ENVIRONMENT AGENCY

Permit with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

Widnes Animal Rendering

Granox Limited
Desoto Road
West Bank Dock Estate
Widnes
Cheshire
WA8 0PB

Permit number

CP3230BE

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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 Sections 6.8 A(2)(a), 1.1 A(1)(a) and 5.3 A(1)(c)(i) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

> Section 6.8 A(2)(a) – "Disposing of or recycling animal carcasses or animal waste by rendering at plant with a treatment capacity exceeding 10 tonnes per day of animal carcasses";
>
> Section 1.1 A(1)(a) – "Burning any fuel in one or more appliances with an aggregate rated thermal input of 50 megawatts or more";
>
> Section 5.3 A(1)(c)(i) – "Disposal of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by; biological treatment, not being treatment specified in any paragraph other than paragraph D8 of Annex IIA to Council Directive 75/442/EEC, which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 in that Annex (D8)."

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 Permitted 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 Permitted 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 Permitted Installation is given in the Application, but the main features of the Permitted Installation are as follows:

An Application for a Permit to operate was made under the PPC Regulations by Granox Limited for an Installation (Widnes Animal Rendering) based at Desoto Road, West Bank Dock Estate, Widnes, on the 17th September 2004. The primary activity (as described in Section 6.8 of Schedule 1 to the PPC Regulations) under which the Application was made, was the disposing of or recycling animal carcasses or animal waste by rendering at plant with a treatment capacity exceeding 10 tonnes per day of animal carcasses. The combustion plants forming part of the Installation exceed 50MW aggregated thermal capacity, and the effluent treatment plant which serves the rendering and combustion plant areas disposes of more than 50 tonnes per day of liquid waste, hence these activities bring the Installation under Environment Agency regulation.

The Installation also comprises various other activities that are directly associated with the listed activities, these include; storage and handling of raw materials, handling and processing of materials in the blood plant, fuel and chemical storage and handling, waste storage and handling, emissions and odour abatement, and vehicle washing.

The main activity carried out at the Installation is the rendering of approximately 150,000 tonnes per year of animal carcasses and by-products, to produce waste materials for incineration in the fluidised bed combustion plants, boilers and compression ignition engines, in order to generate energy. The burning of these wastes in the combustion plants to produce energy is subject to the requirements of the Waste Incineration (England and Wales) Regulations (SI 2002 No. 2980), and consequently the Operator was required to submit additional information (received on 30/03/05) to demonstrate their ability to comply with the requirements of these Regulations.

The Waste Incineration (England and Wales) Regulations 2002 (SI 2002 No. 2980) (The WI Regulations) and the 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 regulated under this Permit contains an existing Waste Incineration Installation (as defined in the WI Regulations) in which the incineration of waste in a co-incineration plant is carried out. Conditions delivering the corresponding requirements of the relevant articles of the Waste Incineration Directive have been incorporated into this Permit.

There are three rendering plants and one blood plant in operation at the Installation. These plants produce meat and bone meal for co-incineration in the two fluidised bed combustors (FBCs); and tallow for co-incineration in the two compression ignition engines and five steam-raising boilers. Waste heat from these processes is converted into steam and electricity for use on-site and for export off-site. Permit conditions have been set to ensure that the fluidised bed combustors, compression ignition engines and boilers will comply with the requirements of the Waste Incineration Regulations by 28/12/05.

Emissions of oxides of nitrogen (NO_2), sulphur dioxide (SO_2), particulates, carbon monoxide (CO) and odour have been demonstrated to be significant in the air quality modelling assessment contained in the Application. Compliance with the Waste Incineration Regulations will ensure a considerable reduction in emissions of NO_2, SO_2, particulates and CO, to satisfy BAT. Permit conditions have also been set to reduce emissions of odour from the Installation.

The Operator produces approximately 750 cubic metres per day of aqueous effluent, which is disposed of via an effluent treatment plant for release to controlled waters. All process liquid waste produced at the Permitted Installation is treated in the effluent treatment plant, before being discharged to the estuarial River Mersey. Releases of biochemical oxygen demand (BOD), chemical oxygen demand (COD) and ammonia have been demonstrated to be significant in the Application and conditions have been included in the Permit to implement measures to provide a reduction in these emissions.

Owing to the proximity of the site to a European Special Protection Area, the Mersey Estuary, a detailed assessment of the impact of the emissions from the Permitted Installation on sensitive receptors was carried out by the Agency in consultation with English Nature. Applying current Agency guidance it was determined (with agreement from English Nature) that no environmentally sensitive sites are adversely affected by the emissions to air or water from this site.

The Operator has a Climate Change Levy Agreement in place for the Installation, and energy usage is monitored and reported on a routine basis.

The Operator has an Environmental Management System in place for the combustion plant part of the Installation that is certified to the International Standard ISO 14001 from DNV Quality Assurance. Permit conditions have been set requiring the Operator to implement a documented system of management techniques across the whole Installation.

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**
Not applicable		

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	**Reference Number**	**Date of Issue**
Granox Limited (LAPC Authorisation)	HB/6.9/92/23	05/02/03
Granox Limited (WRA Discharge Consent, Trade Effluent)	016990668	06/02/90 revised 12/11/03

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. These activities include:

Other existing Licences/Authorisations/Registrations relating to this site		
Holder	**Reference Number**	**Date of issue**
Granox Limited (WRA Discharge Consent, Domestic Sewage)	016990602	16/04/92

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 Permitted 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 CP3230BE	Received 17/09/04	
Response to an Environment Agency request to extend the determination period.	Requested 06/01/05	Acceptance received 18/01/05
Response to a request for further information to be provided, to satisfy the requirements of the Waste Incineration Regulations.	Requested15/02/05	'Application for a variation to satisfy WID' received on 30/03/05
Response to questions 1, 2, 3, 6, 7, 8 and 11 of a request for further information, via a Schedule 4 Notice.	Requested 31/05/05	28/06/05
Response to questions 3, 4, 5, 9, 10, 12, 13 and 14 of a request for further information, via a Schedule 4 Notice.	Requested 31/05/05	03/08/05
Permit CP3230BE issued.	04/11/05	

End of Introductory Note.

