Permit with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

Newhaven Energy Recovery Facility
Veolia ES South Downs Limited
North Quay
Newhaven
East Sussex BN9 0HE

Permit number

BV8067IL

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

The main purpose of the activity at the installation is :-

To burn non-hazardous municipal waste and to recover energy in the form of steam and electricity for export to the national grid. The installation covers the site and the entire incineration plant including all incineration lines, waste reception, storage, waste shredding, waste-fuel and air supply systems, boiler, facilities for the treatment of exhaust gases, on-site facilities for handling and storage of residues and waste water, stack, devices and systems for controlling incineration operations, recording and monitoring conditions.

The site will also be subject to a separate Waste Management Licence and the licensed area separately controlled will not be subject to the requirements of this permit. The license will cover recyclable, bulky and transfer materials, none of which will be incinerated.

The plant has a design capacity of 28 tonnes per hour (two separate lines of 14te/hr each) , which equates to 210,000 tonnes per annum at 7500 hours operation. There are two identical waste streams. The heat produced is used to generate electricity for export to the national grid. The process will generate approximately 19MW of electricity of which 16.5MW will be exported. Facilities will be maintained to allow steam or hot water pass-outs such that opportunities for use of heat may be capitalised upon should they become practicable.

Raw Materials

Waste is delivered to the plant in road vehicles which are weighed before proceeding to the tipping hall. This is a fully enclosed building, maintained under slight negative pressure to minimise odours, dust or litter escaping from the building. The vehicles tip into a waste storage pit from where two grabs transfer waste into the feed mechanism. This consists of two feeding hoppers and two feeding chutes. The grabs are also used to homogenise the waste and to identify and remove any large bulky items.

Lime for the flue gas cleaning process is delivered by bulk tanker and offloaded pneumatically into sealed silos. The lime is injected directly into the flue gas along with activated carbon into the reactor vessel where acid gases are neutralised.

Activated carbon for the flue gas cleaning process is delivered in bulk and stored in a dedicated storage silo from which it is delivered pneumatically to the reactor vessel.

A 25% solution of ammonia in water is also used for the flue gas cleaning process. This reacts with oxides of nitrogen in the flue gas to produce nitrogen and steam, a process known as selective non-catalytic reduction (SNCR). The ammonia solution is delivered in bulk and stored in a dedicated bunded tank.

Caustic soda for water treatment resin regeneration is delivered in bulk containers and off loaded into bunded tanks in the demineralisation area.

Hydrochloric acid for water treatment resin regeneration is delivered in bulk containers and off loaded into bunded tanks in the demineralisation area.

Various other water treatment chemicals are delivered in appropriate containers and stored in bunded areas.

An underground, double skinned, gas oil tank with leakage detection provides oil for the combustion chamber burners and on-site vehicles.

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

Combustion Process

Each incinerator stream is served by an inclined grate with a combination of moving and fixed grate bars which are designed to continually mix the waste and hence promote good combustion. They are designed to burn wastes with a wide range of calorific values from 7000kJ/kg up to 12,500 kJ/kg without the need for any auxiliary fuel. As the waste enters the incinerator it passes sequentially through a drying zone, a combustion zone and a burnout zone. Primary combustion air is extracted from within the tipping hall and fed in below the waste through the grate bars to promote good combustion.

Secondary combustion air is heated and injected above the waste where it provides for good mixing and combustion control. The secondary air is drawn in part from re-circulated flue gas in order to reduce the formation of oxides of nitrogen. Ammonia solution is injected into the combustion chamber to react with the oxides of nitrogen, chemically reducing them to nitrogen and water.

Auxiliary low sulphur gas oil burners are fitted for start-up sequencing and to assist in maintaining gas temperatures above 850oC for 2 seconds with approximately 6% oxygen content in the incinerator. The oxygen concentration and temperature are carefully controlled to minimise dioxin emissions.

Bottom ash from the grate is transported by the grate to the bottom of the hearth and into a water filled quench pit. A conveyor then transports the wet ash through a grid to remove large items. The large items are collected in a skip. The ash then passes through a magnetic separator to remove some of the ferrous metals which are stored in the “ferrous metals” area. The bottom ash is stored in the bottom ash storage bay for reuse or disposal. Both the bottom ash and ferrous metal storage bays have been designed for a capacity of at least four days. Liquids collected from the ash and ferrous storage bay are either recycled within the process or disposed of to a licensed facility.

Energy Recovery

The steam generating boilers are located at the exit of the flue gas from the main chamber. Hot gases pass through a series of heat exchangers and superheaters and finally through an economiser. The steam is fed to a steam turbine which will generate electricity. Water for steam generation is taken from a towns water main and is treated prior to use in the boilers. Steam is condensed in air cooled vacuum condensers and then returned to the boiler. In the event that the quantity of waste process water awaiting recycle exceeds the requirements of the installation it will be discharged to the combined foul sewer under the terms of a trade effluent consent with the sewerage authority (Southern Water PLC)

Gas Cleaning

The plant is designed to meet the requirements of the EU Waste Incineration Directive as a minimum for releases to air by a combination of main process design and operation and abatement equipment.

