

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

EPR Thetford Limited
Thetford Power Station
Mundford Road
Thetford
Norfolk
IP24 1LX

Variation application number

EPR/PP3235LP/V007

Permit number

EPR/PP3235LP

Thetford Power Station

Permit number EPR/PP3235LP

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

This variation has been issued to update the permit following a statutory review of the permits in the industry sector for incineration. The opportunity has also been taken to consolidate the original permit and subsequent variations. The Industrial Emissions Directive (IED) came into force on 7th January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) conclusions as described in the Commission Implementing Decision. The BAT conclusions for incineration were published on 03 December 2019 in the Official Journal of the European Union (L323) following a European Union wide review of BAT, implementing decision 2017/2117/EU of 21 November 2017.

The schedules specify the changes made to the permit. Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

Brief description of the process

The installation burns a mixture of waste and non-waste material where the main purpose is generation of energy and is therefore a co-incineration plant. The relevant listed activity is 1.1 A(1)(a). The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the permit are as follows:

Furnace technology	Grate
Number of lines	1
Principal waste types Principal fuels	Poultry litter, horse bedding, meat and bonemeal (MBM) Woodchips
Stack height	109 m
Permitted plant capacity	550,000 tonnes per year
Electrical generation capacity	35.8 MWe

The installation is a co-incinerator power station utilising poultry litter, forest wood chips and clean horse bedding, small amounts of MBM are also burned. Gas oil is used as a fuel during start-up as well as

automatically if the temperature falls below 850°C. Heat from the boiler is used to produce steam which is passed through a turbine connected to a generator. The rated thermal input of the boiler is 145 MW_{th} and the turbine has a nominal electrical power output of 38.5 MW_e. The plant consumes around 1600 tonnes of biomass a day at full output.

The installation is located approximately 5 km from Thetford on the edge of Thetford Forest. A rugby club, scout hut and forest visitor centre are located in the vicinity of the installation. The River Ouse forms the south-west boundary of the site. The installation lies with an inner source protection zone and there are potable water abstractions within 500 m of the site boundary. There is one SSSI within 2 km of the installation, namely Breckland Forrest SSSI. There are 2 European sites within 10 km of the installation, namely Norfolk Valley Fens SAC, Norfolk Valley Fens SAC (candidate) and Breckland SAC (candidate).

A description of the process operated at the installation is as follows:

Biomass fuel is delivered to the site by covered lorry. The lorry is firstly weighed on a weighbridge before reversing into one of 6 unloading bays in which the lorry tips its contents onto a conveyor belt. Lorries leaving the site are washed and disinfected using an automated system. The conveyor belt meters the fuel onto a star screen which reduces lump size, removes significant contaminant items and rejects oversize material. Oversize and contaminant material is then inspected, contaminants are removed and oversize fuel reduced in size using a shredder and recycled back to the screen. Screened fuel is then fed onto the main conveyor belt which transfers the material to the main fuel hall where it is spread along the length of a fuel pile. From the fuel pile fuel is transferred to the boilers using conveyors and a number of feed screw which in turn feed a system which injects fuel into the furnace. The fuel feed system is designed to provide a gas-tight seal to the furnace ensuring maintenance of negative pressure by the ID fan and preventing the escape of combustion gasses. An interlock is fitted to the fuel feed system to prevent fuel feed if the temperature drops below 850°C. Two low-NO_x gas oil auxiliary burners are fitted for use during start-up.

The furnace is fitted with a "roto grate" system based on suspension fired furnace technology. Fuel is blown into the furnace above the grate using preheated air and is projected over the grate's surface, with the larger particles being projected towards the rear of the boiler. The finer particles are burnt in suspension as they pass through the flame above the grate and the larger particles settle on the moving grate where they are burnt. Ash is carried to the front of the boiler where it falls into the ash. The Foster Wheeler boiler comprises three passes and uses soot blowers to maintain cleanliness of the heating surfaces. Primary air is fed from under the grate and secondary air is injected at various heights in the furnace walls, with additional secondary air ports supplied by a fan and pressurised air chamber for NO_x reduction. The secondary air is taken from the aspiration system used for odour and dust control of the fuel hall and fuel handling system. Sodium bicarbonate is injected into the combustion gas stream after the economiser to abate emissions of sulphur dioxide and hydrogen chloride. Particulate emissions are abated using a multi-compartment fabric filter with pulse jet cleaning, burst bag detectors and multi compartments to allow bag changes on line. Ash from the bag filters, fly ash and bottom ash is collected to transport off-site in covered trailers and subsequent use in the making of fertiliser. Combustion gasses are released from a 109 m stack.