Permit

Pollution Prevention and Control
Regulations 2000 No.1973

ENVIRONMENT AGENCY

Permit

Permit number

CP3230BE

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 **Granox Limited** ("the Operator"),

whose Registered Office is
Ings Road
Bentley
Doncaster
South Yorkshire
DN5 9SW

Company registration number **0457634**

to operate an Installation at
Desoto Road
West Bank Dock Estate
Widnes
Cheshire
WA8 0PB

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

Signed	Date
S. A. Holbrook	4th Nov 2005.

S A Holbrook

Authorised to sign on behalf of the Environment 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 / Associated Activity	Description of specified activity	Limits of specified activity
Section 6.8 A(2)(a): Disposing of or recycling animal carcasses or animal waste by rendering at plant with a treatment capacity exceeding 10 tonnes per day of animal carcasses.	Crushing, heating and drying of imported raw material to produce and separate substances suitable for incineration in the combustion facility, or disposal off-site	Receipt of raw materials to disposal through to incineration or disposal to landfill.
Section 1.1 A(1)(a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	Combustion of waste and other fuels in boilers, fluidised bed combustors and compression ignition engines.	Receipt of raw materials to incineration, steam and electricity generation and export, waste handling and disposal off-site.
Section 5.3 A(1)(c)(i): Disposal of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by; biological treatment.	Effluent treatment plant.	From entry to site drainage system, through the on-site effluent treatment plant, to discharge to the River Mersey. Excluding domestic sewage treatment and discharge.
Associated Activity.	Raw material delivery, storage and handling.	From delivery to site, offloading, handling and storage.
Associated Activity.	Handling and processing of raw materials in the Blood Plant.	From receipt of blood to coagulation and drying, and transfer of product to the rendering plants.
Associated Activity.	Fuel and chemical storage and handling.	From receipt or production of materials to use in on-site processes.
Associated Activity.	Waste storage and handling.	From production of waste to storage, handling and dispatch from the Installation.
Associated Activity.	Emissions and odour abatement.	Abatement of emissions to air from the incineration and rendering activities and associated buildings, and product and raw material storage buildings.
Associated Activity.	Vehicle washing.	On-site washing and cleaning of vehicles.

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[1] on the Site Plan at Schedule 5 to this Permit, that represents the extent of the Installation covered by this Permit.

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
IC1	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 A1, A2, A3, A4, A5, A6 and A7 identifying the fractions within the PM10, PM2.5 and PM1.0 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 to be submitted to the Agency by 01/05/06
IC2	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 Agency as evidence of compliance with the requirements of BS EN 14181.	28/12/06.
IC3	The Operator shall submit proposals to reduce the emissions from release point W1 of the substances and parameters listed below to the values stated: • 40 mg/l for BOD (absolute); • 60 mg/l for suspended solids (absolute); • 15 mg/l (95%ile) and/or 44 mg/l (absolute) for ammonia; and • pH 6 – 9. The proposals shall have regard to section 2.2.2 of the Food and Drink Sector Guidance Note IPPC S6.10. The proposals shall include a timescale for implementation.	01/11/06
IC4	The Operator shall submit proposals to improve the containment of odours within the rendering plant process equipment. The proposals shall include a time scale for implementation.	01/04/06
IC5	The Operator shall submit proposals to improve to efficiency of local exhaust ventilation and to install LEV where appropriate. The proposals shall include a time scale for implementation.	01/05/06

[1] The Permitted Installation excludes the hatched areas identified on the Site Plan at Schedule 5 to this Permit.

IC6	The Operator shall submit proposals to improve the containment of odours within the raw materials and rendering plant buildings. In formulating proposals the Operator shall include a detailed analysis of the flow velocity at the entry points to buildings. The proposals shall include a time scale for implementation.	01/07/06
IC7	The Operator shall submit proposals for the reduction of releases of odour from release points A8, A9, A10 and A11with the objective of not exceeding a maximum of 0.5 odour units (1 hour average) beyond the Installation boundary. The proposals shall include a time scale for implementation.	01/08/06
IC8	The Operator shall carry out an assessment of the impact on odour emissions during changes to boiler configuration, in order to identify measures to prevent or minimise the release of odours from the Installation during these periods. A summary of the assessment together with a timetable to implement any proposals shall be submitted in writing to the Agency.	01/10/06
IC9	The Operator shall prepare and implement an Odour Management Plan for the Permitted Installation. This plan shall be prepared with regard to Agency Guidance Note IPPC S6.10, August 2003, section 2.2.6, and Horizontal Guidance Note H4, Part 1, Appendix 7.	01/12/06
IC10	The Operator shall carry out a water efficiency audit of the Installation. The audit shall consider the requirements of the Agency Guidance Note IPPC S6.10, August 2003, Section 2.4.3, and shall provide a breakdown of significant water use by department or activity and shall establish the current Installation performance (for example litre water/kg of raw materials) and water efficiency objective(s) for this Installation. As part of the audit, the Operator shall have specific regard to the options available for recycling of wastewater. A summary of the audit shall be sent to the Agency in writing.	01/03/07
IC11	The Operator shall carry out repairs to all personnel doors into or out of the raw materials plaza and rendering plant areas, in order to maintain the integrity of the buildings and prevent the uncontrolled passage of air into or out of the building.	01/05/06
IC12	The Operator shall install self-closing mechanisms and/or alarms on all on personnel doors into or out of the raw materials plaza and rendering plant areas, in order to prevent doors being left open, to minimise the uncontrolled passage of air into or out of the building.	01/08/06
IC13	The Operator shall provide a detailed assessment identifying the best environmental options for disposal of wastes from the Permitted Installation. As part of this assessment, the Operator shall include an investigation into the options available for disposal of ash produced in the Fluidised Bed Combustion Plant. Where deficiencies are identified, the Operator shall propose measures for improvement. A summary of the assessment together with a timetable for implementation of proposals shall be submitted in writing to the Agency.	01/05/07
IC14	The Operator shall carry out an assessment of their emissions to water; to characterise and quantify their emissions of List I and List II substances (as defined in the Dangerous Substances Directive (76/464/EEC)), accounting for seasonal variations, and to identify the sources of any of the substances found in measurable quantities. A summary of the assessment shall be submitted in writing to the Agency	01/02/07

