Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

SAICA Paper UK Limited

Partington Paper Mill
Manchester Road
Carrington
Manchester
M31 4QN

Variation application number

EPR/ZP3736XH/V007

Permit number

EPR/ZP3736XH

Partington Paper Mill
Permit number EPR/ZP3736XH

Introductory note

This introductory note does not form a part of the notice.

The following notice gives notice of the variation and consolidation of an environmental permit.

Changes introduced by this variation notice/statutory review

This variation has been issued to update some of the conditions following a statutory review of the permits in the industry sector for the production of pulp, paper and board. 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 production of pulp, paper and board were published on 30 September 2014 in the Official Journal of the European Union (L284) following a European Union wide review of BAT, implementing decision 2014/687/EU of 26 September 2014. Unless otherwise stated all relevant BAT conclusions apply from 1 October 2018. With the exception of BAT45 the operator is already compliant with all the relevant BAT Conclusions. We have set an improvement condition (IC1) to take steps to meet the parameters described in BAT45 Table 8.18 by the 1 October 2018.

This Permit also includes the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the IED, and is varied by the Environment Agency to implement the special provisions for LCP given in the IED, by the 1 January 2016 (Article 82(3)). The IED makes special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V.

The Operator has chosen to operate this LCP (LCP293) under the ELV compliance route.

The configuration of LCP 293 is as follows: Combined Heat and Power (CHP) plant comprising a combined cycle gas turbine (CCGT), heat recovery steam generator (HRSG) and a steam turbine. The net rated thermal input for the CHP is 135MWth.

The variation notice uses an updated LCP number in accordance with the most recent DEFRA LCP reference numbers. The LCP reference has changed as follows:

- LCP441 is changed to LCP293

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 changes being made. Only the changes specified in schedule 1 are subject to a right of appeal.

Purpose of original permit

The installation is located on a former fuel distribution terminal and hydrocarbon storage depot situated between the Manchester Ship Canal and A6144 Manchester Road at NGR SJ 722 922. The site is mainly flat and occupies an area of 15.75 hectares with an elevation of around 18 – 20 AOD. The installation is bounded by a track to the north which provides access to the petrochemical berth located west of the site on Manchester Ship Canal, a site of Biological importance to the south and a highways and maintenance depot to the east. The land surrounding the facility is predominantly industrial and consists of the Carrington Industrial Complex located north east of the site and Northbank Industrial Park located on the opposite side of the Manchester Ship Canal. The nearest residential properties are located 250m south of the site at Partington.

The installation comprises a recycled paper mill which has the capacity to receive around 528,000 tonnes per annum of used corrugated packaging, corrugated box clippings and mixed waste papers and produces

approximately 425,000 tonnes per annum of lightweight recycled paper which is subsequently used in the manufacture of corrugated board and boxes.

Recovered waste paper arrives in bales and is stored in the “recovered paper” area externally which is surfaced with an impermeable surface and served with a sealed drainage system. A maximum of 23,000 tonnes of recovered waste paper can be stored at any one time.

The recovered waste papers are converted to paper slurry and subjected to a number of different cleaning stages to produce a suitable stock for the papermaking process which takes place via a single high speed paper machine and produces a continuous paper sheet, or web. The web is passed through a series of presses to remove free water and dried by a combination of steam and hot air. Heat is recovered from the drying section and used to pre-heat air for the ‘after dryers’ and process water.

After drying the paper is reeled into large “jumbo” reels before being transferred to the winder where they are trimmed according to customer specifications and then passed through a series of roll finishing processes where they are labelled and weighed prior to storage in the paper roll warehouse.

Approximately 2,400,000m^3/year of fresh water is required for the paper making process. This is drawn from the Manchester Ship Canal and treated prior to use. Water is recycled throughout the process to minimise water use. Overall the use of fresh water is predicted to be 6m^3/tonne of paper, compared to the sector benchmark of 7m^3/tonne for RCF not de-inked.

Effluent from the process and excess water which cannot be recycled is treated by the on-site effluent treatment plant (ETP) via primary, secondary and tertiary treatment stages along with an additional step for the biogas produced by the ETP which is re-used by the combined heat and power and energy recovery boiler (ERB).

There are three point source emissions to the Manchester Ship Canal from the on site ETP (W1), the retention basin (W2) and the micro compact treatment plant (W3). We have incorporated the “Standard Rules SR2010 No3 – discharge to surface water: secondary treated domestic sewage with a maximum daily volume of between 5 and 20 cubic metres per day” in respect of the discharge from emission point W3. We have assessed the emissions to water from emission points W1 and W2 and none are deemed to have the potential to give rise to significant pollution. There is no discharge to sewer or groundwater.

LCP293: The installation operates a combined heat and power (CHP) plant consisting of a combined cycle gas turbine (CCGT), a heat recovery steam generator (HRSG) and a steam turbine which supplies all of the required electricity and 80% of the steam requirements for the site whilst also generating surplus electricity for export to the national grid. Associated with this plant is a single condenser. The primary fuel for the CCGT is natural gas, however, the HRSG is designed to operate on both natural gas and biogas produced by the ETP. This reduces the need for supplementary firing of the HRSG with natural gas. Emissions of NOx will be controlled through good combustion control, dry low NOx burners in the gas turbine and supplementary firing in the exhaust. Based on maximum continuous rating the net rated thermal input for the CHP is 135MWth.

An ERB will be used to generate the remaining 20% of steam requirements for the site and will process reject materials from stock preparation (~36,000 tonnes per annum), sludges from stock preparation and the ETP (@46,400 tonnes per annum), biogas produced by the ETP and wastes imported from external sources. The ERB uses moving grate technology and emissions are controlled through good combustion control systems and the following air pollution control equipment:

- Selective Non Catalytic Reduction (SNCR) using urea to reduce NOx emissions;
- Injection of lime via a dry process to neutralise acid gases;
- Injection of activated carbon to reduce dioxin formation: and
- Combination of cyclone and fabric filters for particulate removal.

