Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel, Thallium and Vanadium;

"*Incineration Line*"

means all of the incineration equipment related to a common discharge to air location.

"ISO"

means International Standards Organisation;

"I-TEF"

means international toxic equivalency factors;

"I-TEQ"

means international toxic equivalent concentration;

"*LOI*"

means loss on ignition a technique used to determine the combustible material by heating the ash residue to a high temperature

"MCERTS"

means the Environment Agency's Monitoring Certification Scheme.

"Monitoring"

includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys;

"mg/m^3"

means milligrams per cubic metre;

"ng/m^3"

means nanograms per cubic metre;

"PAH"

means Poly-cyclic aromatic hydrocarbon, and comprises Anthanthrene, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[b]naph(2,1-d)thiophene, Benzo[c]phenanthrene, Benzo[ghi]perylene, Benzo[a]pyrene, Cholanthrene, Chrysene, Cyclopenta[c,d]pyrene, Dibenzo[ah]anthracene, Dibenzo[a,i]pyrene Fluoranthene, Indo[1,2,3-cd]pyrene, Naphthalene

"PCB"

means Polychlorinated Biphenyl. Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in condition 10.1.5;

"Permitted Installation"
means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"*PM_{10}, $PM_{2.5}$, $PM_{1.0,}$*" mean respectively those particulates which have mean particle diameters of 10, 2.5 and 1.0 microns (µm)

"PPC Regulations"
means the Pollution Prevention and Control Regulations 2000 (S.I. 2000 No. 1973) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit;

"*Quarterly*" for reporting/sampling means after/during each 3 month period, January to March; April to June; July to September and October to December and, when sampling, with at least 2 months between each sampling date.

"Release point"
followed by the letter A, W, E or S means respectively a point shown on a map or plan forming a part of the Application for the release from the Permitted Installation into the air, into controlled waters, into an on-site effluent treatment plant or into a sewer;

"Reporting Address"
means the address, from time to time notified to the Operator, for that purpose by the Agency in writing;

"*Shutdown*"
is any period where the plant is being returned to a non-operational state and there is no waste being burned as described in the Application.

"Staff"

includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors;

"Start-up"

is any period, where the plant has been non-operational, after igniting the auxiliary burner until waste has been fed to the incinerator in sufficient quantity to cover the grate and to initiate steady-state conditions as described in the Application.

"Substances prescribed for water"
means those substances mentioned in paragraph 13 of Part 2 of Schedule 1 to the PPC Regulations;

"TEF"
means toxic equivalence factors;

"TEQ"
means toxic equivalent concentration;

"TOC"

means Total Organic Carbon. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC. In respect of Bottom Ash, this means the total carbon content of all organic species present in the ash (excluding carbon in elemental form).

"UK"
means United Kingdom;

"UKAS"
means United Kingdom Accreditation Service;

"VOC"
means any organic compound in the exhaust gas emissions;

"Waste Incineration Directive"

means Directive 2000/76/EC on the incineration of waste (O.J. L 332, 28.12.2000)

"Waste oil"

has the same meaning as in Directive 75/439/EEC

"WHO"
means the World health Organisation; and

"Year"
means calendar year ending 31 December.

10.1.2 Where a minimum limit is set for any emission / process parameter, references to exceeding the limit shall mean that the parameter shall not be less than that limit

10.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-

10.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels (including waste oil), 6% dry for solid fuels; and/or

10.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

10.1.3.3 in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry,

10.1.4 For dioxins/furans and dioxin-like PCBs the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their respective toxic equivalence factors before summing.

TEF Schemes for Dioxins and Furans				
Congener	**I-TEF(1990)**	**WHO-TEF (1997/8)**		
		Human / Mammals	**Fish**	**Birds**
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0001	-	-
Furans				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.05	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.5	0.5	1
1,2,3,4,7,8-Hx CDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0001	0.0001	0.0001

TEF Schemes for Dioxin like PCBs			
Congener	**WHO-TEF (1997/8)**		
	Human / Mammals	**Fish**	**Birds**
Non-ortho PCBs			
3,4,4',5-TCB(81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0001	0.0001	0.05
3,3',4,4',5-PeCB(126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.01	0.00005	0.001
Mono-ortho			
2,3,3',4,4'-PeCB(105)	0.0001	<0.000005	0.0001
2,3,4,4',5-PeCB(114)	0.0005	<0.000005	0.0001
2,3',4,4',5-PeCB(118)	0.0001	<0.000005	0.00001
2',3,4,4',5-PeCB(123)	0.0001	<0.000005	0.00001
2,3,3',4,4',5-HxCB(156)	0.0005	<0.000005	0.0001
2,3,3',4,4',5'-HxCB(157)	0.0005	<0.000005	0.0001
2,3',4,4',5,5'-HxCB(167)	0.00001	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB(189)	0.0001	<0.000005	0.00001

10.1.5 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

11 Minor Operational Changes

11.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.3.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.