IC15	The Operator shall assess the toxicity of its discharge to controlled water from emission point W1. The Assessment shall be carried out following the Initial Screening Stage of the guidance on Direct Toxicity Assessment (DTA) set out in Appendix F of Horizontal Guidance H1, version 6, July 2003. A written report shall be submitted to the Agency that includes, but is not limited to, the outcome of the Initial Screening Stage, further recommendations and a timetable for implementation of any recommendations.	01/02/07
IC16	The Operator shall develop and implement a documented system of management techniques for the Permitted Installation, having regard to the Agency Guidance Note IPPC S6.10, August 2003, Section 2.3. Confirmation in writing shall be submitted to the Agency when a recognised system has been implemented.	01/06/07
IC17	The Operator shall install bunding around the FBC plant liquid feed and storage tanks located within the Installation, in order to prevent or minimise the likelihood of fugitive emissions to surface water. The proposed design plans together with a timetable for implementation of proposals shall be submitted in writing to the Agency.	01/12/06
IC18	The Operator shall implement proposals in regard to IC22 in accordance with notification in writing from the Agency.	As specified in notification.

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

1.5 Minor operational changes

1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.

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

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

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

1.6 Pre-operational conditions

1.6.1 There are no pre-operational conditions.

1.7 Off-site conditions

1.7.1 There are no off-site conditions.

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 in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date received
Application	The response to questions 2.1, 2.2 and 2.5 of the Application Form given in pages 3 to 67 and 87 to 92 (inclusive) of the Application, excluding section 2.2.2.4 on page 59. Excluding all references to site domestic sewage storage, treatment and discharge to the River Mersey.	17/09/04
Additional information received in the 'Application for a variation to comply with WID'.	The response to sections C2.1, C2.2, C2.6 and C2.10 for the Fluidised Bed Combustors (ST-A, ST-B), Boilers (B1, B2, B3, B4, B6) and the Compression Ignition Engines (E-A, E-B).	30/03/05
Additional information received in (part) response to a Schedule 4 Notice.	The response to questions 1, 2, 3, 6, 7 and 8, including the information received in relation to the combustion of gas oil, excluding reference to the use of heavy fuel oil or recovered vegetable oil.	28/06/05
Additional information received in (part) response to a Schedule 4 Notice.	The response to questions 3, 4, 5, 9 and 10	03/08/05

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

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

Table 2.1.2: Permitted Waste Types

Waste type	Limitations	Maximum throughput
Meat and bone meal (MBM).	Includes both incineration of MBM generated on-site, and MBM imported to the site. Total combined mass throughput limited to 60,000 tonnes per year.	60,000 t/yr (total)

Liquid blood, plasma, soup, fish by-products, ETP sludge, egg waste, animal by-products and food waste washings.	Incineration in the fluidised bed combustors as separate components or in mixtures; provided that all remaining Permit conditions are met. Total combined mass throughput limited to 40,000 tonnes per year.	40,000 t/yr (total)
Food waste solids.	Not applicable.	40,000 t/yr
Mycelia residue.	Maximum of 20% of total feed composition to the fluidised bed combustors.	25,000 t/yr
Liquid effluent.	Limited to process effluent generated within the Installation.	35,000 t/yr
Tallow.	Not applicable.	44,600 t/yr

2.1.4 No condition applies.

2.1.5 No condition applies.

2.1.6 No condition apples.

2.1.7 Waste shall not be charged, or shall cease to be charged, into any incinerator if:

- the combustion chamber temperature is below, or falls below, 850°C; 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 No condition applies.

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

2.1.10 During a period of abnormal operation of an incinerator, 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 of an incinerator, any of the following situations arise, the Operator shall, as soon as is practicable, cease the burning of waste until normal operation can be restored:

- continuous measurement shows that an emission exceeds any emission limit value in Table 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 an incineration line;

2.1.12 The Operator shall interpret the end of the period of abnormal operation of an incinerator 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.

2.2 Emissions

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

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

2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the sources specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A1	Boiler 1 (WID Application reference: B1)	Drawing entitled 'Emissions to Air' (Reference number 9)
A2	Boiler 2 (WID Application reference: B2)	Drawing entitled 'Emissions to Air' (Reference number 9)
A3	Boiler 3 (WID Application reference: B3)	Drawing entitled 'Emissions to Air' (Reference number 8)
A4	Boiler 4 (WID Application reference: B4)	Drawing entitled 'Emissions to Air' (Reference number 7)
A5	Boiler 6 (WID Application reference: B6)	Drawing entitled 'Emissions to Air' (Reference number 6)
A6	Fluidised Bed Combustors A and B (WID Application reference: ST-A and ST-B)	Drawing entitled 'Emissions to Air' (Located at eastern corner of 'Empire' building)
A7	Compression Ignition Engines A and B (WID Application reference: E-A and E-B)	Drawing entitled 'Emissions to Air' (Reference number 10)
A8	Scrubber 1 (Rendering Plant 1 odour abatement scrubber)	Drawing entitled 'Emissions to Air' (Reference number 2)
A9	Scrubber 2 (Rendering Plant 2 odour abatement scrubber)	Drawing entitled 'Emissions to Air' (Reference number 1)
A10	Scrubber 3 (Rendering Plant 3 odour abatement scrubber)	Drawing entitled 'Emissions to Air' (Reference number 4)
A11	Blood Plant Scrubber (Blood Plant odour abatement scrubber)	Drawing entitled 'Emissions to Air' (Reference number 3)

2.2.1.3 The limits for emissions to air for the parameters and emission points set out in Table 2.2.2 shall not be exceeded except during a period of abnormal operation.