Flue gases pass from the boiler to the gas cleaning equipment. The design of the boilers, based on a benchmark computerised fluid dynamics assessment (CFD), is such that the flue gas temperature is quickly reduced through the critical temperature range thus minimising dioxin reformation. The gas enters a reaction chamber where lime slurry and activated carbon are injected to neutralise acid gases and absorb (primarily) dioxins, volatile organic compounds (VOCs), PAH's and mercury. The lime injection rate is controlled by upstream monitoring of hydrogen chloride (HCl) at the exit of the boiler thus optimising the efficiency of gas scrubbing and lime usage. Downstream monitoring of HCl in the exit flue gas is also used to fine control lime injection rate.

Nitrogen oxides (NOx) abatement is achieved by the use of both flue gas recirculation (FGR) and selective non-catalytic reduction (SNCR). The SNCR is based on the injection of ammonia into the furnace chambers before the lime and carbon injection and before the gas passes to the bag filters.

Bag filters remove the fine ash plus excess and spent lime as the gases pass across the bag fabric. The build up of the lime on the bag enhances the performance of the system. Reverse pulses of compressed air are used to remove the accumulated particulate ("APC residues") from the bags. The APC residues fall into a collection hopper and are then conveyed to a storage silo.

The cleaned gas then discharges to atmosphere via two 65-metre stacks at an efflux velocity in excess of 15m sec-1 at maximum throughput.

Ancillary Operations

De-mineralised water is required to compensate for boiler blow down losses. A packaged demineralisation plant provides this water. The ion exchange resins are regenerated using sodium hydroxide and hydrochloric acid and the regeneration effluent is routed for neutralisation in the collection pit for reuse in the ash discharger together with the boiler blow down itself.

Ash Handling

Bottom ash and APC residues are sent for disposal off site by licensed contractors subject to waste licensing legislation although there are plans to recycle all bottom ash to construction aggregate. Ferrous metals are sent for recovery off site by licensed contractors subject to waste licensing legislation. At least quarterly sampling of the bottom ash will be carried out to ensure effective burn out is being achieved by testing for the total organic carbon in the residual ash. All other solid waste residues arising from the operation of the process will be removed from site, in enclosed containers, for disposal by suitable contractors.

Liquid Effluent and Site Drainage

The plant has been designed for zero process water discharge during normal operation. All process waters pass to a waste water treatment plant which is designed for, as near as practicable, closed loop recycling of waters used by the process. Drainage water from potentially contaminated areas will also be routed to the waste water treatment plant. Excess waste water will be tested and, dependant on results, will either be discharged to sewer or tankered off site for disposal at an appropriate licensed facility.

There is no discharge of process liquids to controlled waters. Uncontaminated surface water is discharged via an interceptor to the River Ouse or, in extreme flood conditions, retained on site and tankered away.

Domestic sewage will be discharged to the public sewer

Emissions Monitoring

Emissions from the stack are continuously monitored for: particulates, carbon monoxide (CO), ammonia (NH3), sulphur dioxide (SO2), hydrogen chloride (HCl), oxygen (O2), Oxides of nitrogen (NO and NO2 expressed as NO2) and volatile organic compounds (VOCs as Total Organic carbon (TOC)) and H2O.

In addition periodic sampling and measurement will be carried out for metals [cadmium (Cd), thallium (Tl), mercury (Hg), antimony (Sb), arsenic (As), lead (Pb), chromium (Cr), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni), vanadium (V)], dioxins and furans, dioxin like PCBs, PAH's, hydrogen fluoride (HF) and nitrous oxide (N2O). The frequencies for periodic measurements are specified in the permit and for the first year will be carried out four times.

The appearance of the key release points of the main plant stack are monitored by CCTV. Date coded video records are available to supplement process records should they be required.

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 installation is a new Waste Incineration Installation under the Regulations. Conditions delivering the corresponding requirements of the relevant articles of the Waste Incineration Directive have therefore 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
N/A		

Superseded Licences/Authorisations/Consents relating to this installation

Holder	Reference Number	Date of Issue
N/A		

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
N/A		

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 BV8067IL	Received 23/12/2005	
Response to request for information	Request dated 21/2/06	Response dated 01/03/06
Additional information requested in writing (1st Schedule 4 notice)	Document dated 14/3/06	Response dated 25/04/06
Additional information requested in writing (2nd Schedule 4 notice)	Document dated 19/4/06	Response dated 16/05/06
Permit BV8067IL determined	Issued 06/11/06	
Permit BV8067IL quashed	Issued 05/12/07	
Additional information requested in writing (3rd Schedule 4 notice)	Issued 08/02/08	Response dated 07/03/08
Permit BV8067IL determined	Issued 13/03/09	

End of Introductory Note.

Permit

Pollution Prevention and Control Regulations 2000

ENVIRONMENT AGENCY

Permit

Permit number

BV8067IL

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

Veolia ES South Downs Limited ("the Operator"),

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

Veolia House, 154a Pentonville Road, London, N1 9PE

Company registration number **3765422**

to operate an Installation at

Newhaven Energy Recovery Facility
North Quay
Newhaven
East Sussex, BN9 0HE

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

Signed	Date
	13th March 2009

Martin Jenkins

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 waste and all associated activities	This includes the entire incineration plant including all incineration lines, waste reception, storage, on site pre-treatment facilities, waste fuel and air supply systems, boiler, facilities for the treatment of exhaust gases, on site facilities for treatment and storage of residues and waste water, stack, devices and systems for controlling incineration operations

1.1.2 Where waste on site is subjected to activities that are exempt from control under the Waste Management Licensing Regulations 1994 then the wastes controlled under condition 1.1.1, above, shall be clearly identified and kept separate from such exempt waste activities and a record shall be kept of where such exempt activities are conducted.