Town mains water is treated in an ion exchange plant to produce make up water for the boiler. After passing through the turbine, the steam is condensed in air-cooled condensers. The condensed water is then returned to the boiler for re-use. Waste water from the ion exchange plant and boiler water blowdown and drainage is passed to a holding tank where the pH is adjusted prior to discharge into the Little Ouse River via W1. Surface and roof water from the installation is discharged to the river via W2 and W3. Drainage from the lorry wash is collected in a tank and recycled, and the settled solids collected by tanker. A number of interceptors are installed and the interceptor serving the gas oil storage area has capacity to hold the entire contents of the gas oil tank. Penstocks are installed which can be closed in order to prevent discharge to river in the event of a spill or a fire. A small Klargester system treats sanitary effluent which is discharged to the Little Ouse River, but this is not part of this permit. The installation operates a safety, health and environment management system.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application EPR/PP3235LP/A001	Duly made 07/04/06	
Additional information received	01/09/06	
Additional information received	16/11/06	
Permit determined EPR/PP3235LP	21/12/06	
Variation application EPR/PP3235LP/V002	Application returned 18/11/10	Application for a variation to extend the installation boundary for the purposes of an open-air storage of forest wood chips, and to add an emission point to surface water (W4).
Variation application EPR/PP3235LP/V003	Duly made 21/03/11	
Request for additional information (Schedule 5 Notice)	30/03/11	
Additional information received	11/05/11	
Variation determined EPR/PP3235LP/V003	10/08/11	
Notified of change of registered office address	22/04/16	Registered office address changed to 6th Floor, 33 Holborn, London, EC1N 2HT.
Variation issued EPR/PP3235LP/V004	09/06/16	Variation permit issued to EPR Thetford Limited
Variation application EPR/PP3235LP/V005	Duly made 06/03/17	Application for a variation to add shredder, amend annual fuel throughput, change acid gas abatement and water monitoring reference period.
Additional information received	06/03/17	Additional information related to the increase in fuel throughput and previous air dispersion modelling.
Additional information received	05/04/17	Additional information related to the oversized fuel shredder.
Additional information received	13/04/17	Additional information related to the use of sodium bicarbonate for acid gas abatement.
Variation determined EPR/PP3235LP/V005	09/05/17	
Variation application EPR/PP3235LP/V006	Duly made 12/10/20	Application of a variation to add meat and bone meal (MBM) to the permitted list of waste types that can be used as fuel in the co-incinerator.
Variation determined EPR/PP3235LP/V006	07/12/20	Permit issued to EPR Thetford Limited.
Regulation 61 notice issued	09/06/22	Regulation 61 Notice requiring information for Statutory review of permit. BAT Conclusions published 03 December 2019.
Regulation 61 notice response	08/12/22	
Variation issued EPR/PP3235LP/V007	29/03/23	

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/PP3235LP

Issued to

EPR Thetford Limited (“the operator”)

whose registered office is

**6th Floor
33 Holborn
London
EC1N 2HT**

company registration number 03057688

to operate a regulated facility at

**Thetford Power Station
Mundford Road
Thetford
Norfolk
IP24 1LX**

to the extent set out in the schedules.

The notice shall take effect from 29/03/2023

Name	Date
Principal Permitting Team Leader	29/03/2023

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/PP3235LP

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/PP3235LP/V007 authorising,

EPR Thetford Limited (“the operator”),

whose registered office is

**6th Floor
33 Holborn
London
EC1N 2HT**

company registration number 03057688

to operate an installation at

**Thetford Power Station
Mundford Road
Thetford
Norfolk
IP24 1LX**

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

Name	Date
Principal Permitting Team Leader	29/03/2023

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
 - (c) referenced in schedule 1, table S1.1 (AR1), from 03/12/2023, in accordance with a written other than normal operating conditions (OTNOC) management plan.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 The operator shall review the written management system at least every 3 years or otherwise as requested by the Environment Agency.
- 1.1.4 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities.
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.
- 1.2.2 The operator shall review the viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:
- (a) new plans for significant developments within 15 km of the installation;
 - (b) changes to the Local Plan;
 - (c) changes to the UK CHP Development Map or similar; and
 - (d) new financial or fiscal incentives for CHP.