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

Emission point reference[12]	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
A8	Odour	3000 OU_E (1hr average, 98th percentile)	Biannual	BS EN 13725, CEN Olfactometry Standard
A9	Odour	3000 OU_E (1hr average, 98th percentile)	Bi-annual	BS EN 13725, CEN Olfactometry Standard
A10	Odour	3000 OU_E (1hr average, 98th percentile)	Bi-annual	BS EN 13725, CEN Olfactometry Standard
A11	Odour	3000 OU_E (1hr average, 98th percentile)	Bi-annual	BS EN 13725, CEN Olfactometry Standard
A6	Particulate matter	25 mg/m³ until 27th December 2005 daily average	Continuous measurement	BS EN 13284-2[6 8]
A1, A2, A3, A4, A5, A6 and A7	Particulate matter	10 mg/m³ from 28th December 2005 [11] daily average	Continuous measurement	BS EN 13284-2[6 8]
A1, A2, A3, A4, A5, A6 and A7	Particulate matter	30 mg/m³ from 28th December 2005 [11] ½ - hour average	Continuous measurement	BS EN 13284-2[6 8]
A1, A2, A3, A4, A5, A6 and A7	Particulate matter	20 mg/m³ from 28th December 2005 [11] periodic over minimum 1-hour period	Bi-annual	BS EN 13284-1
A1, A2, A3, A4, A5, A6 and A7	Total Organic Carbon (TOC)	10 mg/m³ from 28th December 2005 [11] daily average	Continuous measurement	BS EN 12619[6 8]
A1, A2, A3, A4, A5, A6 and A7	Total Organic Carbon (TOC)	20 mg/m³ from 28th December 2005 [11] ½ - hour average	Continuous measurement	BS EN 12619[6 8]
A1, A2, A3, A4, A5, A6 and A7	Total Organic Carbon (TOC)	20 mg/m³ from 28th December 2005 [11] periodic over minimum 1-hour period	Bi-annual	BS EN 12619
A6	Hydrogen chloride	30 mg/m³ until 27th December 2005 daily average	Continuous measurement	MCERTS certified instruments[7 9]
A6	Hydrogen chloride	10 mg/m³ from 28th December 2005 daily average	Continuous measurement	MCERTS certified instruments[7 9]
A6	Hydrogen chloride	60 mg/m³ from 28th December 2005 ½ - hour average	Continuous measurement	MCERTS certified instruments[7 9]

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

Emission point reference[12]	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
A1, A2, A3, A4, A5, A6 and A7	Hydrogen chloride	30 mg/m³ from 28th December 2005 [11] periodic over minimum 1-hour period	Bi-annual	BS EN 1911
A1, A2, A3, A4, A5, A6 and A7	Hydrogen fluoride	2 mg/m³ from 28th December 2005 [11] periodic over minimum 1-hour period	Bi-annual	USEPA Method 26/26A
A1, A2, A3, A4, A5 and A7	Carbon monoxide	50 mg/m³ from 28th December 2005 [11] daily average	Continuous measurement	ISO 12039 [4 8]
A1, A2, A3, A4, A5 and A7	Carbon monoxide	100 mg/m³ from 28th December 2005 [11] ½ - hour average	Continuous measurement	ISO 12039 [4 8]
A6	Carbon monoxide	100 mg/m³ daily average	Continuous measurement	ISO 12039 [4 8]
A6	Carbon monoxide	100 mg/m³ from 28th December 2005 [11] hourly average	Continuous measurement	ISO 12039 [4 8]
A1, A2, A3, A4, A5, A6 and A7	Carbon monoxide	100 mg/m³ from 28th December 2005 [11] periodic over minimum 4 hour period, data to be reported as ½-hour averages	Bi-annual	ISO 12039
A6	Sulphur dioxide	50 mg/m³ daily average	Continuous measurement	BS 6069-4.4[5 8]
A6	Sulphur dioxide	200 mg/m³ ½ - hour average	Continuous measurement	BS 6069-4.4[5 8]
A1, A2, A3, A4, A5, A6 and A7	Sulphur dioxide	200 mg/m³ from 28th December 2005 [11] periodic over minimum 4 hour period, data to be reported as ½ hour averages	Bi-annual	BS 6069-4.1
A6	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	300 mg/m³ until 27th December 2005 daily average	Continuous measurement	ISO 10849[5 8]
A6	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	200 mg/m³ from 28th December 2005 [11] daily average	Continuous measurement	ISO 10849[5 8]