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, excluding the areas shaded in green which relate to the separate waste management licensed facility.

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 within 6 months of completion of commissioning. 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.	Initial calibration report to be submitted to the Agency within 3 months of completion of commissioning the installation with full summary evidence of compliance report to be submitted within 18 months of commissioning
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 within 3 months of completion of commissioning the installation.
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 settings installed to meet the WID. 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.	Within 6 months of completion of commissioning
5	The Operator shall carry out checks to verify the residence time, minimum temperature and oxygen content of the exhaust gases in the furnace whilst operating under the anticipated most unfavourable operating conditions. The results shall be submitted in writing to the Agency.	Within 3 months of completion of commissioning
6	The Operator shall commission an independent air quality survey to confirm the results of the air dispersion modelling for the following substances: NOX, SO2, to a specification agreed in writing with the Agency.	Within 12 months of completion of commissioning.

Table 1.4.1: Improvement programme		
Reference	**Requirement**	**Date**
7	The Operator shall review the techniques for continuous measurements for heavy metals, PAH's, dioxins/furans, and dioxin-like PCBs, including cost, availability, accuracy, detection limits and submit a written report to the Agency.	Within 12 months of completion of commissioning
8	The Operator shall submit a written post commissioning report to the Agency. The report shall include:- Comparison of process performance against all permit conditions Details of setting up of the furnace during commissioning to confirm combustion conditions and the minimisation of nitrous oxide (N_2O) emissions. Details of the optimisation of the ammonia injection (both rate and nozzle heights) to maximise the efficiency and avoid overdozing ammonia to minimise the reactions which could result in the emissions of nitrous oxide and ammonia Details of the procedures developed during commissioning for demonstrating satisfactory control of the process Details of the location of the temperature sensors in the furnace, in order to have the best control of combustion and to ensure safe operating conditions Details of the optimisation of activated carbon injection to minimise dioxin and heavy metal emissions to air. Calibration report covering all continuous monitoring equipment. Details of the verification of automatic triggering of auxiliary burners on the falling temperature in the combustion chamber	Within 4 months of completion of commissioning
9	The Operator shall make a summary of continuous emission monitoring (CEM) data available on the internet, in a format similar to that provided to the Agency	Within 3 months of completion of commissioning

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 Where the qualification "or as otherwise agreed in writing" is used in condition 2.1.1 of this permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed change including an assessment of it's 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 Permitted Installation shall not be brought into operation until the measures specified in Table 1.6.1 have been completed and the Agency notified in writing in accordance with conditions 1.5.1 to 1.5.4 of this permit.

Table 1.6.1: Pre-Operational Conditions

Reference	Requirement	Date
A	The operator shall provide a baseline ground survey to the Agency detailing as a minimum the concentrations of dioxin/furans, dioxin like PCBs, heavy metal levels, poly aromatic hydrocarbons and mineral oil in the soil and groundwater of the permitted installation.	Prior to the start of commissioning
B	The operator shall provide in writing to the Agency full details of all continuous and periodic monitoring equipment to be used on site that comply with CEN standards, unless otherwise agreed with the Agency. The submission must include plant and equipment details, methods and standards for sampling and analysis together with full details of monitoring locations, access and working platforms. The details shall be sufficient for the Agency to determine the suitability of the position(s)	At least 3 months prior to the start of commissioning
C	The operator shall provide a written report to the Agency of the results of background air monitoring quality monitored for the parameters, at the locations and over the time period specified in the application	Prior to the start of commissioning
D	The Operator shall provide a commissioning plan in writing to the Agency along with timescales for implementation. The plan shall be designed to establish that permit conditions can be met under all anticipated operating conditions and shall confirm the commissioning programme and plant monitoring protocols	At least 3 months prior to the start of commissioning
E	The Operator shall provide a contingency plan, the content and details of which to be agreed in writing with the Agency, for dealing with disposal of incinerator ash , FGT and other residues in the event that landfill sites for this waste are unavailable .	Prior to the start of commissioning
F	A procedure for carrying out noise monitoring in accordance with condition 2.9.5 shall be agreed with the Agency	Prior to the start of commissioning

Table 1.6.1: Pre-Operational Conditions

Reference	Requirement	Date
G	A report shall be submitted providing details of the location, frequency and monitoring parameters for measuring groundwater quality throughout the life of the installation. The report shall also include an action plan for dealing with groundwater contamination arising at the installation	Prior to the start of commissioning
H	The Operator shall obtain a discharge consent from Southern Water PLC for release to sewer from the process and either, the written confirmation by the Agency that no variation of the Permit is required as a result of any condition of the discharge consent, or the issue by the Agency of a variation of the Permit that may be necessary as a result of any such conditions	Prior to the start of commissioning
I	The Operator shall provide a written report to the Agency confirming that all measurement equipment or device (including thermocouples) used for the purpose of establishing compliance with this permit has been subjected, in situ, to its normal operating temperature to prove its operation under such conditions.	Prior to the first use of the installation for incineration of waste
J	The Operator shall provide a report of the details of the generic computational fluid dynamic modelling of the boilers. The details shall be sufficient to demonstrate that the incinerators will be able to achieve 850^{o}C for two seconds. The oxygen content under these conditions shall be 6% by volume (wet) unless otherwise agreed.	At least 6 months prior to the start of commissioning
K	The Operator shall provide proposals for verification of combustion conditions in order to meet the requirements of Article 11(3) of the Waste Incineration Directive	Prior to the first use of the installation for incineration of waste
L	The Operator shall provide an Odour Management Plan in accordance with Agency guidance IPPC H4, the content of which shall be agreed with the Agency before submission. Upon agreement with the Agency the Plan shall be immediately implemented.	Prior to the reception and disposal of any waste
M	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.	At least 6 months prior to the start of commissioning
N	The Operator shall submit a site closure plan for the installation in accordance with relevant guidance in writing to the Agency.	At least 6 months prior to the start of commissioning
O	The Operator shall prepare and submit to the Agency a written report on the options available to recycle, reduce or reuse the incinerator ash (both bottom ash and APC residues)	At least 6 months prior to the start of commissioning