The results shall be reported to the Agency within 2 months of each review, including where there has been no change to the original assessment in respect of the above factors

1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;

- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
 - (a) it is of a type and quantity listed in schedule 2 table(s) S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer or holder.
- 2.3.5 Waste paper, metal, plastic or glass that has been separately collected for the purpose of preparing for re-use or recycling shall not be accepted. Waste from the treatment of these separately collected wastes shall only be accepted if incineration delivers the best environmental outcome in accordance with regulation 12 of the Waste (England and Wales) Regulations 2011.
- 2.3.6 Separately collected fractions other than those listed in condition 2.3.5 shall not be accepted unless they are unsuitable for recovery by recycling.
- 2.3.7 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
 - (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.8 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.3.9 Waste shall not be charged if:

- (a) the combustion chamber temperature is below 850 °C,
- (b) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded during abnormal operation; or
- (c) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or
- (d) continuous emission monitors to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation; or
- (e) continuous emission monitors to demonstrate compliance with the emission limit values for particulates, TOC or CO in schedule 3 are unavailable unless alternative techniques, as agreed in writing with the Environment Agency, are used to demonstrate compliance with those emission limit values.

2.3.10 The operator shall record the beginning and end of each period of “abnormal operation”.

2.3.11 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as soon as possible.

2.3.12 The operator shall interpret the start of the period of “abnormal operation” as the earliest of the following:

- (a) a technically unavoidable stoppage, disturbance, or failure of continuous emission monitors.
- (b) Any other technically unavoidable stoppage, disturbance, or failure of the plant which could lead to an exceedance of an emission limit value in table S3.1.

2.3.13 The operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:

- (a) when the failed equipment is repaired and brought back into normal operation;
- (b) when the operator initiates a shut down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;
- (c) The failed equipment has not been repaired and brought back into normal operation and a single period of abnormal operation reaches a duration of 4 hours after the start of abnormal operation on an incineration line
- (d) Abnormal operation occurs on an incineration line and the cumulative duration of abnormal operation periods over 1 calendar year has reached 60 hours on that incineration line;

2.3.14 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, and as required during operation to ensure that the operating temperature specified in condition 2.3.9 is maintained. Unless the temperature specified in condition 2.3.9 is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3, subject to condition 3.2.1, shall not be exceeded.
- 3.1.3 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S 3.4. Additional samples shall be taken and tested and appropriate action taken, whenever:
- (a) disposal or recovery routes change; or
 - (b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

3.2 Emissions limits and monitoring for emission to air for incineration plant

- 3.2.1 The limits for emissions to air apply as follows:
- (a) The limits in table S3.1 shall not be exceeded except during periods of abnormal operation.
 - (b) The limits in table S3.1 (a) shall not be exceeded during abnormal operation.
- 3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1 and S3.1(a); the Continuous Emission Monitors shall be used such that;
- (a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:

• Carbon monoxide	10%
• Sulphur dioxide	20%
• Oxides of nitrogen (NO & NO ₂ expressed as NO ₂)	20%
• Particulate matter	30%
• Total organic carbon (TOC)	30%
• Hydrogen chloride	40%
• Ammonia	40%
 - (b) valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.2.2 (a).
 - (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour, the half-hourly average shall in any case 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;
 - (d) daily average values shall be calculated as follows:
 - (i) the average of valid half hourly averages over a calendar day excluding half hourly averages during periods of abnormal operation. The daily average value shall be considered valid if no more than five half-hourly average values in any day have been determined not to be valid;

- (e) no more than ten daily average values per year shall be determined not to be valid.