11.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.

11.3 When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.

11.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application shall be deemed to be amended

Schedule 1 - Notification of abnormal emissions (Including abnormal operations)

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.

Part A

Permit Number	
Name of Operator	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media (eg into air or water)	Best estimate of the quantity or the rate of emission	Time during which the emission took place

Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the Installation in the preceding 24 months.	

Part C

Permit Number	
Name of Operator	
Location of Installation	

For multi-line plants, indicate which line(s) was (were) subject to abnormal operation.	
Time at which abnormal operation commenced	
Time at which abnormal operation ceased	
Duration of this incidence of abnormal operation	
Cumulative abnormal operation duration in current year (at end of present incidence)	
Reasons for abnormal operation	
How did the abnormal operation end? (e.g. plant repaired, reaching maximum permitted duration, initiation of shutdown, etc.)	
Where the abnormal operation was caused by the failure of the particulate, CO or TOC CEM, attach a copy of the alternate monitoring data which was used to demonstrate compliance with the abnormal operation emission limit values.	

Where abatement plant has failed, give the half-hourly average emissions for pollutants of relevance during the abnormal operation in the rows below

Pollutant	**1st ½ hour**	**2nd ½ hour**	**3rd ½ hour**	**4th ½ hour**	**5th ½ hour**	**6th ½ hour**	**7th ½ hour**	**8th ½ hour**

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Veolia ES Sheffield Ltd

Schedule 2

Reporting of monitoring data

Parameters for which reports shall be made, in accordance with conditions 4.1.2 of this Permit, are listed below.

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins[1]
Sulphur dioxide mg m^{-3} continuous emissions monitoring data	A1	Monthly	01/01/2008
Sulphur dioxide mg m^{-3} periodic monitoring data	A1	Every 6 months	01/01/2008
Total Organic Carbon (TOC) mg m^{-3} continuous emissions monitoring data	A1	Monthly	01/01/2008
Total Organic Carbon (TOC) mg m^{-3} periodic monitoring data	A1	Every 6 months	01/01/2008
Oxides of nitrogen continuous emissions monitoring data mg m^{-3}	A1	Monthly	01/01/2008
Oxides of nitrogen periodic monitoring data mg m^{-3}	A1	Every 6 months	01/01/2008
Gaseous chlorides as HCl continuous emissions monitoring data mg m^{-3}	A1	Monthly	01/01/2008
Gaseous chlorides as HCl periodic monitoring data mg m^{-3}	A1	Every 6 months	01/01/2008
Gaseous fluorides as HF periodic monitoring data mg m^{-3}	A1	Every 6 months	01/01/2008
Particulate Matter continuous emissions monitoring data mg m^{-3}	A1	Monthly	01/01/2008
Particulate Matter periodic monitoring data mg m^{-3}	A1	Every 6 months	01/01/2008
Carbon Monoxide continuous emissions monitoring data mg m^{-3}	A1	Monthly	01/01/2008
Carbon Monoxide periodic monitoring data mg m^{-3}	A1	Every 6 months	01/01/2008
Cadmium & Thallium and their compounds (total)	A1	Every 6 months	01/01/2008
Mercury and its compounds	A1	Every 6 months	01/01/2008
Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium and their compounds (total)	A1	Every 6 months	01/01/2008
Dioxins / furans (I-TEQ)	A1	Every 6 months.	01/01/2008
Dioxins/Furans (WHO-TEQ Humans / Mammals)	A1	Every 6 months.	01/01/2008
Dioxin/Furans (WHO-TEQ Fish)	A1	Every 6 months.	01/01/2008

