Permit with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

Nottingham Waste Incinerator
WasteNotts (Reclamation) Limited
Incinerator Road
Off Cattle Market Road
Nottingham NG2 3JH

Permit number

EP3034SN

Contents

Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate an installation carrying out activities covered by the description in Section 5.1 A(1)(c) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

Aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. 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.

In some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do not explain what is BAT. In determining BAT, the Operator should pay particular attention to relevant sections of the IPPC Sector guidance, appropriate Horizontal guidance and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows.

Summary of activities

The Nottingham Waste Incinerator installation at Eastcroft comprises the municipal waste incinerator operated by WasteNotts (Reclamation) Limited and the clinical waste incinerator operated by White Rose Environmental Limited. This permit relates only to the municipal waste incinerator.

The municipal waste incinerator (MWI) currently comprises two incineration streams each capable of burning up to 11.5 tonnes/hour of municipal and light commercial and industrial waste. Approximately 160,000 tonnes of waste is burned in the plant per year at the present time. The Operator proposes to add a third line to the plant, subject to granting of the necessary planning consents, which will be capable of burning up to 13 tonnes/hour of similar waste. The third line will increase the capacity of the incineration process to approximately 260,000 tonnes per year. The third line is included in the scope of this permit.

The following sections describe the existing operations at Eastcroft MWI. A summary of the proposals for the third line is given at the end of this process description.

Raw materials handling

Municipal waste and non-hazardous commercial/industrial/trade waste is delivered to site by lorry and tipped into one of two refuse bunkers inside the tipping hall. Deliveries are typically made from Monday to Saturday morning. Waste is transferred from the bunkers by grab crane into the feed chute of each incinerator stream. Entry of the waste into the furnace chamber is interlocked with temperature to ensure waste is not introduced to the combustion chamber if the temperature falls below 850^{o}C.

Incineration

Each incinerator stream is served by a Martin reverse reciprocating grate. Primary combustion air is introduced from beneath the grate at a number of locations and secondary air is injected above the hearth at the front and rear of the furnace chamber. Combustion air is drawn from the tipping hall and boiler hall to reduce odours and dust levels in these areas. Two auxiliary burners, fired on gas oil, are installed halfway up each combustion chamber to maintain adequate temperature. These are activated if temperatures at the furnace wall fall below

850^{o}C. The auxiliary burners are also used to pre-heat the incinerators before start up. Ammonium hydroxide is injected into the combustion chamber above the level of the auxiliary burners in order to reduce emissions of nitrogen oxides (this technique is known as selective non-catalytic reduction or SNCR).

Hot gases from the combustion chamber pass to a boiler in which steam is raised and sent to the London Road Heat Station for supply of heat to the district heating system and generation of electricity. Boiler feedwater is supplied by the London Road Heat Station and boiler blowdown water is reused in the ash quench bath (see below). Flue gases leaving the boiler are cooled to about 130^{o}C in the economiser to achieve the correct temperature for acid gas treatment.

Ash handling system

Grate ash (known as bottom ash) passes over the lower end of the grate into water troughs which act as a seal for the combustion chambers as well as quenching and cooling the ash. The quenched ash is pushed up an inclined chute, which allows the free water to run back to the trough, and dropped into a residuals bunker, within the incinerator building. From here drained ash is transferred by crane onto a second conveyor for transport to the bottom ash buffer silo. The conveyor passes under a magnetic separator for removal of ferrous scrap, which is then transferred to a scrap metal merchant. The bottom ash buffer silo is periodically emptied and transferred to landfill disposal.

Fly ash entrained within the incinerator exhaust gases, together with any accumulations of dust removed from the walls of the economiser by the shot cleaning system, is treated in the air pollution control equipment.

Air pollution control (APC) equipment

Each incinerator stream has its own dedicated air pollution control equipment, although the reagent storage silos are common to both systems. Cooled flue gases leaving the economiser are dosed with a mixture of hydrated lime, activated carbon and recirculated reagent, in order to reduce acid gases (by reaction with the lime), and mercury and dioxins (by adsorption onto the activated carbon). The reagents are stored in enclosed silos and combined together in a single pneumatic line before injection into the exhaust stream. The exhaust gases and reagent particles are then filtered in a four compartment fabric filter to remove the dust burden. The fabric filters are regularly cleaned by reverse jet pulses, and the collected end product is discharged by screw conveyor into a pneumatic transport system for transfer to the APC residue silo. A proportion of flyash/reagent mixture is directed back into the recirculated reagent silo for reuse. The APC residue silo is regularly emptied, via a humidifier, into skips for transfer to a licensed landfill site.

Stack emission

The treated exhaust gases from both streams are discharged via a shared flue inside the 91m high stack. The other flue will be dedicated to the third line. An induced draught fan located immediately downstream of each fabric filter pulls the exhaust gases through to the stack and maintains a negative pressure throughout the air pollution control equipment. A sound attenuator is provided on the outlet from each ID fan. The final emissions from the municipal waste incinerator are continuously monitored prior to entry into the main stack, for particulate matter, sulphur dioxide, nitrogen oxides, carbon monoxide, hydrogen chloride, volatile organic compounds and ammonia.

Process water system

Drainage from the boiler house and the residuals bunker is directed to a three chamber settlement tank and then returned via a pump header to the process water tank. Some surface water drainage is also sent to the process water tank, whilst the rest is discharged directly to the sewer. Reclaimed process water is used to top up the ash quenching troughs and the humidifier serving the APC residue silo. During dry periods, additional water is obtained from the towns water supply. The system can overflow to the sewer (via the V notch weir) at times of excess load, eg. due to high rainfall.

Outline Description of the Third Line

Engineering details of the proposed third line are not yet available since the Operator has not yet awarded the contract for the design and build of the incinerator extension. However it is known that the third line will comprise:

- Waste reception into the existing tipping hall and waste bunkers.
- Two new grab cranes serving the existing incineration lines and the third line.
- A moving grate incinerator and integrated steam raising boiler designed to meet the temperature and residence time requirements of the Waste Incineration Directive. The incinerator plant is likely to be housed in a separate building from the existing lines.
- An ash collection and handling system for incinerator bottom ash with an automatic conveying system to the existing bottom ash silo.
- Abatement of nitrogen oxide emissions in the incinerator combustion chamber by selective non-catalytic reduction and/or flue gas recirculation.
- An air pollution control system similar to that for the existing lines, ie. comprising acid gas neutralisation, carbon injection and dust filtration.
- Emission of the treated flue gases via the currently unused semi-circular flue in the existing stack.
- Continuous and periodic monitoring of all pollutants in the stack emission.
- An effluent treatment plant for all effluents which cannot be reused within the process, including backflush water from the boiler water treatment plant, overflow from the wet ash handling system and surface water drainage.
- A steam turbine at the Eastcroft site for generation of electricity for sale to the grid, and possible supply of residual heat to the district heating scheme.
- An air cooled condenser to condense the residual steam and return it to the boiler system.