As the primary purpose of the ERB is to produce steam for use in the process, the ERB is classed as a co-incinerator so is subject to Chapter IV of the Industrial Emissions Directive.

Under normal operating conditions all of the paper mill’s steam requirements will be met, however, should the ERB be out of operation, an auxiliary boiler is designed to meet the BAT benchmark standards.

There are four point source emissions to air from the CHP plant, ERB, auxiliary boiler and the biogas emergency flare. All of the emissions to air have been assessed and none are deemed to have the potential to give rise to significant pollution. Should any interruption of the natural gas supply occur the operator does not intend to use standby liquid fuels.

There is little potential for fugitive emissions to air. Potential for fugitive releases to water and/or groundwater is managed via the design of the drainage system and containment measures.

The site drainage system is designed to prevent contaminated water from entering the Manchester Ship Canal. Clean surface water is collected in the on site retention basin prior to discharge to interceptors via W2 along with surface water run-off from roads and vehicle areas which is diverted to interceptors prior to being directed to the retention basin. All remaining surface water which may be contaminated is directed to the ETP for treatment prior to storage in the retention basin. In the event of a spillage or fire the retention basin is designed with a cut off valve to prevent contaminated water entering the Manchester Ship Canal. The onsite retention basin has been designed to store the maximum volume of expected firewater of 2,500m^3.

Manchester Mosses and Rixton Clay Pits are designated as Special Areas of Conservation (SACs) and Rostherne Mere and Midland Meres and Mosses designated as Ramsar sites are located within 10km of the site.

An environmental management system is in place at the facility which is compliant with ISO14001.

The installation will be party to a Climate Change Levy Agreement.

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 received EPR/ZP3736XH/A001	Duly made 11/03/10	Application for paper mill
Schedule 5 Notice response received	10/11/10	-
Schedule 5 Notice response received for Question 43	25/11/10	-
Schedule 5 Notice response received for Question 44	01/12/10	-
		-
Permit Determined EPR/ZP3736XH	01/12/10	-
Variation Application EPR/ZP3736XH/V002	Duly made 01/12/11	Application to change operator name

Status log of the permit		
Description	**Date**	**Comments**
Variation determined EPR/ZP3736XH/V002	25/01/12	-
Variation application EPR/ZP3736XH/V003	Duly made 04/07/12	Application to vary permit
Variation determined EPR/ZP3736XH/V003	21/08/12	Varied permit issued
Variation determined EPR/ZP3736XH/V004	22/01/14	Environment Agency variation to implement the changes introduced by IED
Variation application EPR/ZP3736XH/V005	Duly made 16/04/14	Application to increase the amount of raw material used and increase storage of finished product
Variation determined EPR/ZP3736XH/V005	01/05/14	Varied permit issued
Variation application EPR/ZP3736XH/V006	Duly made 09/06/14	Application to increase the site boundary to include a new warehouse area and to increase the daily flow limit for treated effluent discharged from W1
Variation determined EPR/ZP3736XH/V006	13/08/14	-
Regulation 60 Notice dated 21/11/14 (Notice requiring information for statutory review of permit)	Response Received 31/03/15	Technical standards detailed in response to the information notice. Information to demonstrate that relevant BAT conclusions are met for the production of pulp, paper and board as detailed in document reference L284.
Regulation 60 Notice sent to the Operator	31/10/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V.
Regulation 60 Notice response	31/03/15	Response received from the Operator.
Additional information received	05/10/15	Response to request for further information (RFI) dated 18/08/15.
Variation determined EPR/ZP3736XH/V007 (Billing Ref: JP3935AY)	30/12/15	Varied and consolidated permit issued

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/ZP3736XH

Issued to

SAICA Paper UK Limited ("the operator")

whose registered office is

144 Manchester Road
Carrington
Manchester
M31 4QN

company registration number **06569569**

to operate a regulated facility at

Partington Paper Mill
Manchester Road
Carrington
Manchester
M31 4QN

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
Anne Nightingale	**30/12/2015**

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions/tables were changed by the consolidated permit EPR/ZP3736XH (EPR/ZP3736XH/V007) as a result of an Environment Agency initiated variation:

CONDITIONS/TABLES	
1.2.1	**amended** to current permit template format
1.4.1	**amended** to current permit template format
1.4.2	**added** to current permit template format
2.1.2	**added**
2.3.1 (b)	**amended** to current permit template format
2.4	**amended** to current permit template format
2.4.2	**amended** to current permit template format
2.4.3	**added**
2.4.4	**added**
3.1.5	**added** to implement the requirements of the Industrial Emissions Directive (IED)
3.2.2	**amended** to current permit template format
2.5	**amended** to implement the requirements of the IED
2.5.1	**amended** to current permit template format
2.5.3	**amended** to current permit template format
2.5.4	**amended** to current permit template format
2.5.5	**amended** to current permit template format
2.5.6	**amended** to current permit template format
2.7.1	**deleted-** pre-operational conditions
3.1.1	**amended** to current permit template format
3.3.2	**amended** to current permit template format
3.4.2	**amended** to current permit template format
3.5.5	**deleted (included in Sections 3.6 & 3.7 (condition 3.5.6 for periodic monitoring is renumbered to 3.5.5)**
3.6	**amended** to implement the requirements of the IED
3.6.1	**amended** to implement the requirements of the IED
3.6.2	**amended** to current permit template format
3.7	**amended** to implement the requirements of the IED
3.7.2	**amended** to current permit template format
4.2.2	**amended** to implement the requirements of the IED
4.2.6	**amended** to implement the requirements of the IED
4.4.1	**definitions added to Schedule 6 - Interpretation**
4.4.2	**amended** to implement the requirements of the IED
S1.1	**amended** to implement the requirements of the IED

CONDITIONS/TABLES	
S1.2	**amended** to implement the requirements of the IED
S1.3	**amended** to implement the requirements of the IED
S1.4	**added** to implement the requirements of the IED
S1.4A	**deleted – pre-operational conditions**
S3.1(a)	**amended** to implement the requirements of the IED
S3.2	**amended** to update monitoring standard methods and implement the requirements of the IED
S3.3	**amended** to implement the requirements of the IED
S4.1	If reporting frequency changes
S4.2	**amended** to include combustion and waste incineration
S4.3	amended
S4.4	**amended** to implement the requirements of the IED

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/ZP3736XH

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/ZP3736XH/V007 authorising,

SAICA Paper UK Limited ("the operator"),

whose registered office is

144 Manchester Road
Carrington
Manchester
M31 4QN

company registration number **06569569**

to operate an installation at

Partington Paper Mill
Manchester Road
Carrington
Manchester
M31 4QN

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

Name	Date
Anne Nightingale	**30/12/2015**

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.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 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 used efficiently in the activities;

(b) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities;

(c) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;

(d) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(e) take any further appropriate measures identified by a review.