3.3 Emissions of substances not controlled by emission limits

- 3.3.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.3.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.3.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.
- 3.3.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.4 Odour

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.4.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Noise and vibration

- 3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.5.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring

- 3.6.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1, S3.1(a) and S3.2;
 - (b) process monitoring specified in table S3.3;
 - (c) residue quality in table S3.4.
- 3.6.2 The operator shall maintain records of all monitoring required by this permit including 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.
- 3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and unless otherwise agreed in writing by the Environment Agency have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. 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. Newly installed Data handling and acquisition systems (DAHS), or DAHS replacing existing DAHS, shall have MCERTS certification.
- 3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.1(a), S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

3.7 Pests

- 3.7.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.7.2 The operator shall:
 - (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.8 Fire prevention

- 3.8.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.
- 3.8.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
- (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year using the annual report form specified in schedule 4, table S4.4 or otherwise in a format agreed with the Environment Agency. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production /treatment data set out in schedule 4 table S4.2;
- (c) the performance parameters set out in schedule 4 table S4.3
- (d) the functioning and monitoring of the incineration plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately:
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately:
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	S1.1 A1 (a)	Burning of specified biomass fuels in a combustion plant of 145 MW _{th} gross thermal capacity for the production of electricity	From the receipt of fuel and its storage to the production of electricity, the treatment and discharge of combustion gasses via a 109 metre high stack, discharge of effluents and removal from site of wastes arising
Directly Associated Activities			
AR2	-	Raw material storage	From the receipt of raw materials to their use in the process
AR3	-	Surface water drainage	From the collection of surface water to its discharge to the Little Ouse River
AR4	-	Water treatment	From the receipt of town mains water and its treatment in ion exchange columns to the transfer of treated water to the boiler and the treatment and discharge of waste water to the Little Ouse River and the disposal of wastes arising
AR5	-	Storage of permitted waste types used as fuels	From the receipt and storage of each permitted fuel type to transfer to auxiliary burners for combustion. Storage of meat and bone meal not to exceed 10,000 tonnes.
AR6	-	Shredding of oversized fuel	From the receipt of oversized fuel from the <50mm screens, to the recycling of shredded fuel back through the <50mm screens.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/PP3235LP/A001	The response to section 2.1 and 2.2	20/03/06
Additional information (RFI2)	Response to question 1 detailing composition of effluent discharged from emission point W1.	16/11/06
Variation application EPR/PP3235LP/V003	<ul style="list-style-type: none"> Environmental risk assessment in response to Section 6, Part C2 of the application form; Noise assessment in response to Section 3b, Part C3 of the application form	21/03/11

Table S1.2 Operating techniques		
Description	Parts	Date Received
Response to Schedule 5 Notice dated 30/03/11	Operating techniques for open-air storage of forest wood chips (including Appendix B and C); fugitive emissions management plan; specification of forestry residue wood chips.	27/04/11
Variation application EPR/PP3235LP/V005	Responses to Part C2 – Section 2b, and application supporting document “EPR Thetford Table 1 Changes to Existing Activities”.	12/01/17
Additional information (RFI 1)	Operating techniques for oversized fuel shredder.	05/04/17
Response to Schedule 5 Notice dated 30/03/11	Revised site plan showing permit boundary and point source emissions to controlled water.	07/07/11
Response to regulation 61 notice	Operating techniques as set out in the response to the regulation 61 notice.	08/12/22

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>The operator shall perform a study to determine the extent to which the operation of the systems in place at the plant to minimise NOx emissions (including the NOx abatement installed to meet the new emission limit value for NOx of 176.3 mg/m³ as a daily average) can be optimised. A written report of the study shall be submitted to the Environment Agency which shall include but not necessarily be limited to the following:</p> <ul style="list-style-type: none"> • A brief description of the measures installed measures at the installation to minimise NOx emissions, including details of how the reagent dosing system responds to emissions monitoring. • The results the optimisation study including: <ul style="list-style-type: none"> ○ a description of the parameters that were varied during the optimisation e.g. ammonia or urea feed rates, physical form of urea injected, air flows, and the range over which they were varied ○ the levels of NOx achieved and associated levels of ammonia and nitrous oxide emissions and reagent consumption ○ observed effects and predicted long-term impacts on plant operation, reliability and maintenance regime ○ any changes to the composition of the bottom ash and boiler ash and the implications of those changes for the ability to process and use the ash, as well as for the pollution potential of the ash both during processing and its subsequent use as a secondary aggregate (if relevant) ○ any other relevant cross-media effects ○ a description of how the plant will be operated on an ongoing basis to minimise NOx emissions, including target emission limit values for NOx and NH₃ 	Within 12 months of the completion of commissioning of the SNCR system