Waste Incineration Directive

The Waste Incineration (England and Wales) Regulations 2002 (SI 2002 No. 2980) (The WI Regulations) and Pollution Prevention and Control (Waste Incineration Directive) (England and Wales) Direction 2002 together implement the requirements of the Waste Incineration Directive (Directive (EC 2000/76/EC) on the Incineration of Waste. The existing two incineration lines are defined as an existing Waste Incineration Installation in the WI Regulations, and the third line is a new Waste Incineration Installation under the Regulations. Conditions delivering the corresponding requirements of the relevant articles of the Waste Incineration Directive have been incorporated into this Permit.

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Other PPC Permits relating to this installation		
Permit holder	**Permit Number**	**Date of Issue**
White Rose Environmental Limited	FP3634SL	22/12/2005

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	**Reference Number**	**Date of Issue**
WasteNotts (Reclamation) Limited IPC authorisation	AH0653/BZ6112	23/09/2005
White Rose Environmental Limited LAPC Authorisation	BG9927/BQ2219	24/05/2002
White Rose Environmental Limited Waste Management Licence	43511	11/11/2002

Other activities may take place on the site of this installation which are not regulated under this Permit or any other PPC Permit referred to in the Table above.

Other existing Licences/Authorisations/Registrations relating to this site		
Holder	**Reference Number**	**Date of issue**
WasteNotts (Reclamation) Limited Radioactive Substances Act registration	AI6452	29/06/1993
White Rose Environmental Limited Radioactive Substances Act authorisation	BI0734	09/05/00

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

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

Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency 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, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. 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 comply with the conditions of the transferred Permit. If, however, the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.

To give a Notification under Condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

Status Log

Detail	Date	Response Date
Application EP3034SN	Received 28/03/05	
Response to request for information	Request dated 08/07/05	Responses dated 05/08/05, 01/09/05, 27/09/05, 24/10/05, 13/12/05 and 19/12/05.
Additional information submitted in writing (concerning surrogate techniques for use during abnormal operation and additional EWC codes)	Document dated 13/12/05	
Permit determined	Issued 22/12/05	

End of Introductory Note.

Permit
Pollution Prevention and Control Regulations 2000

ENVIRONMENT AGENCY

Permit

Permit number
EP3034SN

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations (SI 2000 No 1973), hereby authorises

WasteNotts (Reclamation) Limited ("the Operator"),

Of/ whose Registered Office (or principal place of business) is

Ground Floor West, 900 Pavilion Way, Northampton Business Park, Northampton NN4 7RG

Company registration number **2674169**

to operate part of an Installation at

Nottingham Waste Incinerator
Incinerator Road
Off Cattle Market Road
Nottingham NG2 3JH

to the extent authorised by and subject to the conditions of this Permit.

Signed	Date

David Tarttelin

Authorised to sign on behalf of the Agency

Conditions

1 General

1.1 Permitted Activities

1.1.1 The Operator is authorised to carry out the activities and 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) : Incineration of non-hazardous waste in an incineration plant with a capacity of >1 tonne/hour.	Incineration of municipal and light commercial/industrial waste in Lines 1, 2 and 3 and all associated activities	From arrival of waste on site, through incineration of waste, to despatch of residues and release of emission to atmosphere and discharge to sewer. Includes steam raising plant and (for third line only) generation of electricity.

1.2 Site

1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in red on the Site Plan at Schedule 5 to this Permit, which is within the area edged in red on the Site Plan that represents the extent of the installation covered by this Permit and that of the other Operator of the installation.

1.3 Overarching Management Condition

1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

1.4 Improvement Programme

1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

Table 1.4.1: Improvement programme

Reference	Requirement	Date
1	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 points A1and A2 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.	Proposal for Lines 1 and 2 to be submitted to the Agency by 30/06/06 and for Line 3 by 6 months after takeover of Line 3. Report on size distribution tests to be submitted to the Agency within 2 months of the end of the agreed timetable.
2	The Operator shall calibrate and verify the performance of Continuous Emission Monitors for release points and parameters as specified in Table 2.2.2 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 28/12/06.
3	The Operator shall verify the performance of the ammonia continuous monitors by conducting a QAL2 test in accordance with BS EN 14181, and submit the results to the Agency in order to demonstrate that the monitor is fit for purpose and to seek the Agency's agreement in writing in accordance with condition 2.10.9.	Report to be submitted to the Agency by 28/12/06.
4	The Operator shall submit a report describing the performance and optimisation of the SNCR system (including minimisation of ammonia slip and nitrous oxide emissions) and combustion modifications installed to meet the WID, and the mode of operation determined for routine use. The report shall present an evaluation of performance using continuous and periodic monitoring data and comment on existing and likely long term compliance with relevant emission limit values specified in this permit.	31/03/06
5	The Operator shall clean up the area around the hydraulic oil storage tanks, inspect the integrity of the base and walls of the bund and maintain an effective housekeeping regime around this area to prevent the generation of oil-contaminated surface water drainage.	31/03/06
6	The Operator shall submit a risk assessment of the potential for, and consequences of, a spillage of ammonium hydroxide during delivery and propose any further actions arising from the assessment. Subject to the agreement of the Agency, the Operator shall implement the actions proposed.	31/03/06
7	The Operator shall submit a site closure plan for the installation in writing to the Agency.	28/12/06

Table 1.4.1: Improvement programme

Reference	Requirement	Date
8	The Operator shall investigate the performance of the auxiliary burners and other aspects of the combustion conditions on Lines 1 and 2, and report on the practicality of operating to a thermocouple offset temperature (as specified in condition 2.1.14) above 750^{o}C and up to 850^{O}C.	30/06/06
9	The Operator shall carry out a comprehensive review of the potential for a full combined heat and power operation associated with Line 3 in order to demonstrate that the heat generated from incineration is recovered as far as practicable (ref. para 1B of Part 1 of Schedule 4 to the PPC Regulations implementing the Waste Incineration Directive).	Report to be submitted to the Agency by 28/12/06.
10	The Operator shall submit a report to the Agency of the verification of combustion conditions on Line 3 to demonstrate compliance with Articles 6(1) and 11(3) of the Waste Incineration Directive.	Report to be submitted to the Agency within 3 months of the end of takeover of Line 3.

1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 the Operator shall send written notification of such failure to the Agency within 14 days of such date.

1.5 Minor Operational Changes

1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 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.

1.5.2 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.

1.5.3 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.

1.5.4 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 (and the Site Protection and Monitoring Programme, as the case may be) shall be deemed to be amended.

1.6 Pre-Operational Conditions

1.6.1 The third line shall not be brought into operation until the following information has been submitted to the Agency and the Agency has confirmed in writing its acceptance of the information.