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 For activity A3, referenced in schedule 1, table S1.1; 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 or other documentation ("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 tables S2.2 and S2.3 and

(b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.5 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.

2.3.6 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.

2.4 Operating techniques for the purpose of the Industrial Emissions Directive Chapter III Combustion Plant

2.4.1 For the following activity referenced in schedule 1, table S1.1: A2. 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.

2.4.2 For activity A2 referenced in schedule 1, table S1.1: LCP293. Without prejudice to condition 2.3.1, the activities shall be operated in accordance with the "Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines" revision 1 dated February 2015 or any later version unless otherwise agreed in writing by the Environment Agency.

2.4.3 For activity A2 referenced in schedule 1, table S1.1: LCP293. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4.

2.5 Operating techniques for Energy Recovery Boiler subject to Industrial Emissions Directive Chapter IV Incineration

2.5.1 Waste shall not be charged, or shall cease to be charged, if:

(a) the [combustion chamber temperature is below, or falls below, 850oC or

(b) any continuous emission limit value in schedule 3 table S3.1(d) is exceeded; or

(c) any continuous emission limit value in schedule 3 table S3.1 (b) is exceeded, other than under abnormal operating conditions ; or

(d) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 (b) are unavailable other than under abnormal operating conditions.

2.5.2 The operator shall have at least one auxiliary burner in each line at start up or shut down or whenever the operating temperature falls below that specified in condition 2.5.1, as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.5.1 is maintained in the combustion chamber, such burner(s) may be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas. .

2.5.3 The operator shall record the beginning and end of each period of "abnormal operation".

2.5.4 During a period of "abnormal operation", the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.

2.5.5 Where, during "abnormal operation", on an incineration line any of the following situations arise, waste shall cease to be charged on that line until normal operation can be restored:

(a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 (b) due to disturbances or failures of the abatement systems, or continuous emission monitor(s) [or continuous effluent monitoring device(s)] are out of service, as the case may be, for a total of 4 hours uninterrupted duration;

(b) the cumulative duration of " abnormal operation" periods over 1 calendar year has reached 60 hours;

(c) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 (d) due to disturbances or failures of the abatement systems;

2.5.6 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 shutdown of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;

(c) when a period of four hours has elapsed from the start of the "WID abnormal operation";

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

2.5.7 Bottom ash and APC residues shall not be mixed.

2.6 Improvement programme

2.6.1 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.

2.6.2 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 table S3.1 (a), S3.1 (b), S3.1 (c) and S3.2 [except in "abnormal operation", when 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 (a), S3.1 (c), S3.1 (d) and S3.2].

3.1.2 Total annual emissions from emission point W1 set out in schedule 3, Table S3.2 of a substance listed in schedule 3 table S3.3 shall not exceed the relevant limit in table S3.3.

3.1.3 The limits given in schedule 3 shall not be exceeded.

3.1.4 For the activity referenced A3 in schedule 1, table S1.1, wastes accepted or produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.5. 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 accurate.

3.2 Emissions of substances not controlled by emission limits

3.2.1 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.

3.2.2 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.

3.2.3 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 Odour

3.3.1 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.

3.3.2 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.

3.4 Noise and vibration

3.4.1 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.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to 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.

3.5 Fire prevention

3.5.1 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.

3.5.2 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.

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 (a), S3.1 (b), S3.1 (c), S3.1(d) and S3.2 ;

(b) process monitoring specified in table S3.3, S3.4 and S3.5;

(c) residue quality specified in table S3.6.

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), where available, unless otherwise agreed in writing by the Environment Agency.

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 (a), S3.1 (b), S3.1 (c), S3.1 (d), S3.2 and S3.4 unless otherwise agreed in writing by the Environment Agency.

3.6.5 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.

3.7 Monitoring for the purposes of the Industrial Emissions Directive Chapter III

3.7.1 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:

(a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and

(b) implement the approved proposals.

3.7.2 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.

3.7.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.

3.7.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.7.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.

3.7.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.

3.7.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.

3.7.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1; the Continuous Emission Monitors shall be used such that:

(a) for the continuous measurement systems fitted to the LCP release points defined in Table S3.1 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;

(b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;

(c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;

(d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;

(e) an invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing; and

(f) any day, in which more than three hourly average values are invalid shall be invalidated.

3.8 Monitoring for Energy Recovery Boiler subject to Industrial Emissions Directive Chapter IV Incineration

3.8.1 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 schedule 3 table S3.1 (b). 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.

3.8.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1 (b); 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:

(i)	Carbon monoxide	10%
(ii)	Sulphur dioxide	20%
(iii)	Oxides of nitrogen (NO & NO2 expressed as NO2)	20%
(iv)	Particulate matter	30%
(v)	Total organic carbon (TOC)	30%
(vi)	Hydrogen chloride	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 3.8.2;

(c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour period, 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 determined as the average of all the valid half-hourly average values within a calendar day. 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.

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. 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; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

(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.

(e) The functioning and monitoring of the CHP plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement, demonstrate compliance with the operating modes and timescales referred to in condition 2.4.1 of this permit.

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, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.

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 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, 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:

(c) any change in the operator's name or address; and

(d) 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.