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

Emission point reference[12]	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
A6	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m³ from 28th December 2005 [11] ½ - hour average	Continuous measurement	ISO 10849[5 8]
A1, A2, A3, A4, A5 and A7	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m³ from 28th December 2005 [11] daily average	Continuous measurement	ISO 10849[5 8]
A1, A2, A3, A4, A5 and A7	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	800 mg/m³ from 28th December 2005 [11] ½ - hour average	Continuous measurement	ISO 10849[5 8]
A6	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m³ from 28th December 2005 [11] periodic over minimum 4 hour period, data to be reported as ½- hour averages	Bi-annual	ISO 10849 or BS ISO 11564
A1, A2, A3, A4, A5 and A7	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m³ from 28th December 2005 [11] periodic over minimum 4 hour period, data to be reported as ½ hour averages	Bi-annual	ISO 10849 or BS ISO 11564
A1, A2, A3, A4, A5, A6 and A7	Cadmium & thallium and their compounds (total) [2]	0.05 mg/m³ from 28th December 2005 [11] periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385
A1, A2, A3, A4, A5, A6 and A7	Mercury and its compounds [2]	0.05 mg/m³ from 28th December 2005 [11] periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 13211
A1, A2, A3, A4, A5, A6 and A7	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) [2]	0.5 mg/m³ from 28th December 2005 [11] periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385

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

Emission point reference[12]	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
A1, A2, A3, A4, A5, A6 and A7	Dioxins / furans (I-TEQ)	0.1 ng/m³ from 28th December 2005 [11] periodic over minimum 6 hours, maximum 8 hour period [3]	Bi-annual [10]	BS EN 1948
A6	Dioxins / furans (I-TEQ)	1.0 ng/m³ until 27th December 2005 periodic over minimum 6 hours, maximum 8 hour period [3]	Bi-annual	BS EN 1948

Note 1: See Section 6 for reference conditions

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

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

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

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

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

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

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

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

Note 10: At least one monitoring result should be reported by 31/03/06

Note 11: Emission limit only applies from 28/12/05 to streams burning waste. For any streams that cease burning waste, the emission limits for the parameters listed shall revert to the limits (if any) in place on the 27th December 2005.

Note 12: The limits in this table apply to each referenced emission point individually.

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 emission points specified in Table 2.2.4 shall only arise from the sources specified in that Table.

Table 2.2.4: Emission point to water

Emission Point Reference or description	Source	Receiving Water
W1	Effluent Treatment Plant discharge to the estuarial River Mersey	Estuarial River Mersey
W2	Uncontaminated site surface water discharge to the estuarial River Mersey	Estuarial River Mersey

2.2.2.4 The limits for the emissions to water for the parameters and emission points set out in Table 2.2.5 shall not be exceeded.

2.2.2.5 No condition applies.

Table 2.2.5 : Emission limits to water and monitoring

Emission point reference	Parameter	Limit (including reference period)	Monitoring frequency	Monitoring method (Note 2)
W1	Ammonia	500 mg/l (Note 1)	Daily	BS 6068: 1987
W1	Biochemical oxygen demand (BOD)	2,000 mg/l (Note 1)	Weekly	ISO 5815: 1989
W1	Total suspended solids	350 mg/l (Note 1)	Daily	BS EN 872, ISO 11929:1997
W1	pH	5 – 9 (Note 1)	Daily	BS 1647-2:1984
W1	Temperature	40 °C	Continuous	Traceable to National Standards
W1	Maximum flow	1000 m^3 (Calendar day) Dry weather conditions. (Note 1)	Daily	SCA Estimation of Flow and Load ISBN 011752364X

Note 1: Limits apply as periodic spot samples.

Note 2: Monitoring methods may be subject to change, and can be changed by prior agreement in writing from the Environment Agency.

Emissions to sewer

2.2.2.7 No emission from the Permitted Installation shall be made 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.

2.2.4 Fugitive emissions of substances to air

2.2.4.1 The Operator shall use BAT[2] so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

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

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

2.2.5 Fugitive emissions of substances to water and sewer

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall use BAT[2] 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] Following completion of relevant Improvement Conditions contained in Table 1.4.1.

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[(2)] 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.

2.2.7 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.

2.2.8 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
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 (LOI) of less than 5% of the dry weight of the ash.
Scrubber efficiency	Continuous measurement and control of pH and redox of the odour abatement scrubbers 1, 2, 3 and 4 to ensure optimised removal of odorous emissions from exhaust points A8, A9, A10 and A11.

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.

2.4 Efficient use of raw materials

2.4.1 The Operator shall -

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

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

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

2.5 Waste Storage and Handling

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

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

2.6 Waste recovery or disposal

2.6.1 Waste produced at the Permitted Installation shall be:

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

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

2.6.2 The Operator shall maintain the waste recovery or disposal table or description submitted in the Application and in particular review the available options for waste recovery and disposal for the purposes of complying with condition 2.6.1 above.

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

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

2.6.5 Bottom ash and APC residues shall not be mixed.

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

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

Table 2.6.1 : Emission limits and monitoring frequency for solid residues

Emission point reference	Substance	Limit (including Reference Period)	Monitoring frequency	Monitoring method
Bottom Ash (ST-A, ST-B)	Total Organic Carbon (TOC)	3%	Quarterly	Agency ash sampling protocol
Bottom Ash (ST-A, ST-B)	Loss on Ignition (LOI)	5%	Quarterly	Agency ash sampling protocol

2.7 Energy efficiency

2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by 31 January each year, providing the information required by condition 4.1.2.

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

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

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

maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.8 Accident prevention and control

2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in 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 Emergency generators/ alarms/ sirens/ relief valves shall only be tested between the hours of 08:00 and 18:00 Monday to Friday and not on any Public Holiday.

2.10 On-site monitoring

2.10.2 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 and 2.2.5 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.

2.10.3 Where Continuous Emission Monitors (CEMs) are installed to comply with the monitoring requirements in Table 2.2.2, 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.