Table S2: Reporting of monitoring data			
Parameter	**Emission point**	**Reporting period**	**Period begins[1]**
Dioxin/Furans (WHO-TEQ Birds)	A1	Every 6 months.	01/01/2008
Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	A1	Every 6 months.	01/01/2008
Dioxin-like PCBs (WHO-TEQ Fish)	A1	Every 6 months.	01/01/2008
Dioxin-like PCBs (WHO-TEQ Birds)	A1	Every 6 months.	01/01/2008
Poly-cyclic aromatic hydrocarbons (PAHs)	A1	Every 6 months.	01/01/2008
Ammonia	A1	Every 6 months	01/01/2008
Nitrous Oxide	A1	Every 6 months	01/01/2008
Temperature	A1	As requested by Agency site inspector.	01/01/2008
Pressure	A1	As requested by Agency site inspector.	01/01/2008
Oxygen content	A1	As requested by Agency site inspector.	01/01/2008
Water vapour content	A1	As requested by Agency site inspector.	01/01/2008
Oxides of nitrogen periodic monitoring data mg m^{-3}[1]	A5(A), A5(B), 5A(C), A6(A), A6(B)	Annually	01/01/2008
EfW Furnace Chamber Temperature	Furnace – as specified in response to C2.1.5 of variation application.	As requested by Agency site inspector.	01/01/2008
Wind Speed and Direction	Site	As requested by Agency site inspector.	01/01/2008
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Bottom Ash	Every 6 months.	01/01/2008
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Bottom Ash	Before use of a new disposal or recycling route	01/01/2008
LOI (Alternative to TOC)	Bottom Ash	Every 6 months	01/01/2008
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	APC Residues	Every 6 months.	01/01/2008
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	APC Residues	Before use of a new disposal or recycling route	01/01/2008
pH	S1	Every 6 months whenever a discharge is made during the	01/01/2008

Table S2: Reporting of monitoring data			
Parameter	**Emission point**	**Reporting period**	**Period begins[1]**
		period	
Chemical Oxygen Demand	S1	Every 6 months whenever a discharge is made during the period	01/01/2008
Oil and Grease	S1	Every 6 months whenever a discharge is made during the period	01/01/2008
Total Suspended Solids	S1	Every 6 months whenever a discharge is made during the period	01/01/2008
Mercury and its compounds (in total)	S1	Every 6 months whenever a discharge is made during the period	01/01/2008
Cadmium and its compounds (in total)	S1	Every 6 months whenever a discharge is made during the period	01/01/2008
Total other metals and their compounds (Iron, Zinc, Copper, Nickel, Managanese, Chromium, Lead, Tin and Arsenic – taken together) mg/l	S1	Every 6 months whenever a discharge is made during the period	01/01/2008
Flow ($l.s^{-1}$)	S1	Every 6 months whenever a discharge is made during the period	01/01/2008
Performance indicators as set out in Schedule 4	Installation	Every 12 months	01/01/2008
Water usage	Installation	Every 12 months	01/01/2008
Energy usage	Installation	Every 12 months	01/01/2008
Waste disposal and/or recovery.	Installation	Every 12 months	01/01/2008
Off-site soil monitoring	Installation	Every 24 months[2]	01/01/2008

Note

1 Reporting to the requirements of permit BM4082 (as varied by PP3332SL – now superseded) shall continue until 31 December 2007 after which date reporting shall comply with permit BM4082 as varied by QP3936US.

2 Or any alternative reporting period as may be agreed in writing by the Environment Agency

Schedule 3 - Forms to be used

Unless otherwise agreed in writing between Agency and the Operator, the following Agency forms are to be used for reports submitted to Agency.

Table S3: Reporting Forms		
Media or parameter	**Form Number**	**Date of Form**
Air: Periodic monitored emissions quarterly	Agency Form / BM4082 / QP3936US/A1	1st November 2007
Air: Continuously monitored emissions of particulates	Agency Form / BM4082 / QP3936US/ A3	1st November 2007
Air: Continuously monitored emissions of Hydrogen chloride	Agency Form / BM4082 / QP3936US/ A4	1st November 2007
Air: Continuously monitored emissions of TOC	Agency Form / BM4082 / QP3936US/ A5	1st November 2007
Air: Continuously monitored emissions of Carbon monoxide	Agency Form / BM4082 / QP3936US/A7	1st November 2007
Air: Continuously monitored emissions of Sulphur dioxide	Agency Form / BM4082 / QP3936US/A8	1st November 2007
Air: Continuously monitored emissions of Oxides of nitrogen	Agency Form / BM4082 / QP3936US/A9	1st November 2007
Sewer: monitoring data	Agency Form / BM4082 / QP3936US/S1	1st November 2007
Bottom Ash, APC Residues: Composition	Agency Form / BM4082 / QP3936US/Ash1	1st November 2007
Energy	Agency Form / BM4082 / QP3936US/ E1	1st November 2007
Waste Return	Agency Form / BM4082 / QP3936US/R1	1st November 2007
Performance indicators	Agency Form / BM4082 / QP3936US/PI1a	1st November 2007
Performance indicators	Agency Form / BM4082 / QP3936US/PI1b	1st November 2007