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

(a) a decision by the Secretary of State not to re-certify the agreement;

(b) a decision by either the operator or the Secretary of State to terminate the agreement; and

(c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.3.8 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

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**
A1	Section 6.1 Part A(1)(b). Producing, in industrial plant, paper and board where the plant has a production capacity of more than 20 tonnes per day.	Producing paper from recycled waste paper.	From receipt of recycled paper wastes as specified in Table S2.2 and other raw materials, to storage and despatch of finished paper. Maximum storage capacity of waste paper and finished paper restricted to 23,000 and 17,000 tonnes respectively, at any one time. Recovered waste paper shall be stored within the 'Recovered Paper Storage' area and finished product within the 'Paper roll Warehouse' shown on Drawing "2009 00004 13 0 Install Plan" dated December 2014 and be stored in accordance with the recommendations specified in the 'Fire Safety Report' dated 04/11/2010.
A2	Section 1.1 Part A(1)(a). Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP293: Operation of Combined Heat and Power Plant (CHP) for the production of electricity and steam fired on natural gas and biogas. The plant can be operated as follows:- a) GT fired only, waste heat gases passing through the HRSG. b) GT fired with the HRSG fired in supplementary mode. c) HRSG fired only in auxiliary mode only. Net rated thermal input to be confirmed upon completion of IC4 in Table S1.3.	From receipt of natural gas, biogas produced on-site, water and other raw materials, to transfer of electricity and steam to the process and surplus electricity to the National Grid.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
		Auxiliary boiler (AB1):- The operation of an auxiliary boiler with a rated thermal input of XMW for the raising of steam for various duties.	
A3	Section 5.1 Part A(1)(b). The incineration of non-hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 3 tonnes per hour.	Operation of Energy Recovery Boiler classified as a 'Co-Incinerator' under IED for the generation of process steam.	From receipt of wastes, to storage and despatch of APCR, fly ash, bottom ash and abatement of emissions to air. Maximum quantity of waste to be combusted: 82,400 tonnes per annum, limited to the waste types listed in table S2.3.
A4	Section Part 5.4 A(1) (a)(i). Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving biological treatment.	D8: Operation of Effluent Treatment Plant for the biological treatment and disposal of waste waters.	From collection of effluent and waste waters and discharge to controlled waters (Manchester Ship Canal).
	Directly Associated Activity		
A5	Directly associated	Raw material storage.	From receipt of raw materials to delivery to the process.
A6	Directly associated	Storage and disposal of wastes.	Processing, storage, loading and despatch of all waste arisings.
A7	Directly associated	Water abstraction from the Manchester Ship Canal and treatment	From point of abstraction treatment and delivery to process.
A8	Directly associated	Surface water collection and discharge	From collection of surface water to discharge from the installation
A9	Directly associated	Operation of systems for the supply of utilities and services such as gas, steam, water, compressed air and electricity	Utilities and service systems within the installation boundary.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application EPR/ZP3736XH	Sections 1.2, 1.4, 1.6 and 1.8 of the application document in response to section 5a – technical standards, Part B of the application form.	22/02/10
Response to Schedule 5 Notice dated 13/10/10	Response to all questions apart from 1, 2, 4, 5, 19, 29, 33, 37, 42, 43, 4 and 49.	10/11/10
Response to Schedule 5 Notice dated 13/10/10	Response to question 43.	25/11/10
Response to Schedule 5 Notice dated 13/10/10	Response to question 44.	01/12/10
Operating modes and timescales for CHP plant.	As specified in section 5.1.1 of the Air Quality Assessment.	20/08/10
Application EPR/ZP3736XH/V003	Document EPR/ZP3736XH-May12-02.	04/07/12
Response to Request for Further Information dated 20/07/12	Email response to queries regarding surfacing and containment measures.	03/08/12
Application EPR/ZP3736XH/V005	Form EPC; Application for an environmental permit – Part C3 varying a bespoke permit, Question 3	17/03/14
Application EPR/ZP3736XH/V006	Responses to Parts B2 and B3 of the application form and referenced supporting documentation.	09/06/14
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance route and operating techniques identified in response to questions: 2 - compliance route 4 - configuration 5 - net rated thermal input 6 - startup and shutdown 8 – choice of fuel (no standby fuel)	31/03/15
Response to Regulation 60 Notice dated 21/11/14	Technical standards detailed in response to the BAT conclusions document provided under Regulation 60 of Environmental Permitting Regulations. Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for production of pulp, paper and board	31/03/15
Response to Request for Further Information dated 05/10/15	Technical standards detailed in response to items 1, 2, 15 & 53 of the request.	18/08/15
Response to Request for Further Information dated 10/12/15	Technical standards detailed in response to items 1, 2, 3, 4 & 5 of the request.	30/09/15

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	The operator shall submit, for approval by the Environment Agency, reports setting out progress to achieving the BAT conclusion AELs where BAT is currently not achieved, but will be achieved before 01/10/18. The report shall include, but not be limited to the following: 1) Current performance against the BATc AEL. 2) Methodology for reaching the AELs. 3) Associated targets / timelines for reaching compliance by 01 October 2018 4) Any alterations to the initial plan The reports shall address compliance with BAT45.	Progress reports by 01/06/16 31/12/16 01/06/17 31/12/17 01/06/18
IC2	The operator shall submit, for approval by Environment Agency, reports setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 01/10/18. The report shall include, but not be limited to, the following: 1) Methodology for achieving BAT. 2) Associated targets / timelines for reaching compliance by 01/10/18 3) Any alterations to the initial plan – *for progress reports* The report shall address compliance with BAT16.	Progress reports by 01/06/16 31/12/16 01/06/17 31/12/17 01/06/18
IC3	The Operator shall update the Operating Procedures for the Installation for incorporation into Table S1.2 of this permit.	12 months from date of issue.
IC4	The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP293 . The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised). Evidence to support this figure, in order of preference, shall be in the form of:- a) Performance test results during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), b) Performance test results after a significant modification (quoting the specified standards or test codes), c) Manufacturer's contractual guarantee value, d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually); e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system; f) Operational efficiency data as verified and used for heat accountancy purposes,	31/12/16