Table 1.6.1: Pre-Operational Conditions

Reference	Requirement	Date
P	The Operator shall carry out and submit to the Agency a comprehensive written review of the potential for a full combined heat and power operation in order to demonstrate whether 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). The review shall specify any proposals including time scales for them identified to achieve recovery as far as practicable. Any proposals identified shall be implemented by the Operator from the date of approval in writing by the Agency	At least 6 months prior to the start of commissioning
Q	The Operator shall prepare and submit to the Agency for approval a revised Noise Management Plan in accordance with the requirements given in the Agency's Horizontal Guidance Note IPPC H3 (Part 2) – Noise Assessment and Control. A realistic timetable for the implementation and periodic review of this document, including measurement conditions, data analysis and interpretation, conclusions and recommendations drawn shall be included as part of a written report for future submission to the Agency. The Noise Management Plan shall not be implemented without the written agreement of the Agency.	At least 6 months prior to the start of commissioning
R	The Operator shall submit proposals for carrying out a programme of off-site soil sampling at locations and to a specification to be agreed with the Agency. Upon agreement the proposals shall be immediately implemented	Within 3 months of the issue of this permit
S	The Operator shall provide a report using computer modelling or other appropriate techniques sufficient to demonstrate that vibration effects resulting from day to day operation of the installation will not cause a nuisance to receptors beyond the site boundary.	Within 6 months of the issue of this permit
T	The Operator shall write to the Agency confirming that arrangements are in place for the export of electricity from the installation at the commencement of operations.	Prior to the start of commissioning

1.6.2 Where the Operator fails to comply with any requirements of condition 1.6.1 by the date specified in the relevant table the Operator shall send written notification of such failure to the Agency within 14 days of such date.

1.7 Off-site Conditions

1.7.1 The following off site conditions apply:

1.7.1.1 The Operator shall carry out such off-site sampling, and monitoring in respect of dust, soil, vegetation, air quality and noise at locations, and to a standard, as may be agreed with the Agency.

1.7.1.2 The Operator shall undertake, and report annually to the Agency, annual audits of the intended waste disposal and treatment sites for the bottom ash, APC residues and other wastes (solid and liquid) to ensure that they are appropriately licensed to receive the type and quantity of waste generated and of the recovery sites for ferrous metals to ensure that they are appropriately licensed to recover the type and quantity of waste generated

2 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.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Application	The response to question B2.1 in the application form and section 4.8 of vol 2 of the application (process controls).	23/12/05
	Section 4.9.1 of vol.2 of the application text (abatement techniques).	23/12/05
	Section 7 of vol 2 the application text (raw materials and wastes to be incinerated).	23/12/05
	Section 8 of vol2 of the application text (waste handling)	23/12/05
	Section 10 of vol 2 of the application text (energy consumption, generation and efficiency).	23/12/05
	Section 13.3 of vol 2 of the application form and section 2.10 of the application text (monitoring of emissions).	23/12/05
1st Schedule 4 notice (Dated 14/03/06)	The response to questions 4 to 7, 9 to 18,20,21,23 , 31 to 34 and 43	24/04/06
2nd Schedule 4 notice (Dated 19/04/06)	The response to questions 2.1,2.2 and 3	16/05/06

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 Table 2.1.2 shall be incinerated in the Permitted Installation subject to the limitations in quantities for the waste types specified.

Table 2.1.2 Waste Types

Waste type	Limitations	EWC Codes	Maximum annual throughput [Note 1]
Mixed Municipal Waste (MMW)	Excluding separately collected fractions unless recycling/reuse options cannot practicably be exploited.	20 03 01	Up to 242,000 tonnes of all waste types received
Waste from markets	Only if recycling/reuse options cannot practicably be exploited	20 03 02	All wastes other than MMW to constitute no more than 30% of total

Table 2.1.2 Waste Types

Waste type	Limitations	EWC Codes	Maximum annual throughput Note 1
Wastes from waste and water treatment	Arising as mechanical treatment (shredding) of bulky solid non-hazardous municipal waste	19 12 12	All wastes other than MMW to constitute no more than 30% of total
Street Cleaning residues	Only if recycling/reuse options cannot practicably be exploited.	20 03 03	All wastes other than MMW to constitute no more than 30% of total
Bulky waste (includes civic amenity waste from household waste recycling sites)	Only if recycling/reuse options cannot practicably be exploited	20 03 07	All wastes other than MMW to constitute no more than 30% of total

Note 1 Equivalent to 210,000 te/annum at 7500 hours normal operation

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 incinerator if:

- the combustion chamber temperature is below, or falls below, 850oC; or
- the oxygen level is below, or falls below, the concentration agreed under pre-operational condition 1.6.1'J'; 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.