(i) A detailed description of the selected design for the incineration plant and all new associated facilities, including plans and diagrams as appropriate, and including the firing diagram for the third line.

(ii) A revised list of the wastes intended to be incinerated in the Permitted Installation at commencement of operation of the third line and the expected annual tonnages of each different waste. (Wastes shall be identified by their European Waste Catalogue (EWC) codes.)

(iii) A report of the computational fluid dynamic (CFD) modelling exercise carried out for the third line to demonstrate that the design meets the combustion requirements of the Waste Incineration Directive.

(iv) Detailed proposals for verification of combustion conditions in order to meet the requirements of Article 11(3) of the Waste Incineration Directive.

(v) If the selected design for the third line does not include flue gas recirculation for control of nitrogen oxides, a full BAT assessment to justify exclusion of this technique.

(vi) A summary of the automated process control systems for the third line, including *inter alia*, combustion monitoring and control, process interlocks, start up and shutdown procedures, alarm conditions and responses.

(vii) Details of the design and operation of the effluent treatment plant and the performance guarantees for the quality of effluent discharged to sewer.

(viii) Details of the make and model, and mode of operation of the continuous emission monitoring instrumentation.

(ix) A revised noise impact assessment to show the effect of the third line on local noise sensitive receptors, including any newly redeveloped sites in the adjacent area.

(x) A commissioning schedule showing when and how the third line will be brought into service and key milestones such as contractual performance tests and handover of the plant from contractor to operator.

1.7 Off-site Conditions

1.7.1 There are no off-site conditions.

Operating conditions

2.1 In-Process Controls

2.1.1 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 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Application	The response to question B2.1 in the application form and section 2.1 of the application text (in process controls).	28/03/05
	The response to question 2 in the Schedule 4 Notice (plant schematic).	05/08/05
	Section 2.2 of the application text (abatement techniques).	28/03/05
	Section 2.4 of the application text (raw materials and wastes to be incinerated).	28/03/05
	The response to question numbers 8 and 9 in the Schedule 4 Notice (wastes to be incinerated).	05/08/05
	Section 2.5 of the application text (waste handling)	28/03/05
	Section 2.7.1 of the application text (energy recovery).	28/03/05
	The response to question B2.10 in the application form and section 2.10 of the application text (monitoring).	28/03/05
	The additional information supplied concerning surrogate monitoring techniques and wastes to be incinerated.	13/12/05

2.1.2 The Permitted Installation shall, subject to the other conditions of this Permit, be operated using the techniques and in the manner described in the Site Protection and Monitoring Programme submitted under condition 4.1.8 of this Permit or as otherwise agreed in writing by the Agency.

2.1.3 Only the wastes specified in Schedule 6 shall be incinerated in the Permitted Installation subject to the limitations in quantities not exceeding those specified for the waste types specified in Table 2.1.2.

Table 2.1.2: Permitted Waste Types

Waste type	Limitations	Maximum throughput[Note1] until Line 3 commences operation	Maximum throughput[Note2] after Line 3 commences operation
Mixed Municipal Waste	Excluding separately collected fractions unless recycling/reuse options cannot practicably be exploited.	160,000 t/yr	260,000 t/yr
Separately collected fractions of municipal waste	Only if recycling/reuse options cannot practicably be exploited.	8000 t/yr	To be approved by the Agency after completion of condition 1.6.1(ii)
Separately collected fractions of packaging and related wastes	Only if recycling/reuse options cannot practicably be exploited.		
Non-hazardous commercial and industrial wastes	Only in combination with mixed municipal waste at low mass ratio.	3200 t/yr	To be approved by the Agency after completion of condition 1.6.1(ii)

[Note1] The total quantity of waste incinerated in Lines 1 and 2 shall not exceed 160,000 tonnes per annum.

[Note2] The total quantity of waste incinerated in Lines 1,2 and 3 shall not exceed 260,000 tonnes.

2.1.4 No condition applies.

2.1.5 No condition applies.

2.1.6 No condition applies.

2.1.7 Waste shall not be charged, or shall cease to be charged, into the incineration line if:

- the combustion chamber temperature is below, or falls below, 850^{o}C, as demonstrated by the application of condition 2.1.14; or
- the oxygen level is below, or falls below, 6% (wet) by volume; or
- any continuous emission limit value in Table 2.2.2(a) is exceeded; or
- any continuous emission limit value in Table 2.2.2 is exceeded, other than under abnormal operating conditions ; or
- monitoring results required to demonstrate compliance with any continuous emission limit value in Table 2.2.2 are unavailable other than under abnormal operating conditions.

2.1.8 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 2.1.7, as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.1.7 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.

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

2.1.10 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.

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

- continuous measurement shows that an emission exceeds any emission limit value in Table 2.2.2, or continuous emission monitor(s) 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 that incineration line;
- continuous measurement shows that an emission exceeds any emission limit value in Table 2.2.2 (a);
- the alternative techniques to demonstrate compliance with the abnormal operation emission limit value(s) in Table 2.2.2 (a), as detailed in the Application or as agreed in writing with the Agency, are unavailable.

2.1.12 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.

2.1.13 No condition applies.

2.1.14 Line 1 and Line 2 incinerators shall be deemed to be operating at a temperature of at least 850^{o}C if the average reading of the two thermocouples installed on each incineration line, as the case may be, is at least 750^{o}C.

2.2 Emissions

2.2.1 Emissions to Air, (including heat, but excluding Odour, Noise or Vibration) from Specified Points

2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.

2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the source(s) specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A1	Flue gases from Incinerator Line 1	Main chimney as shown on site plan Figure 1.2
A2	Flue gases from Incinerator Line 2	
A3	Flue gases from Incinerator Line 3	
A4	Vent filter on lime silo (Lines 1 and 2)	[Not shown on site plan]

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A5	Vent filter on activated carbon silo (Lines 1 and 2)	[Not shown on site plan]
A6	Vent filter on recirculated reagent silo (Lines 1 and 2)	[Not shown on site plan]
A7	Vent filter on APC residue silo	[Not shown on site plan]
A8	Vent filter on lime silo (Line 3)	[To be included in response to condition 1.6.1(i)]
A9	Vent filter on activated carbon silo (Line 3)	[To be included in response to condition 1.6.1(i)]
A10	Vent filter on recirculated reagent silo (Line 3)	[To be included in response to condition 1.6.1(i)]

2.2.1.3 The limits for emissions to air for the parameter(s) and emission point(s) set out in Table 2.2.2 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 parameter(s) and emission point(s) set out in Table 2.2.2 (a) shall not be exceeded.