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	g) Data provided as part of Due Diligence during acquisition, *Performance test results shall be used if these are available.	
IC5	The operator shall provide a report in writing to the Environment Agency. The report shall contain a proposed emission limit which applies when the load varies between MSUL/MSDL and base load during the daily reference period, for emission point A1 for oxides of nitrogen. The report shall also provide justification for this limit, and an assessment of the impacts of emissions at this limit using our H1 guidance or equivalent methodology.	31/12/16
IC6	The Operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a written justification of the "minimum start up load" and "minimum shut-down load", for each unit within the LCP as required by the Implementing Decision 2012/249/EU in terms of: i. The output load (i.e. electricity, heat or power generated) (MW); and ii. This output load as a percentage of the rated thermal output of the combustion plant (%). And / Or iii. At least three criteria (operational parameters and / or discrete processes as detailed in the Annex) or equivalent operational parameters that suit the technical characteristics of the plant, which can be met at the end of start-up or start of shut-down as detailed in Article (9) 2012/249/EU.	31/12/16
IC7	For LCPD LCP 441 (now LCP 293 under IED). Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LPCD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.	28/01/16

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	**"Minimum start up load"**	**"Minimum shut-down load"**
A1:LCP293 (GT & HRSG no supplementary firing)	To be defined upon completion of IC4 and IC5.	To be defined upon completion of IC4 and IC5.

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	**“Minimum start up load”**	**“Minimum shut-down load”**
A1:LCP293 (GT & HRSG with supplementary firing	To be defined upon completion of IC4 and IC5.	To be defined upon completion of IC4 and IC5.
A1:LCP293 (HRSG auxiliary fired mode only)	To be defined upon completion of IC4 and IC5.	To be defined upon completion of IC4 and IC5.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Natural gas	-
Biogas	Less than 0.5% w/w sulphur content

Table S2.2 Permitted waste types and quantities for production of recycled paper	
Maximum quantity	Maximum production of 528,000 tonnes per annum Maximum storage capacity of waste paper 23,000 tonnes at any one time Maximum storage capacity of finished paper 17,000 tonnes at any one time
Waste code	**Description**
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01 Note 1	paper and cardboard packaging
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01 Note 1	paper and cardboard
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01 Note 1	paper and cardboard
Note 1: Specific for activity reference A1 of Table S1.1 and described limits	

Table S2.3 Permitted non-hazardous waste types for co-incineration within Energy Recovery Boiler	
Maximum quantity	Maximum quantity of waste to be combusted: 82,400 tonnes per annum Maximum annual throughput of imported waste for use as a fuel: 20,000 tonnes per annum Maximum storage capacity of imported waste for use as fuel: 250 tonnes at any one time.
Waste code	**Description**
03	**Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard**
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 07 Note 1	Mechanically separated rejects from pulping of waste paper and cardboard
03 03 10 Note 1	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11 Note 1	sludges from on-site effluent treatment other than those mentioned in 03 03 10
15	**Waste packaging; absorbents; wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**Packaging (including separately collected municipal packaging waste)**
15 01 02 Note 1	Mechanically separated rejects from pulping of waste paper and cardboard, specifically limited to waste plastic packaging
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 12 Note 1	Sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 99 Note 1	Biogas produced from effluent treatment plant
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 10 Note 1	Combustible waste, refuse derived fuel
20	**Municipal Wastes (Household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	Separately collected fractions (except 15 01)
20 01 39 Note 1	plastics
Note 1: Specific for activity reference A3 of Table S1.1 and described limits including the acceptance and use as a fuel for the on-site Energy Recovery Boiler (co-incinerator)	

Schedule 3 – Emissions and monitoring (Combustion)

Table S3.1(a) Point source emissions to air - LCP emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)-these limits do not apply during start up or shut down.**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1 [Point A1 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	75 mg/m^3 70% to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	75 mg/m^3 70% to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	100 mg/m^3 70% to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	100 mg/m^3 70% to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	100 mg/m^3 70% to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	200 mg/m^3 70% to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181

Table S3.1(a) Point source emissions to air - LCP emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)-these limits do not apply during start up or shut down.**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1 [Point A1 on site plan in schedule 7]	Sulphur Dioxide	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	10mg/m3	Periodic over minimum 1-hour period	Bi-annually	BS EN 14791 or TGN M21
A1 [Point A1 on site plan in schedule 7]	Particulates	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	5mg/m3	Periodic over minimum 1-hour period	Bi-annually	BS EN 13284-1
A1 [Point A1 on site plan in schedule 7]	Oxygen	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Water Vapour	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Stack gas temperature	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	Stack gas pressure	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	-	-	Continuous As appropriate to reference	Traceable to national standards

Table S3.1(a) Point source emissions to air - LCP emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)-these limits do not apply during start up or shut down.**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1 [Point A1 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 293 CHP power plant fired on natural gas and HRSG supplemental biogas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A1 [Point A1 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 293 HRSG fired only in auxiliary mode only	100 mg/m^3 70% to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 293 HRSG fired only in auxiliary mode only	110mg/m^3 70% to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 293 HRSG fired only in auxiliary mode only	200 mg/m^3 70% to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in Schedule 7]	Carbon Monoxide	LCP No. 293 HRSG fired only in auxiliary mode only	100 mg/m^3 70% to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 293 HRSG fired only in auxiliary mode only	110mg/m^3 70% to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 293 HRSG fired only in auxiliary mode only	200 mg/m^3 70% to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Sulphur Dioxide	LCP No. 293 HRSG fired only in auxiliary mode only	10mg/m3	Periodic over minimum 1-hour period	Bi-annually	BS EN 14791 or TGN M21

Table S3.1(a) Point source emissions to air - LCP emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)-these limits do not apply during start up or shut down.**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1 [Point A1 on site plan in schedule 7]	Particulates	LCP No. 293 HRSG fired only in auxiliary mode only	5mg/m3	Periodic over minimum 1-hour period	Bi-annually	BS EN 13284-1
A1 [Point A1 on site plan in schedule 7]	Oxygen	LCP No. 293 HRSG fired only in auxiliary mode only	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Water Vapour	LCP No. 293 HRSG fired only in auxiliary mode only	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Stack gas temperature	LCP No. 293 HRSG fired only in auxiliary mode only	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	Stack gas pressure	LCP No. 293 HRSG fired only in auxiliary mode only	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 293 HRSG fired only in auxiliary mode only	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Note 1: This ELV applies when the load is >70% throughout the reference period.