2.2 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 streams 1 and 2 as shown on site plan Figure 2.3 vol 2 of application
A2	Flue gases from Incinerator Line 2	
A3	Fuel Tank vent	As shown on fig 2.3 of vol 2 of the application
A4	Vent FGT silo 1	As shown on fig 2.3 of vol 2 of the application
A5	Vent FGT silo 2	As shown on fig 2.3 of vol 2 of the application
A6	Vent lime silo	As shown on fig 2.3 of vol 2 of the application
A7	Vent Activated carbon silo	As shown on fig 2.3 of vol 2 of the application
A8	Boiler 1 vent	As shown on fig 2.3 of vol 2 of the application

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A9	Boiler 2 vent	As shown on fig 2.3 of vol 2 of the application
A10	Boiler 1 relief valve 1	As shown on fig 2.3 of vol 2 of the application
A11	Boiler 2 relief valve 1	As shown on fig 2.3 of vol 2 of the application
A12	Boiler 1 relief valve 2	As shown on fig 2.3 of vol 2 of the application
A13	Boiler 2 relief valve 2	As shown on fig 2.3 of vol 2 of the application
A14	Ammonia based reagent vent	As shown on fig 2.3 of vol 2 of the application

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	Particulate matter	30 mg/m^3 ½-hr average	Continuous measurement Note 2	BS EN 13284-2 Note 3
A1, A2	Particulate matter	10 mg/m^3 daily average	Continuous measurement Note 2	BS EN 13284-2 Note 3
A1, A2	Particulate matter	20 mg/m^3 periodic over minimum 1-hour period	Bi-annual	BS EN 13284-1
A1, A2	Total Organic Carbon (TOC)	20 mg/m^3 ½-hr average	Continuous measurement Note 2	BS EN 12619 Note 3
A1, A2	Total Organic Carbon (TOC)	10 mg/m^3 daily average	Continuous measurement Note 2	BS EN 12619 Note 3
A1, A2	Total Organic Carbon (TOC)	20 mg/m^3 periodic over minimum 1-hour period	Bi-annual	BS EN 12619
A1, A2	Hydrogen chloride	60 mg/m^3 ½-hr average	Continuous measurement Note 4	MCERTS certified instruments Note 5
A1, A2	Hydrogen chloride	10 mg/m^3 daily average	Continuous measurement Note 4	MCERTS certified instruments Note 5

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	Hydrogen chloride	30 mg/m^3 periodic over minimum 1-hour period	Bi-annual Note 6	BS EN 1911
A1, A2	Hydrogen fluoride	1 mg/m^3 periodic over minimum 1-hour period	Quarterly	USEPA Method 26/26A
A1, A2	Carbon monoxide	100 mg/m^3 ½-hr average	Continuous measurement Note 7	ISO 12039 Note 3
A1, A2	Carbon monoxide	50 mg/m^3 daily average	Continuous measurement Note 7	ISO 12039 Note 3
A1, A2	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, A2	Sulphur dioxide	200 mg/m^3 ½-hr average	Continuous measurement Note 8	BS 6069-4.4 Note 3
A1, A2	Sulphur dioxide	50 mg/m^3 daily average	Continuous measurement Note 8	BS 6069-4.4 Note 3
A1, A2	Sulphur dioxide	200 mg/m^3 periodic over minimum 4 hour period	Bi-annual Note 6	BS 6069-4.1
A1, A2	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	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	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m^3 periodic over minimum 4 hour period	Bi-annual Note 6	ISO 10849 or BS ISO 11564
A1, A2	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

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	Mercury and its compounds Note 9	0.05 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Quarterly	BS EN 13211
A1, A2	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	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 A7	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.		
A14	ammonia	No detectable odour at or beyond installation boundary		

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, measurements for emission points A1 and A2 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	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 measures as specified in the application during failure of the continuous emission monitor.
A1, A2	Total Organic Carbon (TOC)	20 mg/m3 ½-hr average	Continuous measurement Note 2	BS EN 12619 Note 3 during abatement plant failure or alternative measures as specified in the application during failure of the continuous emission monitor.
A1, A2	Carbon monoxide	100 mg/m3 ½-hr average	Continuous measurement Note 4	ISO 12039 Note 3 during abatement plant failure or alternative measures 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 Bag filter bypass use shall be minimised. It shall only be used when waste is not present in the furnace, or in the event of an emergency. Any use of the bypass when waste is present in the furnace shall be notified to the Agency in accordance with condition 5.1.1.6 of this permit

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 Emissions to water from the specified emission points in Table 2.2.2.3 shall only arise from the sources specified in that Table.

Table 2.2.2.3 Emission points to water

Emission point reference or description	Source	Receiving surface waters
W2 and W3	Uncontaminated surface water free of visible oil and grease	River Ouse

2.2.2.4 No condition applies.

2.2.2.5 No condition applies.

2.2.2.6 No condition applies.

2.2.2.7 There shall be no emission into water from the permitted installation of any substance prescribed for water except in a concentration which is no greater than the background concentration**.**

2.2.2.8 A penstock valve shall be provided at the exit of the interceptor required under condition 2.2.2.9. This shall be closed whenever, for any reason, it is not possible to discharge surface water from the site e.g. for reasons of contamination. At such times alternative arrangements shall be made for containment and disposal of the water from the site to suitably authorised facilities. At no time shall contaminated water be allowed to escape from the site to surface water or watercourses.