2.10.4 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in Table 2.2.2, 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 [2]	Other specifications
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Oxygen content	Continuous	ISO 12039	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Pressure	Continuous	MCERTS Performance Standards for CEMs	

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 [2]	Other specifications
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Temperature	Continuous	MCERTS Performance Standards for CEMs	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Water vapour content	Continuous	MCERTS Performance Standards for CEMs	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Dioxin-like PCBs (WHO-TEQ [1] Humans / Mammals)	Bi-annual 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)	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Dioxin-like PCBs (WHO-TEQ [1] Fish)	Bi-annual 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)	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Dioxin-like PCBs (WHO-TEQ [1] Birds)	Bi-annual 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)	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Poly-cyclic aromatic hydrocarbons (PAHs)	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	Procedure shall use BS ISO 11338-1 and BS-ISO 11338-2.	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Dioxins / furans (WHO-TEQ Humans / Mammals) [1]	Bi-annual 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)	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Dioxins / furans (WHO-TEQ Fish) [1]	Bi-annual 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)	
Sampling Points A1, A2, A3, A4, A5, A6 and A7	Dioxins / furans (WHO-TEQ Birds) [1]	Bi-annual 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 [2]	Other specifications
Bottom Ash (ST-A, ST-B)	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Bi-annual	Sampling and analysis as per Agency ash sampling protocol.	
Bottom Ash (ST-A, ST-B)	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 and analysis as per Agency ash sampling protocol.	
Bottom Ash (ST-A, ST-B)	Protein	Bi-annual	Sampling and analysis as per Agency ash sampling protocol.	
APC Residues (ST-A, ST-B)	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 and analysis as per Agency ash sampling protocol.	
Close to the Combustion Chamber inner wall (ST-A, ST-B)	Temperature (°C)	Continuous	MCERTS Performance Standards for CEMs	Traceable to National Standards
W1	Effluent discharge flow (m^3)	Daily	SCA Estimation of Flow and Load ISBN 011752364X	

Note 1: 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 2: Monitoring methods may be subject to change, and can be changed by prior agreement in writing from the Environment 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 and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in Table 2.2.2. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

2.10.10 There shall be provided:

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

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

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

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

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

2.10.12.2 report that site reference data to the Agency,

unless otherwise agreed in writing by the Agency.

2.11 Closure and decommissioning

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

2.11.1.1 attention to the design of new plant or equipment;

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

2.11.1.3 the maintenance of a site closure plan to demonstrate that the Permitted 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 multiple Operator Installation.

2.13 Transfer to Effluent Treatment Plant

2.13.1 No transfers to the effluent treatment plant are controlled under this part of this Permit.

3 Records

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

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

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

3.1.3 be legible;

3.1.4 be made as soon as reasonably practicable;

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

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

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

4 Reporting

4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details notified in writing to the Operator by the Agency.

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

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

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

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

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

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

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

4.1.5 The Operator shall review fugitive emissions, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to reduce them within 3 months of the end of such period.

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

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

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

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; and

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

5.1.1.5 any incident which has led to a period of abnormal operation of incineration or co-incineration plant, as defined in section 6.1.1.

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 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and

5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;

5.1.2.3 for notifications of incidents of abnormal operations under condition 5.1.1.5, only the information listed in Part C of that Schedule;

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.

5.1.8 The Operator shall notify the Agency in writing, of any known or planned introduction or material emission from the Permitted Installation to water or sewer, that may increase the concentration of any "dangerous substance", as defined in List I and List II of the Dangerous Substances Directive, 76/464/EEC, and its daughter directives.

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/or the purified waste water of the regulated substances may exceed the normal emission limit values.

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

"*APC residues*" means air pollution control residues

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

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

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

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

"*Bi-annual*" means twice per year with at least 4 months between tests.

"*Bottom Ash*" means ash falling through the grate or transported by the grate at the base of the combustion plant.

"*CEM*" 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*" shall have the same meaning as in Part III 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 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.

"Dry weather conditions" for the purposes of monitoring and reporting shall mean any calendar day when less than 5mm of rain falls on, or in the immediate vicinity of, the Permitted Installation.

"*ELV*" means emission limit value.

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

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

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

"incinerator" means for the purposes of this Permit, any incinerator or a co-incinerator (as defined in the Waste Incineration Directive) burning waste, and for this Installation includes the Boilers, the Compression Ignition Engines and the Fluidised Bed Combustors.

"*ISO*" means International Standards Organisation.

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

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

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

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

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

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

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

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

"PCB" means Polychlorinated Biphenyl. Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in condition 6.1.5

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

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

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

"Raw Materials" means the animal carcasses, animal by-products, bio liquids and other waste food products that are rendered or incinerated at the Installation.

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

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

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

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

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

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

"*WHO*" means the World Health Organisation

"Year" means calendar year ending 31 December.

"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 8 weeks between each sampling date.

"Bi-annual" for reporting/sampling means after/during each 6 month period, January to June; July to December and, when sampling, with at least 12 weeks between each sampling date.

"Annual" for reporting/sampling means after/during each year and, when sampling, with at least 8 months between each sampling date.

"Monthly" for reporting/sampling means after/during each calendar month and, when sampling, with at least 10 days between each sampling date.

"Hourly average" means the average value from continuous monitoring over each 60 minute period starting on the hour at 1.00, 2.00 etc.

"24 hour rolling average" means the average of the previous 24 hourly averages and is determined each hour at 1.00, 2.00 etc.

"Daily average" means the average of continuous monitoring with a data logging interval of 10 seconds over a day, 00.00 to 24.00.

"BOD" means "Biochemical Oxygen Demand", which means biochemical oxygen demand measured after 5 days at 20°C with nitrification suppressed by the addition of allyl-thiourea.

"Suspended Solids" means those suspended solids measured after drying at 105°C.

"*mg/m*^{3}" means milligramme (1 x 10^{-3} grammes) per cubic metre.

"*µg/m*^{3}" means microgramme (1 x 10^{-6} grammes) per cubic metre.

"*ng/m*^{3}" means nanogramme (1 x 10^{-9} grammes) per cubic metre.

"*mg/l*" means milligramme per litre.