Note 2: The reference period shall be a period of representative operation for periodic monitoring.

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

Schedule 3 – Emissions and monitoring (Waste Incineration)

Table S3.1 (b) Point source emissions to air – emission limits and monitoring requirements - ERB emission limits and monitoring requirements (except during abnormal operation)						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A2 [Point A2 on site plan in schedule 7]	Particulate matter	Energy Recovery Boiler	30 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Particulate matter	Energy Recovery Boiler	10 mg/m^3	daily average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Total Organic Carbon (TOC)	Energy Recovery Boiler	20 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Total Organic Carbon (TOC)	Energy Recovery Boiler	10 mg/m^3	daily average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Hydrogen chloride	Energy Recovery Boiler	60 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Hydrogen chloride	Energy Recovery Boiler	10 mg/m^3	daily average	Continuous measurement	BS EN 15267-3

Table S3.1 (b) Point source emissions to air – emission limits and monitoring requirements - ERB emission limits and monitoring requirements (except during abnormal operation)						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A2 [Point A2 on site plan in schedule 7]	Hydrogen fluoride	Energy Recovery Boiler	1 mg/m^3	periodic over minimum 1-hour period	Bi-annual	BS ISO 15713
A2 [Point A2 on site plan in schedule 7]	Carbon monoxide	Energy Recovery Boiler	100 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Carbon monoxide	Energy Recovery Boiler	50 mg/m^3	daily average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Sulphur dioxide	Energy Recovery Boiler	200 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Sulphur dioxide	Energy Recovery Boiler	50 mg/m^3	daily average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	Energy Recovery Boiler	400 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	Energy Recovery Boiler	200 mg/m^3	daily average	Continuous measurement	BS EN 15267-3

Table S3.1 (b) Point source emissions to air – emission limits and monitoring requirements - ERB emission limits and monitoring requirements (except during abnormal operation)						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A2 [Point A2 on site plan in schedule 7]	Cadmium & thallium and their compounds (total)	Energy Recovery Boiler	0.05 mg/m^3	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A2 [Point A2 on site plan in schedule 7]	Mercury and its compounds	Energy Recovery Boiler	0.05 mg/m^3	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 13211
A2 [Point A2 on site plan in schedule 7]	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Energy Recovery Boiler	0.5 mg/m^3	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A2 [Point A2 on site plan in schedule 7]	Dioxins / furans (I-TEQ)	Energy Recovery Boiler	0.1 ng/m^3	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A2 [Point A2 on site plan in schedule 7]	Ammonia	Energy Recovery Boiler	No limit set [5]	periodic over minimum 1-hour period	Quarterly in first year. Then Bi-annual	Procedural requirements of BS EN 14791
A2 [Point A2 on site plan in schedule 7]	water vapour content (unless gas is dried before analysis of emissions)	Energy Recovery Boiler		continuous		BS EN 15267-3
A2 [Point A2 on site plan in schedule 7]	Nitrous oxide (N_2O) where SNCR or SCR use for NOX abatement - Periodic over minimum 1 hour period	Energy Recovery Boiler	No limit set [5]	periodic over minimum 1 hour	bi-annual	VDI 2469-1 or VDI 2469-2

Table S3.1 (b) Point source emissions to air – emission limits and monitoring requirements - ERB emission limits and monitoring requirements (except during abnormal operation)						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A2 [Point A2 on site plan in schedule 7]	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	Energy Recovery Boiler	No limit set [4]	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN/TS 1948-4
A2 [Point A2 on site plan in schedule 7]	Dioxin-like PCBs (WHO-TEQ Fish)	Energy Recovery Boiler	No limit set [4]	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN/TS 1948-4
A2 [Point A2 on site plan in schedule 7]	Dioxin-like PCBs (WHO-TEQ Birds)	Energy Recovery Boiler	No limit set [4]	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN/TS 1948-4
A2 [Point A2 on site plan in schedule 7]	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 7.	Energy Recovery Boiler	No limit set	average value over sample period of between 6 and 8 hours.	Quarterly in first year. Then Bi-annual	Procedure shall use BS ISO 11338-1 and BS-ISO 11338-2.
A2 [Point A2 on site plan in schedule 7]	Dioxins / furans (WHO-TEQ Humans / Mammals)	Energy Recovery Boiler	No limit set [4]	periodic over minimum 6 hours, maximum 8 hour period.	Quarterly in first year. Then Bi-annual	BS EN/TS 1948-4
A2 [Point A2 on site plan in schedule 7]	Dioxins / furans (WHO-TEQ Fish)	Energy Recovery Boiler	No limit set [4]	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN/TS 1948-4
A2 [Point A2 on site plan in schedule 7]	Dioxins / furans (WHO-TEQ Birds)	Energy Recovery Boiler	No limit set [4]	periodic over minimum 6 hours, maximum 8 hour period.	Quarterly in first year. Then Bi-annual	BS EN/TS 1948-4

Note 1: Reference conditions for emission point A2 shall be 6% O2 for dioxins and metals and 11% O2 for all other substances.

Note 2: The limits do not apply during startup and shutdown.

Note 3: 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, Cu, Mn, Ni and V mean antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium respectively.

Note 4: 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, all congeners less than the detection limit assumed to be at the detection limit as a maximum.

Note 5: Monitoring results to be reported for the first year of operation, and if required, an ELV set on the basis of the results.