2.2.2.9 The surface water discharge shall pass through a class 1 full retention interceptor manufactured in accordance with BS EN858 and PPG3. The interceptor shall be operated and maintained in accordance with Good Operational Practice such that the discharge does not have any adverse environmental impact. The maintenance of the separator shall include the regular removal of accumulated oil and sediment.

Emissions to sewer

2.2.2.10 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**
W1	Foul water discharge as shown on fig 2.3 vol 2 of application	Southern Water PLC

2.2.2.11 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**
W1	Mercury and it's compounds expressed as mercury (total Hg)	0.03mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS EN 13506
W1	Cadmium and it's compounds expressed as cadmium (total Cd)	0.05mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS 6068-2.89
W1	Thallium and it's compounds expressed as thallium (total Tl)	0.05mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS 6068-2.89
W1	Arsenic and it's compounds expressed as arsenic (total As)	0.15mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS 6068-2.60
W1	Lead and it's compounds expressed as lead (total Pb)	0.2mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS6068-2.60
W1	Chromium and it's compounds expressed as chromium (total Cr)	0.5mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS6068-2.60
W1	Copper and it's compounds expressed as copper (total Cu)	0.5mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS6068-2.60

Table 2.2.8 : Emission limits and monitoring frequency to sewer

Emission point reference	Substance	Limit (including Reference Period)	Monitoring frequency	Monitoring method
W1	Nickel and it's compounds expressed as nickel (total Ni)	0.5mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS6068-2.60
W1	Zinc and it's compounds expressed as zinc (total Zn)	1.5mg/l Note 1	Batch sample to be taken whenever waste water discharged to sewer	BS6068-2.60
W1	Total Suspended solids as defined by Directive 91/271/EEC		Batch sample to be taken whenever waste water discharged to sewer	BS EN 872
W1	Dioxins/furans (I-TEQ)	0.3ng/l Note 2	Batch sample to be taken bi-annually from waste water discharged to sewer	USEPA Method 1613

Note 1: Only 1 sample per year OR 5% of annual samples (where more than 20 samples are taken) shall exceed the limits stated above

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

2.2.2.12 There shall be no emission into sewer from the installation of any substance not specified in Table 2.2.8 except in a concentration which is no greater than background.

2.2.2.13 There shall be no continuous (as opposed to batch) discharge to sewer.

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.

2.2.3.4 Monitoring of groundwater at locations, to a specification and to a frequency to be agreed with the Agency shall be undertaken. In the event that contamination attributable to activities on the installation is identified appropriate remedial action shall be agreed with the Agency.

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.

2.2.4.2 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.

2.2.4.3 All liquids, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the Operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

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.

2.2.6.4 All emissions to air from the installation shall be free from offensive odour as perceived by an Authorised Officer of the Agency outside of the installation boundary except that the Operator shall not be taken to have breached this condition if the Operator has used BAT to prevent, or where that is not practicable, to reduce, such odorous emissions.

2.2.6.5 The Operator shall carry out and record the results of daily boundary and on-site odour assessments. These shall include wind speed and direction data. These records shall be made available to the Agency upon request and kept for a minimum of one year.

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 B2.4 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. The first such audit shall take place within 2 years of the issue of completion of commissioning of the installation. 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.

2.4.1.4 ensure that the materials detailed in Table 2.4.1 are stored in the location, manner and storage conditions specified in that table.

Table 2.4.1 : Raw materials (including water)

Material	Location of Storage on site	Manner of Storage	Storage Conditions
Lime	Within building	Silo with self cleaning filter on vent	Delineated storage area with controlled drainage

Table 2.4.1 : Raw materials (including water)			
Material	**Location of Storage on site**	**Manner of Storage**	**Storage Conditions**
Ammonia	Within building	Bunded bulk tank with level alarm	Delineated storage area with controlled drainage
Activated Carbon	Within building	Silo with self cleaning filter on vent	Delineated storage area with controlled drainage
Fuel Oil (start up and site vehicles)	As detailed in the Application	Bulk tank with level alarm	Underground double skinned tank with leak detection
Lubricating oils and other maintenance fluids	As detailed in the Application	Sealed drums and other sealed containers	Within bunded, covered storage area
Boiler feed water	Within building	Bulk tank	Within covered storage area
Water treatment chemicals	As detailed in the Application	Sealed containers	Within bunded, covered storage area
Others	As detailed in the application	Sealed containers	Within bunded covered storage areas

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.

2.5.3 Waste reception times at the installation will be restricted to the hours 0700 to 1730 Monday to Friday and 0800 to 1500 Saturday unless otherwise agreed .

2.5.4 In order to minimise the likelihood of fugitive odour emissions, waste shall not be accepted at the installation whenever, for any reason, it is not possible to maintain negative pressure in the tipping hall unless otherwise agreed.

2.5.5 In order to prevent fugitive emissions of FGT residues high level alarms will be fitted to all FGT residue storage silos.

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, nature, 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, nature, 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.

2.6.7 The emission limits and monitoring frequency for solid residues shall be as specified in Table 2.6.1.

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 or LOI	3% (TOC) or 5% (LOI)	Quarterly for combined sample from Lines 1 and 2. Annually for separate samples from Line 1 and 2.	Agency ash sampling protocol.
APC Residues			Quarterly for combined sample from Lines 1 and 2. Annually for separate samples from Line 1 and 2.	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 H2 as from time to time amended. Energy efficiency shall be secured in particular by:

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

2.7.4 The operator shall provide and maintain steam and/or hot water pass-outs such that opportunities for use of heat may be capitalised upon should they become practicable.