Schedule 4 - Reporting of performance data

Data required to be recorded and reported by Condition 4.1.3. The data should be assessed at the frequency given and reported annually to the Agency.

Table S4.1: Annual Production/Treatment	
Total Municipal Waste incinerated	Tonnes
Total Trade/Commercial/Industrial Waste incinerated	Tonnes
Electrical energy exported to Grid	MWh
Electrical energy used within the Installation	MWh
Thermal energy exported to DHS from EfW Plant	MWh
EfW Plant availability over year (including maintenance)	%
Average lower calorific value of waste incinerated	MJ/kg

Table S4.2: Performance parameters		
Parameter	**Frequency of assessment**	**Usage and Performance indicator**
Electrical energy generated	Annually and Quarterly	MWh / tonne of waste incinerated
Thermal energy exported to DHS	Annually and Quarterly	MWh/tonne of waste incinerated
Natural gas consumption on EFW Plant	Annually and Quarterly	MJ/tonne of waste incinerated
Mass of Bottom Ash produced	Annually and Quarterly	kg/ tonne of waste incinerated
Mass of APC residues produced	Annually and Quarterly	kg/ tonne of waste incinerated
Urea consumption	Annually and Quarterly	kg/ tonne of waste incinerated
Activated Carbon consumption	Annually and Quarterly	kg/ tonne of waste incinerated
Lime consumption	Annually and Quarterly	kg/ tonne of waste incinerated
Potable water consumption	Annually and Quarterly	m^3/ tonne of waste incinerated
Pollutants to air per tonne of waste incinerated	Annually and Quarterly	mg/ tonne of waste incinerated

9 Schedule 5 - List of Permitted Wastes

Permitted Waste Types			
EWC Description	**European Waste Catalogue Number (where available) or other specification**	**Limitations**	**Waste type as defined in Table 2.3.2**
Waste from food preparation - animal tissue waste	020202	Reject foodstuff from processing facilities/supermarkets including meat products and packaged/loose food items which are beyond use-by date, condemned, contaminated or unfit for consumption; not including animal blood, meat & bone meal, tallow, whole/part animal carcasses.	Non-hazardous commercial and industrial wastes
Waste from food preparation – materials unsuitable for consumption/processing	020203		
Healthcare waste – wastes where collection and disposal is not subject to special requirements in order to prevent infection	180104	HSAC Category E healthcare waste, excluding yellow bag clinical waste.	
Waste from waste treatment – other wastes from mechanical treatment of wastes other than those mentioned in 191211 of the EWC catalogue.	191212		
Waste packaging – adsorbents, filters and protective clothing not contaminated by dangerous substances.	150203		
Waste packaging – paper and cardboard packaging	150101		
Waste packaging – mixed packaging	150106		
Waste packaging – textile packaging	150109		
Municipal Wastes – paper and cardboard	200101		Municipal waste - separately collected fractions
Municipal Wastes – biodegradable kitchen waste	200108	No including liquid waste	
Municipal Wastes – clothes	200110		
Municipal Wastes – textiles	200111		

Municipal Wastes – wood other than that mentioned in 20 01 37 of the EWC catalogue	200138	Not including MDF, plywood and sawdust.	
Municipal Wastes – plastics	200139	Not including PVC	
Garden and Park waste – biodegradable waste	200201	Not including animal manure	
Other municipal waste – mixed municipal waste(1)	200301		Other municipal waste
Other municipal waste – waste from markets	200302		
Other municipal waste – street cleaning residues	200303		

Note 1: Includes mixed municipal waste from waste transfer stations which has not been subject to any form of treatment.

END OF PERMIT