Note 6: certification to the MCERTS performance standards indicates compliance with BS EN 15267-3

Table S3.1(c) 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 or method**
A3 [Point A3 on site plan in schedule 7]	Oxides of nitrogen (NO and NO2 expressed as NO2)	Exhaust stack from Auxiliary boiler	150mg/m3 [notes 3 and 4]	Periodic over minimum 1-hour period	Quarterly first 12 months of operation and then bi-annually	BS EN 14792
A3 [Point A3 on site plan in schedule 7]	Sulphur Dioxide	Exhaust stack from Auxiliary boiler	10mg/m3 [notes 3 and 4]	Periodic over minimum 1-hour period	Quarterly first 12 months of operation and then bi-annually	BS EN 14791 or TGN M21
A3 [Point A3 on site plan in schedule 7]	Particulate matter	Exhaust stack from Auxiliary boiler	5mg/m3 [notes 3 and 4]	Periodic over minimum 1-hour period	Quarterly first 12 months of operation and then bi-annually	BS EN 13284-1
A3 [Point A3 on site plan in schedule 7]	Carbon monoxide	Exhaust stack from Auxiliary boiler	30mg/m3 [notes 3 and 4]	Periodic over minimum 1-hour period	Quarterly first 12 months of operation and then bi-annually	BS EN 15058
A4 [Point A4 on site plan in schedule 7]	No Parameters set	CHP Steam Vent	No limit set	-	-	Permanent sampling access not required
A5 [Point A5 on site plan in schedule 7]	No Parameters set	De-aerator vent	No limit set	-	-	Permanent sampling access not required

Table S3.1(c) 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 or method**
A6 [Point A6 on site plan in schedule 7]	No Parameters set	Vent from cooling tower [CHP Plant]	No limit set	-	-	Permanent sampling access not required
A7 [Point A7 on site plan in schedule 7]	No Parameters set	Biogas flare from Effluent Treatment Plant	No limit set [Note 6]	-	-	Permanent sampling access not required
A8 [Point A8 on site plan in schedule 7]	No Parameters set	Vent from cooling tower [Effluent Treatment Plant]	No limit set	-	-	Permanent sampling access not required
A9 [Point A9 on site plan in schedule 7]	No Parameters set	Exhaust from forming section	No limit set	-	-	Permanent sampling access not required
A10 [Point A10 on site plan in schedule 7]	No Parameters set	Exhaust from forming section	No limit set	-	-	Permanent sampling access not required
A11 [Point A11 on site plan in schedule 7]	No Parameters set	Exhaust from vacuum pump	No limit set	-	-	Permanent sampling access not required
A12 [Point A12 on site plan in schedule 7]	No Parameters set	Exhaust from 1st hood pre-dryer	No limit set	-	-	Permanent sampling access not required
A13 [Point A13 on site plan in schedule 7]	No Parameters set	Exhaust from 2nd hood pre-dryer	No limit set	-	-	Permanent sampling access not required
A14 [Point A14 on site	No Parameters set	Exhaust from 3rd hood pre-dryer	No limit set	-	-	Permanent sampling access not required

Table S3.1(c) 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 or method**
plan in schedule 7]						
A15 [Point A15 on site plan in schedule 7]	No Parameters set	Exhaust from 1st hood after-dryer	No limit set	-	-	Permanent sampling access not required
A16 [Point A16 on site plan in schedule 7]	No Parameters set	Exhaust from 2nd hood after-dryer	No limit set	-	-	Permanent sampling access not required
A17 [Point A17 on site plan in schedule 7]	No Parameters set	Exhaust from forming box section	No limit set	-	-	Permanent sampling access not required
A18 [Point A18 on site plan in schedule 7]	No Parameters set	Exhaust from HP showers mist [forming section]	No limit set	-	-	Permanent sampling access not required
A19 [Point A19 on site plan in schedule 7]	No Parameters set	Exhaust from forming section [pulper]	No limit set	-	-	Permanent sampling access not required
A20 [Point A20 on site plan in schedule 7]	No Parameters set	Exhaust from press section [pulper]	No limit set	-	-	Permanent sampling access not required
A21 [Point A21 on site plan in schedule 7]	No Parameters set	Exhaust from pre-dryer [pulper]	No limit set	-	-	Permanent sampling access not required
A22 [Point A22 on site	No Parameters set	Exhaust from after pre-dryer	No limit set	-	-	Permanent sampling access not

Table S3.1(c) 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 or method**
plan in schedule 7]		[pulper]				required
A23 [Point A23 on site plan in schedule 7]	No Parameters set	Exhaust from winder [pulper]	No limit set	-	-	Permanent sampling access not required
A24 [Point A24 on site plan in schedule 7]	No Parameters set	Vent from starch cooking system	No limit set	-	-	Permanent sampling access not required
A25 [Point A25 on site plan in schedule 7]	No Parameters set	Vent from PM steam system]	No limit set	-	-	Permanent sampling access not required
A26 [Point A26 on site plan in schedule 7]	No Parameters set	Vent from PM vacuum system [cooling tower]	No limit set	-	-	Permanent sampling access not required

Note 1: Reference conditions for emission point A3 shall be 3% O2

Note 2: The reference period shall be a period of representative operation for periodic monitoring.

Note 3: These limits do not apply during startup and shutdown

Note 4: These limits are complied with if the mean value over the sampling period does not exceed the relevant limit.

Note 5: Technical Guidance not (TGN) M21 is available from the website www.mcerts.net

Note 6: Should the operational hours of the biogas flare exceed 10% of the total operational hours per annum a revised H1 assessment shall be submitted to the Environment Agency within 2 months of the end of the reporting period specified within condition 4.2.3 of the permit.