"*µg/l*" means microgramme per litre.

"kg" means kilogramme (1 x 10^3 grammes).

"t" means tonne.

"t/yr" means tonnes per year.

"MWh" means megawatt (1 x10^6 watt) hour.

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

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

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

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

6.1.3.3 in relation to gases from co-incineration plants 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[3] 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

[3] At the time of Permit issue.

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	CP3230BE
Name of Operator	Granox Limited
Location of Installation	Desoto Road West Bank Dock Estate Widnes Cheshire WA8 0PB
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media	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 Permitted Installation in the preceding 24 months.	

Part C

Permit Number	CP3230BE
Name of Operator	Granox Limited
Location of Installation	Desoto Road West Bank Dock Estate Widnes Cheshire WA8 0PB

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

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

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Granox Limited.

Schedule 2 - Reporting of monitoring data

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

Table S2: Reporting of monitoring data

Parameter	Emission point (Note 2)	Reporting period	Period begins
Sulphur dioxide mg/m³	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Total Organic Carbon (TOC) mg/m³	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Oxides of nitrogen mg/m³	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Gaseous chlorides as HCl mg/m³	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Gaseous fluorides as HF mg/m³	A1, A2, A3, A4, A5, A7	Bi-annual	01/01/2006
Particulate Matter mg/m³	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Carbon Monoxide mg/m³	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Cadmium & Thallium and their compounds (total)	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Mercury and its compounds	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium and their compounds (total)	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Dioxins / furans (I-TEQ)	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Poly-cyclic aromatic hydrocarbons (PAHs)	A1, A2, A3, A4, A5, A6, A7	Bi-annual	01/01/2006
Temperature	A1, A2, A3, A4, A5, A6, A7	As requested by Agency site inspector. Note 1	01/01/2006
Pressure	A1, A2, A3, A4, A5, A6, A7	As requested by Agency site inspector. Note 1	01/01/2006
Oxygen content	A1, A2, A3, A4, A5, A6, A7	As requested by Agency site inspector. Note 1	01/01/2006
Water vapour content (unless gas is dried before analysis of emissions)	A1, A2, A3, A4, A5, A6, A7	As requested by Agency site inspector. Note 1	01/01/2006
Furnace Chamber Temperature	ST-A, ST-B	As requested by Agency site inspector. Note 1	01/01/2006
Wind Speed and Direction	Site	As requested by Agency site inspector. Note 1	01/01/2006

Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Bottom Ash ST-A, ST-B	Bi-annual	01/01/2006
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Bottom Ash ST-A, ST-B	Before use of a new disposal or recycling route	01/01/2006
TOC	Bottom Ash ST-A, ST-B	Bi-annual	01/01/2006
LOI	Bottom Ash ST-A, ST-B	Bi-annual	01/01/2006
Protein	Bottom Ash ST-A, ST-B	Bi-annual	01/01/2006
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	APC Residues ST-A, ST-B	Bi-annual	01/01/2006
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	APC Residues ST-A, ST-B	Before use of a new disposal or recycling route	01/01/2006
Ammonia mg/l	W1	Bi-annual	01/01/2006
Biochemical oxygen demand mg/l	W1	Bi-annual	01/01/2006
Total suspended solids mg/l	W1	Bi-annual	01/01/2006
pH	W1	Bi-annual	01/01/2006
Temperature °C	W1	Bi-annual	01/01/2006
Odour (OU)	A8, A9, A10, A11	Bi-annual	01/01/2006
Effluent discharge flow m^3	W1	Bi-annual	01/01/2006
Water usage	Permitted Installation	Bi-annual	01/01/2006
Energy usage	Permitted Installation	Bi-annual	01/01/2006
Waste disposal and/or recovery.	Permitted Installation	Bi-annual	01/01/2006
Performance indicators	Permitted Installation	Bi-annual	01/01/2006

Note 1. These parameters do not normally require to be reported, but shall 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: Permanent access is not required for emission points A1, A2, A3, A4, A5, A8, A9, A10 and A11.

Schedule 3 - Forms to be used

Table S3: Reporting Forms		
Media / parameter	**Form number**	**Date of form**
Air: Periodic monitored emissions biannually	Agency Form / CP3230BE / A2 / Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of particulates	Agency Form / CP3230BE / A3 / Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of TOC	Agency Form / CP3230BE / A4 / Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of Gaseous chlorides as HCl	Agency Form / CP3230BE / A5 / Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of Gaseous fluorides as HF	Agency Form / CP3230BE / A6 / Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of Carbon monoxide	Agency Form / CP3230BE / A7 / Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of Sulphur dioxide	Agency Form / CP3230BE / A8 / Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of Oxides of nitrogen	Agency Form / CP3230BE / A9 / Form dated 01/09/05	01/09/05
Water: Discharge to water	Agency Form / CP3230BE / W1 / Form dated 01/09/05	01/09/05
Waste Return	Agency Form / CP3230BE / R1 / Form dated 01/09/05	01/09/05
Water usage	Agency Form / CP3230BE / WU1 / Form dated 01/09/05	01/09/05
Energy	Agency Form / CP3230BE / E1 / Form dated 01/09/05	01/09/05
Performance indicators	Agency Form / CP3230BE / PI1 / Form dated 01/09/05	01/09/05
Bottom Ash, APC Residues: Composition	Agency Form / CP3230BE / Ash1 / Form dated 01/09/05	01/09/05
Bottom Ash, APC Residues: Solubility	Agency Form / CP3230BE / Ash2 / Form dated 01/09/05	01/09/05