Table 2.2.2 : Emission limits to air and monitoring during normal operation

Emission point reference	Parameter	Limit (including Reference Period)[Note 1]	Monitoring frequency	Monitoring method
A1, A2 and A3	Particulate matter	30 mg/m^3 ½-hr average	Continuous measurement[Note 2]	BS EN 13284-2[Note 3]
A1, A2 and A3	Particulate matter	10 mg/m^3 daily average	Continuous measurement[Note 2]	BS EN 13284-2[Note 3]
A1, A2 and A3	Particulate matter	20 mg/m^3 periodic over minimum 1-hour period	Bi-annual	BS EN 13284-1
A1, A2 and A3	Total Organic Carbon (TOC)	20 mg/m^3 ½-hr average	Continuous measurement[Note 2]	BS EN 12619[Note 3]
A1, A2 and A3	Total Organic Carbon (TOC)	10 mg/m^3 daily average	Continuous measurement[Note 2]	BS EN 12619[Note 3]
A1, A2 and A3	Total Organic Carbon (TOC)	20 mg/m^3 periodic over minimum 1-hour period	Bi-annual	BS EN 12619

Table 2.2.2 : Emission limits to air and monitoring during normal operation

Emission point reference	Parameter	Limit (including Reference Period)[Note 1]	Monitoring frequency	Monitoring method
A1 and A2	Hydrogen chloride	*Until 23:59 on 27/12/05:* 30 mg/m^3 1 hour average	Continuous measurement [Note 4]	MCERTS certified instruments[Note 5]
A1, A2 and A3	Hydrogen chloride	*From 00:00 on 28/12/05:* 60 mg/m^3 ½-hr average	Continuous measurement[Note 4]	MCERTS certified instruments[Note 5]
A1, A2 and A3	Hydrogen chloride	*From 00:00 on 28/12/05:* 10 mg/m^3 daily average	Continuous measurement[Note 4]	MCERTS certified instruments[Note 5]
A1, A2 and A3	Hydrogen chloride	*From 00:00 on 28/12/05:* 30 mg/m^3 periodic over minimum 1-hour period	Bi-annual[Note 6]	BS EN 1911
A1, A2 and A3	Hydrogen fluoride	2 mg/m^3 periodic over minimum 1-hour period	Quarterly	USEPA Method 26/26A
A1, A2 and A3	Carbon monoxide	100 mg/m^3 ½-hr average	Continuous measurement[Note 7]	ISO 12039[Note 3]
A1, A2 and A3	Carbon monoxide	50 mg/m^3 daily average	Continuous measurement[Note 7]	ISO 12039[Note 3]
A1, A2 and A3	Carbon monoxide	100 mg/m^3 periodic over minimum 4 hour period, data to be reported as ½-hour averages	Bi-annual[Note 6]	ISO 12039
A1 and A2	Sulphur dioxide	*Until 23:59 on 27/12/05:* 100 mg/m^3 1 hour average	Continuous measurement[Note 8]	BS 6069-4.4[Note 3]

Table 2.2.2 : Emission limits to air and monitoring during normal operation

Emission point reference	Parameter	Limit (including Reference Period)[Note 1]	Monitoring frequency	Monitoring method
A1, A2 and A3	Sulphur dioxide	*From 00:00 on 28/12/05:* 200 mg/m^3 ½-hr average	Continuous measurement[Note 8]	BS 6069-4.4[Note 3]
A1, A2 and A3	Sulphur dioxide	*From 00:00 on 28/12/05:* 50 mg/m^3 daily average	Continuous measurement[Note 8]	BS 6069-4.4[Note 3]
A1, A2 and A3	Sulphur dioxide	*From 00:00 on 28/12/05:* 100 mg/m^3 periodic over minimum 4 hour period	Bi-annual[Note 6]	BS 6069-4.1
A1, A2 and A3	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m^3 ½-hr average	Continuous measurement[Note 8]	ISO 10849[Note 3]
A1, A2 and A3	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	200 mg/m^3 daily average	Continuous measurement[Note 8]	ISO 10849[Note 3]
A1, A2 and A3	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	350 mg/m^3 periodic over minimum 4 hour period	Bi-annual[Note 6]	ISO 10849 or BS ISO 11564
A1, A2 and A3	Cadmium & thallium and their compounds (total)[Note 9]	0.05 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Quarterly	BS EN 14385
A1, A2 and A3	Mercury and its compounds[Note 9]	0.05 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Quarterly	BS EN 13211

Table 2.2.2 : Emission limits to air and monitoring during normal operation

Emission point reference	Parameter	Limit (including Reference Period)[Note 1]	Monitoring frequency	Monitoring method
A1, A2 and A3	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)[Note 9]	0.5 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Quarterly	BS EN 14385
A1, A2 and A3	Dioxins / furans (I-TEQ)	0.1 ng/m^3 periodic over minimum 6 hours, maximum 8 hour period [Note 10]	Bi-annual[Note 6]	BS EN 1948
A4 to A10	Particulate matter	Numerical limits for particulate matter are not set for these emission points, however the Operator shall carry out regular observations during filling of the silos to ensure there is no visible emission from the silo vent filters.		

Note 1: See Section 6 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) from the measured values after having subtracted the 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 8 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 3: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Note 4: As Note 2, except that the value of the confidence interval is 40% in place of 30%.

Note 5: The certification range for MCERTS equipment should be not more than 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 6: For the first 12 months of operation of Line 3, measurements for emission point A3 shall be made quarterly.

Note 7: As Note 2, except that the value of the confidence interval is 10% in place of 30%.

Note 8: As Note 2, except that the value of the confidence interval is 20% in place of 30%.

Note 9: 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 10: 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.

Table 2.2.2 (a) : Emission limits to air and monitoring during abnormal operating conditions

Emission point reference	Parameter	Limit (including Reference Period)[Note 1]	Monitoring frequency	Monitoring method
A1, A2 and A3	Particulate matter	150 mg/m^3 ½-hr average	Continuous measurement Note 2	BS EN 13824-2[Note 3] during abatement plant failure or alternative surrogate as specified in the application during failure of the continuous emission monitor.
A1, A2 and A3	Total Organic Carbon (TOC)	20 mg/m^3 ½-hr average	Continuous measurement Note 2	BS EN 12619[Note 3] during abatement plant failure or alternative surrogate as specified in the application during failure of the continuous emission monitor.
A1, A2 and A3	Carbon monoxide	100 mg/m^3 ½-hr average	Continuous measurement Note 4	ISO 12039[Note 3] during abatement plant failure or alternative surrogate as specified in the application during failure of the continuous emission monitor.

Note 1: See Section 6 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 8 per day).

Note 3: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Note 4: As Note 2, except that the value of the confidence interval is 10% in place of 30%.