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC2	<p>The operator shall carry out an assessment of the opportunities to increase the energy efficiency of the installation.</p> <p>The assessment shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> • Improvements that could be made to the furnace (including control systems) in order to increase the amount of thermal energy produced per unit of thermal energy in the waste. • Where relevant, improvements that could be made to the steam system and related components to allow a greater quantity of electricity to be generated per unit of thermal energy in the steam. • Improvements in the heat and electrical efficiency of the plant's ancillary systems that could be made to reduce the heat and electrical loads of the plant. • Where relevant, an implementation plan for the improvements identified, including the anticipated increase in the gross and/or net electrical efficiency of the plant which would be achieved. <p>A written copy of the assessment shall be submitted to the Environment Agency.</p>	29/03/2024

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Fuel Oil	< 0.1% sulphur content

Table S2.2 Permitted waste types and quantities for co-incineration plant	
Maximum quantity	550,000 tonnes per year
Waste code	Description
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 02	animal-tissue waste (Meat and bone meal (MBM) only)
02 01 03	Plant-tissue waste
02 01 06	Animal faeces, urine and manure (including spoilt straw), effluent, collected separately and treated off-site
02 01 07	Wastes from forestry
02 01 99	Wastes from agriculture and similar industries not otherwise specified
02 02	
02 02 02	animal-tissue waste (Meat and bone meal (MBM) only)

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1 (shown as A1 on site plan in schedule 7)	Particulate matter	Co-incineration exhausts gases	16.5 mg/m ³ until 02/12/2023	daily average	Continuous	EN 14181
			8.6 mg/m ³ from 03/12/2023			
	Total Organic Carbon (TOC)		15 mg/m ³ until 02/12/2023	daily average	Continuous	EN 14181
			10 mg/m ³ from 03/12/2023			
			5 mg/m ³ from 03/12/2023	average of samples taken during one year	-	-
	Hydrogen chloride		16.5 mg/m ³ until 02/12/2023	daily average	Continuous	EN 14181
			12 mg/m ³ from 03/12/2023			
	Hydrogen fluoride		No limit set until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	CEN TS 17340
			1.5 mg/m ³ from 03/12/2023			
	Carbon monoxide		120 mg/m ³	daily average	Continuous	EN 14181

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1 (shown as A1 on site plan in schedule 7)	Sulphur dioxide	Co-incineration exhausts gases	120 mg/m ³ until 02/12/2023	daily average	Continuous	EN 14181
			72.2 mg/m ³ from 03/12/2023			
	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)		307.5 mg/m ³ until 02/12/2023	daily average	Continuous	EN 14181
			264.5 mg/m ³ from 03/12/2023			
	Cadmium & thallium and their compounds (total)		0.45 mg/m ³ until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 14385
			0.05 mg/m ³ from 03/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 14385
			0.0045 mg/m ³ from 03/12/2023	average of samples taken during one year	-	
	Mercury and its compounds		0.45 mg/m ³ until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 13211
			0.03 mg/m ³ from 03/12/2023			BS EN 13211

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1 (shown as A1 on site plan in schedule 7)	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Co-incineration exhausts gases	0.45 mg/m ³ until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 14385
			0.5 mg/m ³ from 03/12/2023			
			0.3 mg/m ³ from 03/12/2023	average of samples taken during one year	-	
	Exhaust gas temperature	No limit set	-	Continuous	Traceable to national standards	
	Exhaust gas pressure	No limit set	-	Continuous	Traceable to national standards	
	Exhaust gas flow	No limit set	-	Continuous from 01/01/2023	BS EN 16911-2	
	Exhaust gas oxygen content	No limit set	-	Continuous	EN 14181	
	Exhaust gas water vapour content	No limit set	-	Continuous	EN 14181	
Ammonia (NH ₃)	22.5 mg/m ³ from 03/12/2023 limit does not apply where SNCR is not installed	daily average	Continuous from 03/12/2023 monitoring is not required where SNCR is not installed	EN 14181		