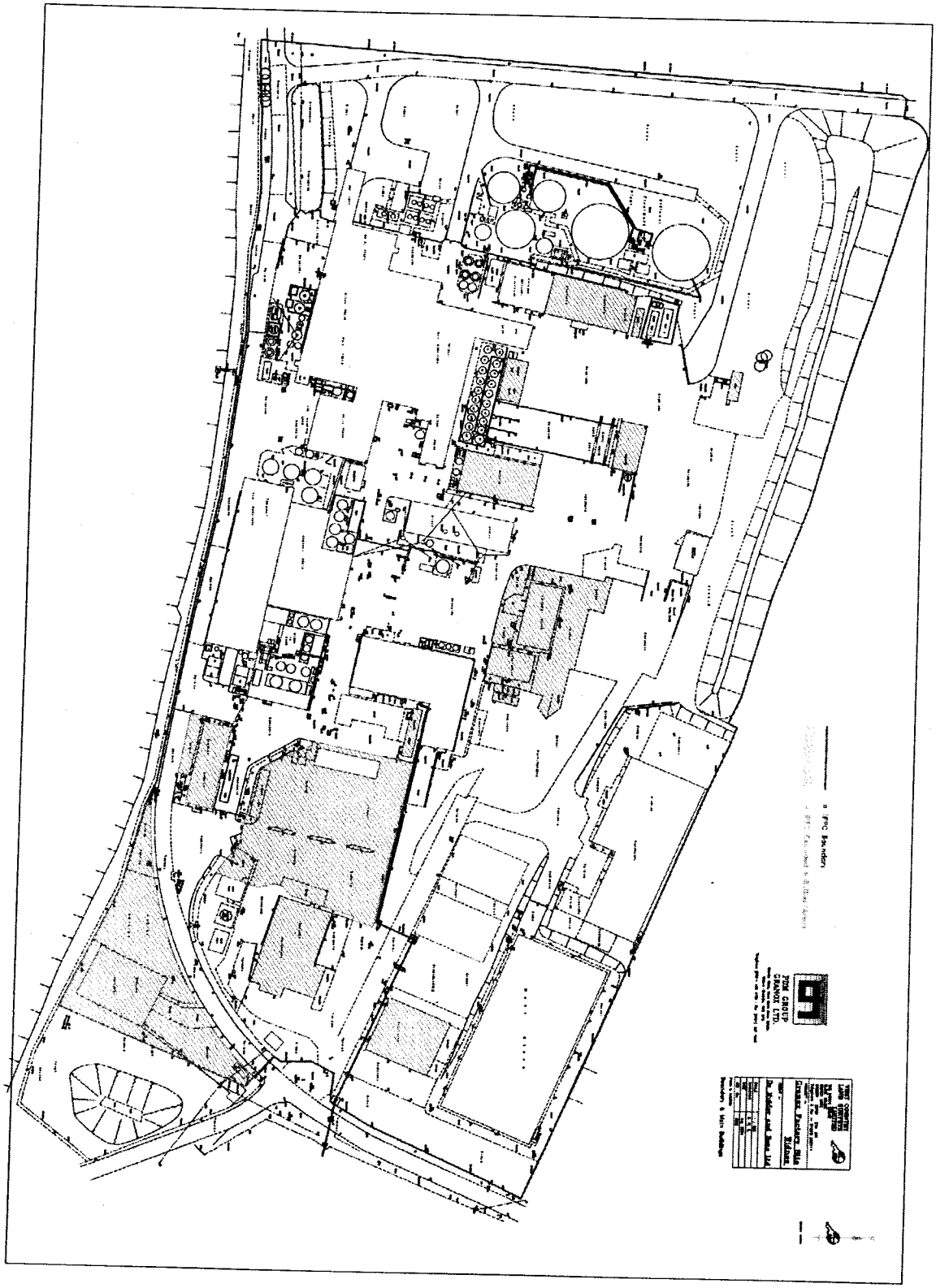
Schedule 4 - Reporting of performance data

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

Table S4.1: Annual Production/Treatment	
Total raw materials received and processed	Tonnes
Total waste incinerated	Tonnes
Electrical energy generated and exported	kWh
Electrical energy generated and used on installation	kWh
Steam generated and exported	Tonnes
Steam generated and used on installation	Tonnes

Table S4.2: Performance parameters		
Parameter	**Frequency of assessment**	**Performance indicator**
BOD emissions (via W1) per tonne of raw materials received and processed	Quarterly	BOD / t
Primary energy usage per tonne of raw materials received and processed at the Installation	Quarterly	MWh / t
Water consumption per tonne of raw materials received and processed at the Installation	Quarterly	m^3 / t
Electricity exported off-site per tonne of waste incinerated	Quarterly	KWh / t
Electricity imported to site per tonne of waste incinerated	Quarterly	KWh / t
Steam exported off-site per tonne waste incinerated	Quarterly	kg / t
Supplementary fuel oil consumption (kg) per tonne of waste incinerated	Quarterly	kg / t
Mass of ash produced per tonne of waste incinerated	Quarterly	kg / t
Mass of sodium bicarbonate used per tonne of waste incinerated	Quarterly	kg / t

Schedule 5 - Site Plan



Schedule 6 - List of Permitted Wastes

Permitted Waste Types		
Description	**European Waste Catalogue Number (where available) or other specification**	**Waste type as defined in Table 2.1.2**
Meat and bone meal	02 02 99	Non-hazardous
Liquid blood and plasma	02 02 99	Non-hazardous
Soup waste	02 03 04	Non-hazardous
Fish by-products	02 02 02	Non-hazardous
Effluent Treatment Plant sludge	02 02 04	Non-hazardous
Egg waste	07 05 14	Non-hazardous
Animal by-products and food waste washings	02 05 02	Non-hazardous
Food waste solids	02 02 03	Non-hazardous
Mycelia residue	07 05 14	Non-hazardous
Liquid effluent	02 02 04	Non-hazardous
Tallow	02 02 99	Non-hazardous

END OF PERMIT