2.2.1.4 No condition applies.

2.2.2 Emissions to water (other than groundwater), including heat, from specified points

2.2.2.1 This Part 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

2.2.2.2 Conditions 2.2.2.3 - 2.2.2.6 shall not apply to emissions to sewer.

2.2.2.3 No emission from the Permitted Installation shall be made to water.

2.2.2.4 No condition applies.

2.2.2.5 No condition applies.

2.2.2.6 No condition applies.

Emissions to sewer

2.2.2.7 Emissions to sewer from the specified emission points in Table 2.2.7 shall only arise from the source(s) specified in that Table.

Table 2.2.7 Emission points to sewer

Emission point reference or description	Source	Sewer
S1	Overflow from V notch weir serving Lines 1 and 2	Severn Trent Water plc combined sewer
S2	Discharge from effluent treatment plant serving Line 3	Severn Trent Water plc combined sewer

2.2.2.8 The limits for the emissions to sewer for the parameter(s) and emission point(s) set out in Table 2.2.8 shall not be exceeded.

Table 2.2.8 : Emission limits and monitoring frequency to sewer

Emission point reference	Substance	Limit (including Reference Period)	Monitoring frequency	Monitoring method
S1	Total suspended solids as defined by Directive 91/271/EEC	500 mg/l Periodic sample.	Quarterly	BS EN 872:1996
S1	Chemical oxygen demand	1000 mg/l Periodic sample.	Quarterly	BS 6068-2.34:1988
S1	Total metals[1]	6 mg/l Periodic sample.	Quarterly	BS EN ISO 11885:1998
S1	pH	Minimum 6.0 Maximum 12.5 Periodic sample.	Quarterly	BS 6068-2.50:1995

Table 2.2.8 : Emission limits and monitoring frequency to sewer

Emission point reference	Substance	Limit (including Reference Period)	Monitoring frequency	Monitoring method
S2	Total suspended solids as defined by Directive 91/271/EEC	To be approved by the Agency after completion of condition 1.6.1(vii)	Quarterly	BS EN 872:1996
S2	pH	Minimum 6.0 Maximum 10.0 Continuous measurement	Quarterly	BS 6068-2.50:1995
S2	Total metals[Note 1]	To be approved by the Agency after completion of condition 1.6.1(vii)	Quarterly	BS EN ISO 11885:1998
S2	Oils and hydrocarbons	5 mg/l Flow proportional sample	Quarterly	SCA blue book 77

Note 1: Total metals means the sum of chromium, copper, lead, nickel and zinc, in solution and in suspension.

2.2.2.9 No condition applies.

2.2.2.10 No condition applies.

2.2.3 Emissions to groundwater

2.2.3.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.2 No emission from within the Permitted Installation shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.3 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall use BAT to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application.

2.2.4 Fugitive emissions of substances to air

2.2.4.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

- storage areas
- buildings
- pipes, valves and other transfer systems
- open surfaces

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5 Fugitive emissions of substances to water and sewer

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:

- all structures under or over ground
- surfacing
- bunding
- storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

2.2.6 Odour

2.2.6.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials
- controlling processing parameters to minimise the generation of odour
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance
- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.6.2 No condition applies.

2.2.6.3 No condition applies.

2.2.7 Emissions to Land

2.2.7.1 This Part 2.2.7 of this Permit shall not apply to emissions to groundwater.

2.2.7.2 No emission from the Permitted Installation shall be made to land.

2.2.7.3 No condition applies.

2.2.8 Other technical measures

2.2.8.1 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 2.2.11.

Table 2.2.11: Equivalent parameters and technical measures	
Parameter or measure	**Requirement or description of measure, and frequency if relevant**
Sulphur content of gas oil	Gas oil purchased for burning in the permitted installation shall not exceed the maximum sulphur content of gas oil specified in the Sulphur Content of Liquid Fuels Regulations 2000.
Bottom ash burn-out quality	The Permitted Installation must be operated to ensure that the bottom ash shall have a total organic carbon (TOC) content less than 3%, or a loss on ignition of less than 5% of the dry weight of the ash.

2.3 Management

2.3.1 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.

Training

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

2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.

2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

Maintenance

2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.

2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:

2.3.6.1 a written or electronic maintenance programme; and

2.3.6.2 records of its maintenance.

Incidents and Complaints

2.3.7 The Operator shall maintain and implement written procedures for:

2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits; and

2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and

2.3.7.3 ensuring that detailed records are made of all such actions and investigations.

2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.

2.3.9 No condition applies.

2.4 Efficient use of raw materials

2.4.1 The Operator shall -

2.4.1.1 maintain the raw materials table or description submitted in response to Section 2.4 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;

2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and

2.4.1.3 ensure that incoming water use is directly measured and recorded.

2.5 Waste Storage and Handling

2.5.1 The Operator shall design, 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.

2.6 Waste recovery or 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 the waste recovery or disposal table or description submitted in response to Section 2.6 of the Application and in particular review the available options for waste recovery and disposal for the purposes of complying with condition 2.6.1 above.

2.6.3 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.

2.6.4 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.

2.6.5 Bottom ash and APC residues shall not be mixed.

2.6.6 Wastes produced at the Permitted Installation shall, as a minimum, be sampled and analysed in accordance with Table 2.6.1. Additional samples shall be taken and tested and appropriate action taken, whenever:

- disposal or recovery routes change; or
- it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

Table 2.6.1 : Emission limits and monitoring frequency for solid residues

Emission point reference	Substance	Limit (including Reference Period)	Monitoring frequency	Monitoring method
Bottom Ash	TOC	3%	Quarterly for combined sample from Lines 1 and 2. Annually for separate samples from Line 1 and 2. Separate sample for Line 3 to be collected monthly for first 12 months of operation, thereafter 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 4.1.2.

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 design, 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.

2.8 Accident prevention and control

2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in response to Section 2.8 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

2.9 Noise and Vibration

2.9.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of noise and vibration from the Permitted Installation, in particular by:

- equipment maintenance, eg. of fans, pumps, motors, conveyors and mobile plant;
- use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
- timing and location of noisy activities and vehicle movements;
- periodic checking of noise emissions, either qualitatively or quantitatively; and
- maintenance of building fabric,

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.9.2 Alarms/ sirens/ steam safety valves shall only be tested between the hours of 09:00 and 17:00 Monday to Friday and not on any Public Holiday.