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1 (shown as A1 on site plan in schedule 7)	Nitrous oxide (N ₂ O)	Co-incineration exhausts gases	No limit set	½-hr average and daily average from 01/01/2023	Continuous from 01/01/2023 monitoring is not required where SNCR is not installed	EN 14181
	Carbon dioxide		No limit set	Continuous	Continuous from 01/01/2023	EN 14181
	Dioxins / furans (I-TEQ)		0.1 ng/m ³ until 02/12/2023	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	EN 1948 Parts 1, 2 and 3
			0.03 ng/m ³ from 03/12/2023			
	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually;	EN 1948 Parts 1, 2 and 4
	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948 Parts 1, 2 and 3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1 (shown as A1 on site plan in schedule 7)	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Co-incineration exhausts gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Annually	BS ISO 11338 Parts 1 and 2.

Table S3.1(a) Point source emissions to air during abnormal operation of co-incineration plant – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 (shown as A1 on site plan in schedule 7)	Particulate matter	Co-incineration exhausts gases	225 mg/m ³	½-hr average	Continuous	EN 14181 or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor
	Total Organic Carbon (TOC)		30 mg/m ³	½-hr average	Continuous	
	Carbon monoxide		300 mg/m ³	½-hr average	Continuous	

Table S3.2 Point source emissions to water– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 (show on site plan in schedule 7) emission to Little Ouse River	Process water	Total suspended solids	60 mg/l	Spot sample	Quarterly	BS EN 872
	Process water	Biological Oxygen Demand	30 mg/l	Spot sample	Quarterly	BS EN 1899-1
	Process water	Ammonia (expressed as N)	5 mg/l	Spot sample	Quarterly	BS 6068-2.11: ISO 7150-1
	Process water	Sulphate	1000 mg/l	Spot sample	Quarterly	SCA blue book 136 ISBN 0117522406
	Process water	Chloride	2000 mg/l	Spot sample	Quarterly	BS EN ISO 10304-1
	Process water	pH	6-9	Instantaneous	Continuous	ISO 10523
	Process water	Oils and greases	None visible	Instantaneous	Daily	Visual check
	Process water	Temperature	Maximum 30 °C	Instantaneous	Continuous	Verified temperature probe
	Process water	Flow	Maximum 60 m ³	24 hours	Continuous	SCA Estimation of flow and load ISBN 011752364X
	Process water	Mercury	0.005 mg/l	Spot sample	Quarterly	BS EN 1483:1997
	Process water	Cadmium	0.010 mg/l	Spot sample	Quarterly	BS EN ISO 5961:1995 or BS 6068-2.21:1995
W2 (show on site plan in schedule 7) emission to Little Ouse River	Surface water	Oils and greases	None visible	Instantaneous	Daily	Visual check

Table S3.2 Point source emissions to water– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W3 (show on site plan in schedule 7) emission to Little Ouse River	Surface water	Oils and greases	None visible	Instantaneous	Daily	Visual check

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
As identified in the Application	Wind Speed and Direction	Continuous	Anemometer	
Location close to the Combustion Chamber inner wall or as identified and justified in Application.	Temperature (° C)	Continuous	Traceable to national standards	As agreed in writing with the Agency.
Co-incineration plant	net electrical efficiency	within 6 months of any modification that significantly affects net electrical efficiency	Performance test at full load or other method as agreed in writing with the Environment Agency	-
Biomass fuel quality	Moisture content	Every 3 rd delivery	-	-
	Calorific value			

Table S3.4 Residue quality					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method *	Other specifications
Bottom Ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
APC Residues	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
APC Residues	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

Table S3.4 Residue quality					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method *	Other specifications
Fly ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Fly ash	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

* Or other equivalent standard as agreed in writing with the Environment Agency.