2.7.5 The operator shall review the practicability of CHP implementation at least every two years. The results shall be reported to the Agency within 2 months of each review.

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.

2.9.4 The level of noise emitted from normal operations at the installation shall not exceed 53 dBLA $_{EQ}$ (5mins) at any time as measured at any point on the boundary of the installation. The measurements and assessments shall be made in accordance with BS 4142:1997.

2.9.5 A report on noise and vibration levels, from the installation, as measured at agreed locations at the site boundary shall be provided within 3 months of the end of commissioning the plant. Thereafter, every 6 months attended short-term noise level monitoring shall be carried out at the site boundary. For noise measurements the parameters to be measured shall be the $L_{Aeq,T}$, and the measurements and assessment made according to BS 4142:1997.

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), 2.2.8 and any other relevant sections of the permit 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
Location to be agreed	Wind speed and direction	Continuous	Anemometer	
A1, A2	Temperature of flue gas	Continuous	Thermocouple	
A1, A2	Pressure of flue gas	Continuous	Pressure transducer	
A1, A2	Oxygen content of flue gas	Continuous	ISO12039	
A1, A2	Water vapour content of flue gas	Continuous	Infra red absorption	
A1, A2	Ammonia Half hour average and daily average	Continuous	Infra red absorption	
A1, A2	Nitrous oxide (N_2O)	Bi-annual [Note2] periodic measurement over minimum 1 hour period	VDI 2469-1 or VDI 2469-2	

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	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)	
A1, A2	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	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	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 11338-1 and BS-ISO 11338-2	
A1, A2	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)	

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	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)	
A1, A2	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 (Antimony, 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 (Antimony, 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.	

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 (Antimony, 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 (Antimony, 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.	
The thermocouples in the combustion chamber on Lines 1 and 2.	Temperature (° C)	Continuous	Traceable to National Standards	

Note 1: Monitoring methods specified are for Lines 1 and 2.

Note 2: Lines 1 and 2 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: Lines 1 and 2 shall be sampled quarterly in the first year of operation.

Note 5: Residues from Lines 1 and 2 shall be sampled monthly in the first three months of operation and thereafter, wherever possible separate sampling of individual lines to be undertaken as agreed with the Agency.

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, unless otherwise agreed, 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. Unless otherwise agreed 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, 6 months prior to the incineration of any waste, 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 This is not a multi-Operator installation

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.

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

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

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

3.2.3 raw data for all specified congeners of dioxins/furans and dioxin-like PCBs

3.2.4 all data generated by wind speed and direction monitor installed at the Permitted Installation

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

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 within 12 months of the date of commissioning of the installation

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 within 12 months of the date of commissioning of the installation.

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 within 12 months of the date of commissioning of the installation.

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, 6 months prior to the incineration of any waste, 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.

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

4.1.10 A summary report of the waste types and quantities accepted and removed from the site shall be made for each quarter following commissioning of the installation. It shall be submitted to the Agency within one month of the end of the quarter and shall be in the format required by the Agency.

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.

"*Bag filter*" means the filtration system used for removal of particulates from flue gas as described in the application.

"*Bag filter by pass*" means the equipment used to allow flue gas to bypass the particulate filtration system under specified circumstances.

"*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.

"*Controlled waters*" has the same meaning as in Part II of the Water Resources Act 1991.

"*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.

"*FGT residues*" means APC residues

"*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, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

"*Gas oil*" means low sulphur content hydrocarbon fuel oil, not arising as waste from some other process, used for furnace support and during start up procedures.

"*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.

"*Installation*" means the Site and associated activities referred to in condition 1.2.1

"*ISO*" means International Standards Organisation.

"*I-TEF*" means international toxic equivalent factors.

"*I-TEQ*" means international toxic equivalent concentration

"*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.

"*LAeq,T*" means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T.

"*LA90, T*" means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

"*LAFmax*" 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.

"*PM10, PM2.5, PM1.0*," 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.

"*Release point*" ,followed by a letter, means a point shown on a map or plan forming part of the Application, for the release from the Permitted Installation into the air or into a sewer.

"*Reporting address*" means the address, from time to time notified to the Operator, for that purpose by the Environment Agency in writing.

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

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

"*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).

"*VOC*" means any organic compound in the exhaust emissions.

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

"*Waste oil*" has the same meaning as in Directive 75/439/EEC.

"*WHO*" means the World Health Organisation.

"*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 n 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 Veolia ES South Downs Ltd.