2.9.3 No condition applies.

2.10 On-site 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 2.2.2, 2.2.2(a) and 2.2.8, 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 2.2.2 and 2.2.2a, 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 2.2.2 and 2.2.2a, 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 [Note1]	Other specifications
North west corner of crane hall	Wind speed and direction	Continuous	Anemometer	
A1, A2 and A3	Temperature of flue gas	Continuous	Thermocouple	
A1, A2 and A3	Pressure of flue gas	Continuous	Pressure transducer	
A1, A2 and A3	Oxygen content of flue gas	Continuous	ISO12039	
A1, A2 and A3	Water vapour content of flue gas	Continuous	Infra red absorption	
A1, A2 and A3	Ammonia Half hour average and daily average	Continuous	Laser diode instrument	
A1, A2 and A3	Nitrous oxide (N_2O)	Bi-annual[Note2] periodic measurement over minimum 1 hour period	VDI 2469-1 or VDI 2469-2	
A1, A2 and A3	Dioxin-like PCBs (WHO-TEQ[Note 3] Humans / Mammals)	Bi-annual[Note4] periodic measurement, 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)	

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 [Note1]	Other specifications
A1, A2 and A3	Dioxin-like PCBs (WHO-TEQ[Note 3] Fish)	Bi-annual[Note 4] periodic measurement 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)	
A1, A2 and A3	Dioxin-like PCBs (WHO-TEQ[Note 3] Birds)	Bi-annual[Note 4] periodic measurement, 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)	
A1, A2 and A3	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in condition 6.1.1.	Bi-annual[Note 4] periodic measurement, average value over sample period of between 6 and 8 hours.	BS ISO 11338	
A1, A2 and A3	Dioxins / furans (WHO-TEQ[Note 3] Humans / Mammals)	Bi-annual[Note 4] periodic measurement, 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)	
A1, A2 and A3	Dioxins / furans (WHO-TEQ[Note 3] Fish)	Bi-annual[Note 4] periodic measurement, 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)	

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[Note1]	Other specifications
A1, A2 and A3	Dioxins / furans (WHO-TEQ[Note 3] Birds)	Bi-annual[Note 4] periodic measurement, 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)	
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[Note 5]	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 as per Agency ash sampling protocol. Analysis for total soluble fraction using EA NEN 7371:2004 and PR/CEN/TS 14429.	

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[Note1]	Other specifications
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[Note 5]	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 as per Agency ash sampling protocol. Analysis for total soluble fraction using EA NEN 7371:2004 and PR/CEN/TS 14429.	
Thermocouples in left and right hand side of combustion chamber on Lines 1 and 2.	Temperature (° C)	Continuous	Traceable to National Standards	
Temperature monitor on Line 3.	Temperature (^{o}C)	Continuous	Traceable to National Standards	

Note 1: Monitoring methods specified are for Lines 1 and 2. Methods for Line 3 will be specified in the response to improvement condition 1.6.1(viii).

Note 2: Lines 1 and 2 shall be sampled quarterly in first year of operation of SNCR system. Line 3 shall be sampled quarterly in first year of operation.

Note 3: 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 4: Line 3 shall be sampled quarterly in the first year of operation.

Note 5: Residues from Line 3 shall be sampled monthly in the first year of operation.

2.10.5 The Operator shall carry out monitoring of the process variables listed in Table 2.10.1 to the frequencies and methods described in that Table.

2.10.6 No condition applies.

2.10.7 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/ or spot sampling, where such notification has been requested in writing by the Agency.

2.10.8 The Operator shall maintain records of all monitoring taken or carried out (this includes records of the taking and analysis of samples instrument measurements (periodic and continual), calibrations, examinations, tests and surveys) and any assessment or evaluation made on the basis of such data.

2.10.9 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, unless otherwise agreed in writing with the Agency, and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in Table 2.2.2. 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.

2.10.10 There shall be provided:

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

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

2.10.11. The Operator shall carry out the on-going monitoring identified in the Site Protection and Monitoring Programme submitted under condition 4.1.8, unless otherwise agreed in writing by the Agency.

2.10.12. The Operator shall, within 6 months of the issue of this Permit, in accordance with and using the format given in the Land Protection Guidance:

2.10.12.1 collect the site reference data identified in the Site Protection and Monitoring Programme submitted under condition 4.1.8, and

2.10.12.2 report that site reference data to the Agency,

unless otherwise agreed in writing by the Agency.

2.11 Closure and Decommissioning

2.11.1 The Operator shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by:-

2.11.1.1 attention to the design of new plant or equipment;

2.11.1.2 the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and

2.11.1.3 the maintenance of a site closure plan to demonstrate that the Installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.

2.11.2 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.

2.11.3 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.

2.11.4 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

2.12 Multiple Operator installations

2.12.1 The following conditions apply as a result of interactions between the Permits covering this installation : -

2.12.1.1 The Operator shall immediately notify the Operator of the clinical waste incinerator when Line 1 and Line 2 of the municipal waste incinerator are off line.

2.13 Transfer to effluent treatment plant

2.13.1 No transfer from the Permitted Installation shall be made to effluent treatment plant.

2.13.2 No condition applies.

3 Records

3.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-

3.1.1 be made available for inspection by the Agency at any reasonable time;

3.1.2 be supplied to the Agency on demand and without charge;

3.1.3 be legible;

3.1.4 be made as soon as reasonably practicable;

3.1.5 indicate any amendments which have been made and shall include the original record wherever possible;

3.1.6 be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing; and

3.1.7 where they concern the condition of the site of the Installation or are related to the implementation of the Site Protection and Monitoring Programme, be kept at the Permitted Installation, or other location agreed by the Agency in writing, until all parts of the Permit have been surrendered.

4 Reporting

4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details 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. The first report shall be submitted by the 31st January 2007.

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 review fugitive emissions, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall 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 reduce them within 3 months of the end of such period.

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. The first report shall be submitted by the 31st January 2007.

4.1.7 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.

4.1.8 The Operator shall, within two months of the date of this Permit, submit a detailed Site Protection and Monitoring Programme, in accordance with and using the appropriate template format given in the Land Protection Guidance. The Operator shall implement and maintain the Site Protection and Monitoring Programme (SPMP) submitted under this condition, and shall carry out regular reviews of it at a minimum frequency of every 2 years. The results of such reviews and any changes made to the SPMP shall be reported to the Agency within 1 month of the review or change.

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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;

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 6.1.1; and

5.1.1.6 each operation of the bag filter by-pass when waste is feeding, unless already reported in accordance with condition 5.1.1.5.

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;

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;

5.1.2.4 for notifications under condition 5.1.1.6, the information listed in Part D 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 or to that in the Site Protection and Monitoring Programme submitted under condition 4.1.8 of this Permit.

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:-

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

- 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:

- any change in the Operator's name or address;
- any steps taken with a view to the dissolution of the Operator.

5.1.5.3 In any other case: -

- the death of any of the named Operators (where the Operator consists of more than one named individual);
- any change in the Operator's name(s) or address(es);
- 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 Interpretation

6.1.1 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 the abatement plant 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 normal emission limit values.

"*Annual release*" means the total release during any calendar year commencing 1 January.

"*APC residues*" means air pollution control residues.

"*Application*" means the application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations and any other information formally accepted by the Agency as being part of the Application.

"Background concentration" means such concentration of that substance as is present in:

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

"BAT" means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "available techniques" means "those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the Operator"; "best" means "in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the Installation is designed, built, maintained, operated and decommissioned". In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

"*Bi-annual*" means twice per year with at least five months between tests.