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.6.1.	A1	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Emissions to water Parameters as required by condition 3.6.1	W1	Bi-annually	1 Jan, 1 Jul
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.6.1	Bottom Ash	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.6.1	Bottom Ash	Before use of a new disposal or recycling route	
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.6.1	APC Residues	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.6.1	APC Residues	Before use of a new disposal or recycling route	
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.6.1	Fly ash	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.6.1	Fly ash	Before use of a new disposal or recycling route	

Table S4.2: Annual production/treatment	
Parameter	Units
Poultry litter incinerated	tonnes
Forest wood chips incinerated	tonnes
Meat and bone meal (MBM) incinerated	tonnes
Horse bedding incinerated	tonnes
Other biomass incinerated	tonnes
Electrical energy produced	MWh
Thermal energy produced e.g. steam for export	MWh
Electrical energy exported	MWh
Electrical energy used on installation	MWh
Waste heat utilised by the installation	MWh

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Annual Report as required by condition 4.2.2	Annually	-
Electrical energy exported, imported and used at the installation	Annually	kWh / tonne of waste incinerated
Fuel oil consumption	Annually	kg / tonne of waste incinerated
Bottom Ash residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
APC residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
Fly ash	Annually	Route, tonnes and tonnes / tonne of waste incinerated
Ammonia / Urea consumption	Annually	kg / tonne of waste incinerated
Sodium bicarbonate consumption	Annually	kg / tonne of waste incinerated

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water consumption	Annually	kg / tonne of waste incinerated
Periods of abnormal operation	Annually	No of occasions and cumulative hours for current calendar year for each line.

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Annual report required by condition 4.2.2	Annual performance report template	-
Emissions to air until 02/12/2023	Form A1 or other form as agreed in writing by the Agency	21/12/06
Emissions to air from 03/12/2023	Forms air 1-9 or other forms as agreed in writing by the Environment Agency	29/03/2023
Emissions to water	Form water 1 or other form as agreed in writing by the Environment Agency	29/03/2023
Residue quality	Form residue 1 and 2 or other form as agreed in writing by the Environment Agency	29/03/2023

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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 EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

(d) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

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 which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“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 plant or the measurement devices. Abnormal operation starts as defined in condition 2.3.12 and ends as defined in condition 2.3.13. Abnormal operation is limited to 4 hours for a single occurrence and a total of 60 hours per year per line.

“accident” means an accident that may result in pollution.

“APC residues” means air pollution control residues

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“average of samples obtained during one year” means the average of the values obtained during one year of the periodic measurements taken with the monitoring frequency set for each parameter.

“BAT conclusions” means Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for Waste Incineration and BAT Conclusions for Large Combustion Plants (LCP) which were published on 17/08/2017 in the Official Journal of the European Union

“bottom ash” means ash falling through the grate or transported by the grate

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

“bi-annually” means twice per year with at least five months between tests;

“Commissioning” means testing of the new incineration plant that involves any operation of the furnace or as agreed with the Environment Agency

Daily average emissions value means ‘the average of at least 43 valid half hourly averages’.

“dioxin and furans” means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

“disposal”. Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“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.

“Hazardous property” has the meaning in Annex III of the Waste Framework Directive

“Hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended)

“co incineration line” means all of the incineration equipment related to a common discharge to air location.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“ISO” means International Standards Organisation.

‘*List of Wastes*’ means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time

“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.

“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, Dibenz[ah]anthracene, Dibenz[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 the table below.

“Pests” means Birds, Vermin and Insects.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“start up” is any period, where the plant has been non-operational, until waste has been fed to the plant in a sufficient quantity to initiate steady-state conditions as described in the application or as agreed in writing with the Environment Agency.

“shut down” is any period where the plant is being returned to a non-operational state as described in the application or as agreed in writing with the Environment Agency.

“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 code*” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

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.

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

- (a) in relation to emissions 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, 6% dry for solid fuels; and/or
- (b) in relation to emissions 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
- (c) 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 6% dry

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. When reporting on measurements of dioxins/furans and dioxin-like PCBs, the toxic equivalence concentrations should 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. However the minimum value should be used when assessing compliance with the emission limit value in table S3.1.