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	Every 3 months for continuous data; every 6 months for periodic data	Start of commissioning
Total Organic Carbon (TOC) mg m-3	A1, A2	Every 3 months for continuous data; every 6 months for periodic data	Start of commissioning
Oxides of nitrogen mg m-3	A1, A2	Every 3 months for continuous data; every 6 months for periodic data	Start of commissioning
Hydrogen chloride mg m-3	A1, A2	Every 3 months for continuous data; every 6 months for periodic data	Start of commissioning
Hydrogen fluoride mg m-3	A1, A2	Every 3 months	Start of commissioning
Particulate Matter mg m-3	A1, A2	Every 3 months for continuous data; every 6 months for periodic data	Start of commissioning
Carbon Monoxide mg m-3	A1, A2	Every 3 months for continuous data; every 6 months for periodic data	Start of commissioning
Cadmium & Thallium and their compounds (total)	A1, A2	Every 3 months	Start of commissioning
Mercury and its compounds	A1, A2	Every 3 months	Start of commissioning
Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium and their compounds (total)	A1, A2	Every 3 months	Start of commissioning
Dioxins / furans (I-TEQ)	A1, A2	Every 6 months (see note2).	Start of commissioning
Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	A1, A2	Every 6 months (see note 2).	Start of commissioning
Dioxin-like PCBs (WHO-TEQ Fish)	A1, A2	Every 6 months (see note 2).	Start of commissioning
Dioxin-like PCBs (WHO-TEQ Birds)	A1, A2	Every 6 months (see note 2).	Start of commissioning
Specific individual poly-cyclic aromatic hydrocarbons (PAHs)	A1, A2	Every 6 months. (see note 2)	Start of commissioning
Dioxins/furans (WHO-TEQ Humans/Mammals)	A1, A2	Every 6 months (see note 2)	Start of commissioning
Dioxins/furans (WHO-TEQ Fish)	A1, A2	Every 6 months (see note 2)	Start of commissioning
Dioxins/furans (WHO-TEQ Birds)	A1, A2	Every 6 months (see note 2)	Start of commissioning
Ammonia	A1, A2	Every 3 months for continuous data	Start of commissioning

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Nitrous Oxide	A1, A2	Every 6 months	Start of commissioning
Temperature of flue gas	A1, A2	As requested by Agency site inspector. See note 1.	Start of commissioning
Pressure of flue gas	A1, A2	As requested by Agency site inspector. See note 1.	Start of commissioning
Oxygen content of flue gas	A1, A2	As requested by Agency site inspector. See note 1.	Start of commissioning
Water vapour content	A1, A2	As requested by Agency site inspector. See note 1.	Start of commissioning
Furnace Chamber Temperature	Line 1, Line 2	As requested by Agency site inspector. See note 1.	Start of commissioning
Wind Speed and Direction	Site	As requested by Agency site inspector. See note 1.	Start of commissioning
Mercury and it's compounds expressed as mercury (total Hg)	W1	Every 3 months	Start of commissioning
Cadmium and it's compounds expressed as cadmium (total Cd)	W1	Every 3 months	Start of commissioning
Thallium and it's compounds expressed as thallium (total Tl)	W1	Every 3 months	Start of commissioning
Arsenic and it's compounds expressed as arsenic (total As)	W1	Every 3 months	Start of commissioning
Lead and it's compounds expressed as lead (total Pb)	W1	Every 3 months	Start of commissioning
Chromium and it's compounds expressed as chromium (total Cr)	W1	Every 3 months	Start of commissioning
Copper and it's compounds expressed as copper (total Cu)	W1	Every 3 months	Start of commissioning
Nickel and it's compounds expressed as nickel (total Ni)	W1	Every 3 months	Start of commissioning
Zinc and it's compounds expressed as zinc (total Zn)	W1	Every 3 months	Start of commissioning
Total Suspended solids as defined by Directive 91/271/EEC	W1	Every 3 months	Start of commissioning
Metals (Antimony, 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 (see note 3)	Start of commissioning
Total soluble fraction and metals (Antimony, 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	Start of commissioning
TOC or LOI	Bottom Ash Line 1 and Line 2 (combined sample)	Every 3 months (see note 3)	Start of commissioning

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
TOC or LOI	Bottom Ash Line 1 and Line 2 (separate sample of each line)	Every 12 months	Start of commissioning
Metals (Antimony, 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 (see note 3)	Start of commissioning
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	Start of commissioning
Water usage	Installation	Every 12 months	Start of commissioning
Energy usage	Installation	Every 12 months	Start of commissioning
Waste disposal and/or recovery.	Installation	Every 12 months	Start of commissioning
Waste Return Form	Installation	Every 3 months	Start of commissioning

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

Note 2 These parameters to be reported quarterly during the first year of operation.

Note 3 These parameters to be reported monthly during the first year of operation.

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 / BV8067IL/ A1	
Air: Periodic monitored emissions biannually	Agency Form / BV8067IL / A2	
Air: Continuously monitored emissions of particulates	Agency Form / BV8067IL / A3	
Air: Continuously monitored emissions of TOC	Agency Form / BV8067IL / A4	
Air: Continuously monitored emissions of hydrogen chloride	Agency Form / BV8067IL / A5	
Air: Continuously monitored emissions of Carbon monoxide	Agency Form / BV8067IL / A6	
Air: Continuously monitored emissions of Sulphur dioxide	Agency Form / BV8067IL / A7	
Air: Continuously monitored emissions of Oxides of nitrogen	Agency Form / BV8067IL / A8	
Air: Continuously monitored emissions of ammonia	Agency Form/BV8067IL/A9	
Sewer: monitoring data	Agency Form / BV8067IL/ S1	
Sewer monitoring data (dioxins and furans)	Agency Form / BV8067IL/S2	
Bottom Ash, APC Residues: Composition	Agency Form / BV8067IL / Ash1	
Bottom Ash, APC Residues: Solubility	Agency Form / BV8067IL / Ash2	
Waste disposal and/or recovery	Agency Form / BV8067IL / R1	
Water usage	Agency Form / BV8067IL/ WU	
Energy usage	Agency Form / BV8067IL / E1	
Performance indicators	Agency Form / BV8067IL / PI	

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
Electrical energy produced	KWhrs
Electrical energy exported to national grid	KWhrs
Gas oil used	Tonnes

Table S4.2: Performance parameters		
Parameter	**Frequency of assessment**	**Performance indicator**
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