"*Bottom Ash*" means ash falling through the grate or transported by the grate and includes ash from within the boiler.

"*CEM*" means Continuous emission monitor.

"*CEN*" means Commité Européen de 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.

"*Daily average*" for releases of substances to air means the average of half-hourly averages over a calendar day during normal operation. Where any periods 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.

"*Dioxin and Furans*" means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

"*ELV*" means emission limit value.

"*Fugitive emission*" means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

"*Groundwater*" means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"*Incineration Line*" means all of the incineration equipment related to a common discharge to air location.

"*ISO*" means International Standards Organisation.

"Land Protection Guidance" means the version of the Agency guidance note "H7 - *Guidance on the Protection of Land under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme",* including its appended templates for data reporting, which is current at the time of issue of the Permit.

"$L_{Aeq,T}$*"* means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T.

"$L_{A90,\ T}$*"* means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

"L_{AFmax}*"* means the maximum A weighted sound level measurement in dB measured with a fast time weighting.

"*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.

"*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 6.1.5.

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

"*PPC Regulations*" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit.

"PM_{10}, $PM_{2.5}$, $PM_{1.0,}$" mean respectively the mass of particulate matter contained in particles of less than 10, 2.5 and 1.0 micrometres aerodynamic diameter.

"*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.

"Sewer" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"*Shutdown*" for each incineration line is any period where the incineration line is being returned to a non-operational state and begins when waste is no longer being fed to the incineration line and auxiliary burners are required to maintain temperature.

"*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*" for each incineration line is any period, where the incineration line has been non-operational, after igniting the auxiliary burner until waste is fed to the incineration line.

"*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).

"*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.

"Year" means calendar year ending 31 December.

6.1.2 Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

6.1.3.1 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

6.1.3.2 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

6.1.3.3 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.

6.1.4 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.

6.1.5 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)**		
		Humans / 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-HxCDF	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)**		
	Humans / 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 PCBs			
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

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	Medium	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

Part D

Permit Number	
Name of Operator	
Location of Installation	

For multi-line plants, indicate on which line(s) the bag filter bypass was (were) operated	
Time at which bag filter bypass commenced	
Time at which bag filter bypass ceased	
Duration of this incidence of bag filter bypass	
Reasons for use of bag filter bypass	
Combustion conditions during bag filter bypass	
Measures taken to stop the release	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
The dates of any other use of the bag filter bypass in the preceding 12 months	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of WasteNotts (Reclamation) Limited

Schedule 2 - Reporting of monitoring data

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Sulphur dioxide mg m^{-3}	A1, A2 and A3	Every 3 months for continuous data; every 6 months for periodic data	01/01/2006
Total Organic Carbon (TOC) mg m^{-3}	A1, A2 and A3	Every 3 months for continuous data; every 6 months for periodic data	01/01/2006
Oxides of nitrogen mg m^{-3}	A1, A2 and A3	Every 3 months for continuous data; every 6 months for periodic data	01/01/2006
Hydrogen chloride mg m^{-3}	A1, A2 and A3	Every 3 months for continuous data; every 6 months for periodic data	01/01/2006
Hydrogen fluoride mg m^{-3}	A1, A2 and A3	Every 3 months	01/01/2006
Particulate Matter mg m^{-3}	A1, A2 and A3	Every 3 months for continuous data; every 6 months for periodic data	01/01/2006
Carbon Monoxide mg m^{-3}	A1, A2 and A3	Every 3 months for continuous data; every 6 months for periodic data	01/01/2006
Cadmium & Thallium and their compounds (total)	A1, A2 and A3	Every 3 months	01/01/2006
Mercury and its compounds	A1, A2 and A3	Every 3 months	01/01/2006
Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium and their compounds (total)	A1, A2 and A3	Every 3 months	01/01/2006
Dioxins / furans (I-TEQ)	A1, A2 and A3	Every 6 months.	01/01/2006
Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	A1, A2 and A3	Every 6 months.	01/01/2006
Dioxin-like PCBs (WHO-TEQ Fish)	A1, A2 and A3	Every 6 months.	01/01/2006
Dioxin-like PCBs (WHO-TEQ Birds)	A1, A2 and A3	Every 6 months.	01/01/2006
Specific individual poly-cyclic aromatic hydrocarbons (PAHs)	A1, A2 and A3	Every 6 months.	01/01/2006
Dioxins/furans (WHO-TEQ Humans/Mammals)	A1, A2 and A3	Every 6 months	01/01/2006
Dioxins/furans (WHO-TEQ Fish)	A1, A2 and A3	Every 6 months	01/01/2006
Dioxins/furans (WHO-TEQ Birds)	A1, A2 and A3	Every 6 months	01/01/2006
Ammonia	A1, A2 and A3	Every 3 months	01/01/2006
Nitrous Oxide	A1, A2 and A3	Every 6 months	01/01/2006

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Temperature	A1, A2 and A3	As requested by Agency site inspector. See note 1.	01/01/2006
Pressure	A1, A2 and A3	As requested by Agency site inspector. See note 1.	01/01/2006
Oxygen content	A1, A2 and A3	As requested by Agency site inspector. See note 1.	01/01/2006
Water vapour content	A1, A2 and A3	As requested by Agency site inspector. See note 1.	01/01/2006
Furnace Chamber Temperature	Line 1, Line 2 and Line 3	As requested by Agency site inspector. See note 1.	01/01/2006
Wind Speed and Direction	Site	As requested by Agency site inspector. See note 1.	01/01/2006
Total suspended solids	S1 and S2	Every 3 months	01/01/2006
Chemical oxygen demand	S1	Every 3 months	01/01/2006
Chromium, copper, lead, nickel and zinc (total)	S1 and S2	Every 3 months	01/01/2006
PH	S1 and S2	Every 3 months	01/01/2006
Oils and hydrocarbons	S2	Every 3 months	01/01/2006
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Bottom Ash (combined sample)	Every 3 months	01/01/2006
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Bottom Ash (combined sample)	Before use of a new disposal or recycling route	01/01/2006
TOC	Bottom Ash Line 1 and Line 2 (combined sample)	Every 3 months	01/01/2006
TOC	Bottom Ash Line 1 and Line 2 (separate sample of each line)	Every 12 months	01/01/2006
TOC	Bottom Ash Line 3 (separate sample)	Every month in first year of operation, every 3 months thereafter	From end of commissioning of Line 3

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	APC Residues Line 1 and Line 2 (combined sample)	Every 3 months	01/01/2006
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	APC Residues Line 3	Every month in first year of operation, every 3 months thereafter	From end of commissioning of Line 3
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	APC Residues Line 1 and Line 2 (combined sample)	Before use of a new disposal or recycling route	01/01/2006
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	APC Residues Line 3	Before use of a new disposal or recycling route	From end of commissioning of Line 3
Water usage	Installation	Every 12 months	01/01/2006
Energy usage	Installation	Every 12 months	01/01/2006
Waste disposal and/or recovery.	Installation	Every 12 months	01/01/2006