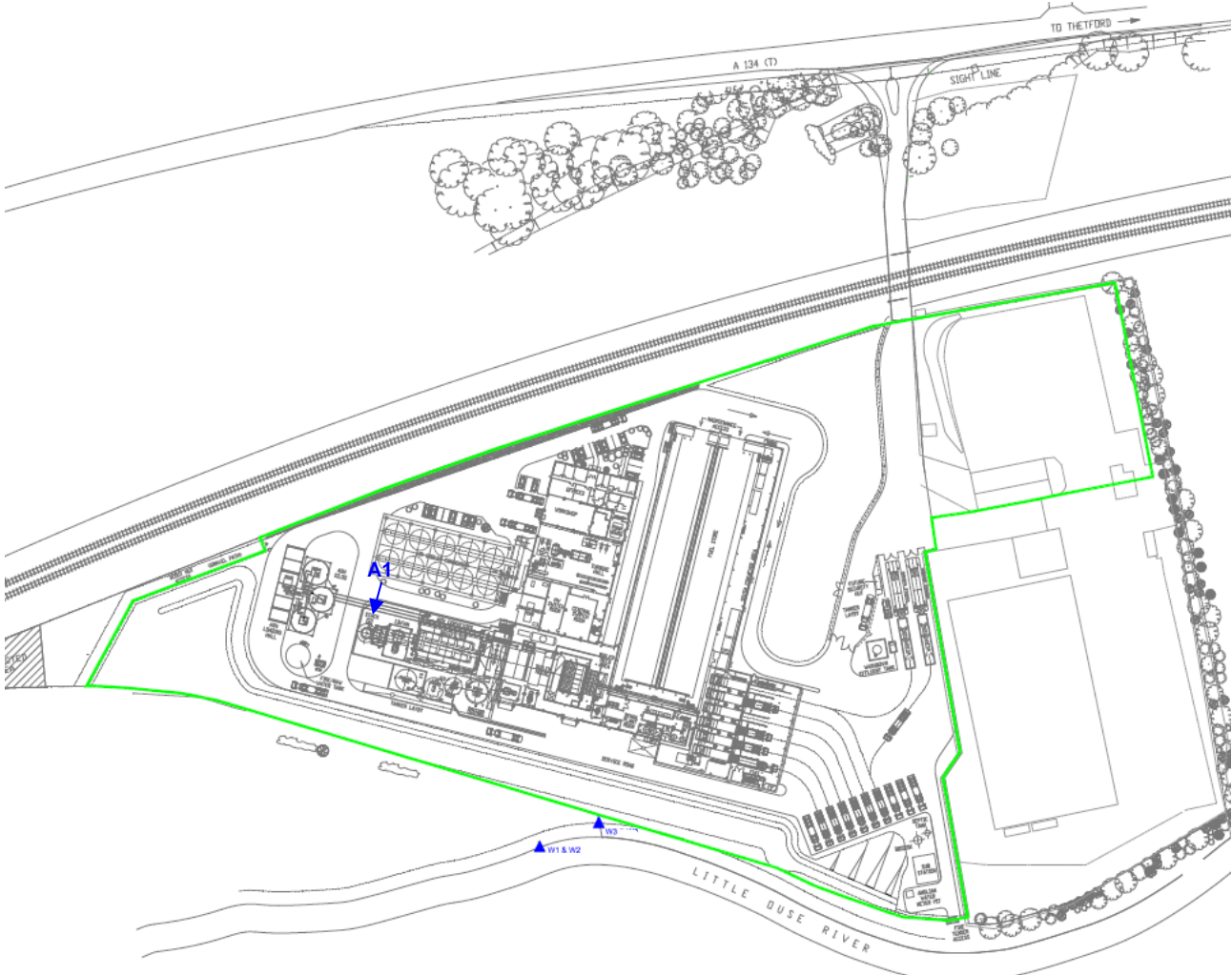
TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
		Humans / Mammals	Fish	Birds
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0003	-	-
Furans				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.03	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.3	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	0.0003	0.0001	0.0001

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / mammals	Fish	Birds
Non-ortho PCBs			
3,4,4',5-TCB (81)	0.0001	0.0005	0.1

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / mammals	Fish	Birds
3,3',4,4'-TCB (77)	0.0003	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)	0.03	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



END OF PERMIT