Note 1. These parameters would **not** normally require to be reported, but would be available for inspection at the site. Only where there is an operational need for a report to be made should one be required

Schedule 3 - Forms to be used

Table S3: Reporting Forms		
Media or parameter	**Form Number**	**Date of Form**
Air: Periodic monitored emissions quarterly	Agency Form / EP3034SN/ A1	22/12/05
Air: Periodic monitored emissions biannually	Agency Form / EP3034SN/ A2	22/12/05
Air: Continuously monitored emissions of particulates	Agency Form / EP3034SN/ A3	22/12/05
Air: Continuously monitored emissions of TOC	Agency Form / EP3034SN/ A4	22/12/05
Air: Continuously monitored emissions of hydrogen chloride	Agency Form / EP3034SN/ A5	22/12/05
Air: Continuously monitored emissions of Carbon monoxide	Agency Form / EP3034SN/ A6	22/12/05
Air: Continuously monitored emissions of Sulphur dioxide	Agency Form / EP3034SN/ A7	22/12/05
Air: Continuously monitored emissions of Oxides of nitrogen	Agency Form / EP3034SN/ A8	22/12/05
Sewer: monitoring data	Agency Form / EP3034SN/ S1	22/12/05
Bottom Ash, APC Residues: Composition	Agency Form / EP3034SN/ Ash1	22/12/05
Bottom Ash, APC Residues: Solubility	Agency Form / EP3034SN/ Ash2	22/12/05
Waste disposal and/or recovery	Agency Form / EP3034SN/ R1	22/12/05
Water usage	Agency Form / EP3034SN/ WU	22/12/05
Energy usage	Agency Form / EP3034SN/ E	22/12/05
Performance indicators	Agency Form / FP3634SL / PI1	22/12/05

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 (including separately collected fractions)	tonnes
Total Commercial/Industrial Waste Incinerated	tonnes
Steam exported (as measured at London Road Heat Station)	terajoules
Hot water exported (as measured at London Road Heat Station)	terajoules
Electrical energy imported from London Road Heat Station (MWI and CWI)	KWhrs
Gas oil used	Tonnes

Table S4.2: Performance parameters		
Parameter	**Frequency of assessment**	**Performance indicator**
Electrical energy Imported to site	Quarterly	KWhrs / tonne of waste incinerated
Fuel oil consumption	Quarterly	kg/ tonne of waste incinerated
Mass of Bottom Ash produced	Quarterly	kg/ tonne of waste incinerated
Mass of APC residues produced	Quarterly	kg/ tonne of waste incinerated
Ammonia consumption	Quarterly	kg/ tonne of waste incinerated
Activated Carbon consumption	Quarterly	kg/ tonne of waste incinerated
Lime consumption	Quarterly	kg/ tonne of waste incinerated
Water consumption	Quarterly	m^3/ tonne of waste incinerated

Schedule 5 - Site Plan

[omitted]

Schedule 6 - List of Permitted Wastes

Permitted Waste Types			
Description	**European Waste Catalogue Number (where available) or other specification**	**Limitations**	**Waste type as defined in Table 2.1.2**
Mixed municipal waste, excluding separately collected fractions	20 03 01		Mixed municipal waste
Waste from markets	20 03 02		Separately collected fractions of municipal waste.
Biodegradable waste	20 02 01		
Other non-biodegradable wastes	20 02 03		
Paper and cardboard	20 01 01		
Biodegradable kitchen and canteen waste	20 01 08		
Clothes	20 01 10		
Textiles	20 01 11		
Edible oils and fats	20 01 25		
Medicines other than cytotoxic and cytostatic medicines	20 01 32		
Wood not containing dangerous substances	20 01 38		
Plastics	20 01 39	Not including PVC	
Metals	20 01 40	Only if no recycling outlet available	
Paper and cardboard packaging	15 01 01		Separately collected fractions of packaging
Plastic packaging	15 01 02		
Wooden packaging	15 01 03		
Metallic packaging	15 01 04		
Composite packaging	15 01 05		
Mixed packaging	15 01 06		
Textile packaging	15 01 09		
Animal tissue waste	02 01 02		Non-hazardous commercial and industrial waste
	02 02 02		
Plant tissue waste	02 01 03		
Waste plastics and rubber (excluding packaging)	02 01 04	Not including PVC	
	07 02 13	Not including PVC	
	12 01 05	Not including PVC	
	17 02 03	Not including PVC	
	19 12 04	Not including PVC	
Wastes from forestry	02 01 07		

Permitted Waste Types			
Description	**European Waste Catalogue Number (where available) or other specification**	**Limitations**	**Waste type as defined in Table 2.1.2**
Materials unsuitable for consumption or processing	02 02 03 02 03 04 02 06 01		Non-hazardous commercial and industrial waste
Waste bark, cork and wood	03 01 01 03 03 01 17 02 01 19 12 07		
Sawdust, shavings, cuttings, wood, particle board and veneer	03 01 05		
Mechanically separated rejects from pulping of waste paper and cardboard	03 03 07		
Wastes from sorting of paper and cardboard destined for recycling	03 03 08		
Wastes from leather and fur industry	04 01 08 04 01 09		
Wastes from composite textile materials	04 02 09		
Organic matter from natural products (eg. grease, wax)	04 02 10		
Wastes from unprocessed textile fibres	04 02 21		
Wastes from processed textile fibres	04 02 22 19 12 08		
Carbon black	06 13 03		
Pharmaceutical wastes not containing dangerous substances	07 05 14 07 05 99	Not including cytotoxic or cytostatic medicines	
Waste paint and varnish not containing organic solvents or other dangerous substances	08 01 12		
Waste coating powders	08 02 01		
Photographic industry wastes	09 01 07 09 01 08 09 01 10 09 01 12 09 01 99		

Permitted Waste Types			
Description	**European Waste Catalogue Number (where available) or other specification**	**Limitations**	**Wastetype as defined in Table 2.1.2**
Spent grinding bodies and grinding materials not containing dangerous substances	12 01 21		Non-hazardous commercial and industrial waste
Absorbents, filter materials, wiping cloths and protective clothing not contaminated by dangerous substances	15 02 03		
Insulation materials not containing asbestos or dangerous substances	17 06 04		
Wastes from waste management industry	19 01 02	Only if originates from this plant.	
	19 01 12	Only if originates from this plant.	
	19 02 10		
	19 05 01		
	19 05 02		
	19 05 03		
	19 12 01		
	19 12 10		
	19 12 12		
Waste not otherwise specified	02 02 99		
	07 06 99		
	16 03 04		
	16 03 06		

END OF PERMIT