Table S3.1(d Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A2 [Point A2 on site plan in schedule 7]	Particulate matter	Energy Recovery Boiler	150 mg/m^3	½-hr average	Continuous measurement	[BS EN 15267-3 during abatement plant failure
A2 [Point A2 on site plan in schedule 7]	Total Organic Carbon (TOC)	Energy Recovery Boiler	20 mg/m^3	½-hr average	Continuous measurement	[BS EN 15267-3] during abatement plant failure]
A2 [Point A2 on site plan in schedule 7]	Carbon monoxide	Energy Recovery Boiler	100 mg/m^3	½-hr average	Continuous measurement	[BS EN 15267-3 during abatement plant failure]

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Maximum Daily Flow	7000m^3/day	24 hour Total	Daily	MCERTS self-monitoring of effluent flow scheme
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Mean Daily Flow	-	24 hours	Daily	MCERTS self-monitoring of effluent flow scheme
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	pH (units)	6 (min) 9 (max)	Instantaneous	Continuous	MCERTS Approved instrumentation
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Temperature	30^{o}C	Instantaneous	Continuous	Standard temperature sensor
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Chemical oxygen demand (COD) or Total organic carbon (TOC) [1]	210mg/l	24-hour flow proportional sample	Daily[2]	COD: BS ISO 15705 TOC: BS EN 1484

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Biochemical oxygen demand (BOD_5)	16 mg/l	24-hour flow proportional sample	Weekly[4] (once a week)	BS EN 1899-1
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Total suspended solids (TSS)	30 mg/l	24-hour flow proportional sample	Daily[2, 5]	BS EN 872
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Total suspended solids (TSS)	45 mg/l	Spot sample	Weekly[2, 4, 5] (once a week)	BS EN 872
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Ammonia as N	no limit set	24-hour flow proportional sample	Weekly[2, 4] (once a week)	BS EN ISO 11732
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Total nitrogen	no limit set	24-hour flow proportional sample	Weekly[2] (once a week)	BS EN 12260

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment plant	Total phosphorus	no limit set	24-hour flow proportional sample	Weekly[2] (once a week)	BS EN ISO 6878 followed by BS EN ISO 15681- 1 Or BS EN ISO 15681- 2
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment Plant	Metals Total and Dissolved (Zn, Cu, Cd, Pb, Ni, Hg)	-	Spot Sample	twice a year	BS EN ISO 15586 BS EN ISO 17852 for Hg only
W1 [Point W1 on site plan in Schedule 7] emission to Manchester Ship Canal	Effluent Treatment Plant	Hazardous Pollutants screen [3]	-	Spot Sample	twice a year	GCMS analysis at UKAS accredited laboratory
W2 [Point W2 on site plan in Schedule 7] emission to Manchester Ship Canal	Retention basin	Uncontaminated surface water	No visible oil or grease	-	Monthly	Visual Check
W3 [Point W3 on site plan in Schedule 7] emission to Manchester Ship Canal	Micro-compact treatment plants	Foul Water	No limit set	-	-	-

Note 1: TOC is already monitored as a key process parameter, there is no need to measure COD, however the correlation between the two parameters must established and checked regularly.

Note 2: If internal rapid test methods are used, they must be cross referenced by external tests to EN or ISO standards monthly.

Note 3: Hazardous pollutants screen substances are: Chlorpyriphos, Cypermethrin, Endosulphan (A & B), 4-nonylphenols & Nonylphenol ethoxylates, PCP, TBT.

Note 4: weekly samples should be collected by following a randomised sampling program as far as is practicable.

Note 5: Emission limit values will apply from 1 January 2017.

Table S3.3 Annual limits		
Substance	Medium	Limit (including unit)
Chemical Oxygen Demand (COD)	Water	0.4 – 1.4 kg/t Note 1
Total suspended solids (TSS)	Water	0.02 – 0.2 kg/t Note 1
Total nitrogen	Water	0.008 – 0.09 kg/t Note 1
Total phosphorus	Water	0.001 – 0.005 kg/t Note 1
Adsorbable organically bound halogens (AOX)	Water	0.05 kg/t Note 1

Note 1: All annual emission limits that impose BAT-AEL's for direct discharges to water apply from 01 October 2018.

Table S3.4 Process monitoring requirements (Waste Incineration - ERB)				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Energy Recovery Boiler Combustion Chamber	Temperature of combustion chamber near the inner wall or at another representative point as agreed in writing with the Environment Agency	Continuous	Traceable to national standards	As agreed in writing with the Environment Agency
A2 [Point A2 on site plan in schedule 7] Energy Recovery Boiler	Temperature of exhaust gases	Continuous	Traceable to national standards	As agreed in writing with the Environment Agency
A2 [Point A2 on site plan in schedule 7] Energy Recovery Boiler	Pressure of exhaust gases	Continuous	Traceable to national standards	As agreed in writing with the Environment Agency
A2 [Point A2 on site plan in schedule 7] Energy Recovery Boiler	Oxygen content of exhaust gases	Continuous	MCERTS performance standards for CEMS	BS EN 15267-3
A2 [Point A2 on site plan in schedule 7] Energy Recovery Boiler	Water vapour content of exhaust gases	Continuous	MCERTS performance standards for CEMS	BS EN 15267-3

Table S3.5 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Abstracted water inlet	Hazardous Pollutants screen [note 1]	Twice per annum as per discharge monitoring	GCMS analysis at UKAS accredited laboratory	Spot sample

Note 1: Hazardous pollutants screen substances are: Chlorpyriphos, Cypermethrin, Endosulphan (A & B), 4-nonylphenols & Nonylphenol ethoxylates, PCP, TBT.

Table S3.6 Residue quality (Waste Incineration - ERB)					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Bottom Ash	Loss on Ignition [LOI].	5%	Quarterly	Environment Agency ash sampling protocol.	None
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.	No Limit Set	Quarterly	Sampling and analysis as per Environment Agency ash sampling protocol.	None
Bottom Ash	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No Limit Set	Before use of a new disposal or recycling route	Sampling and analysis as per Environment Agency ash sampling protocol.	None
APC Residues and 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.	No Limit Set	Quarterly	Sampling and analysis as per Environment Agency ash sampling protocol.	None
APC Residues and fly ash	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No Limit Set	Before use of a new disposal or recycling route	Sampling and analysis as per Environment Agency ash sampling protocol.	None
Other solid residues	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt,	No Limit Set	Quarterly	Sampling and analysis as per Environment Agency ash sampling	None

Table S3.6 Residue quality (Waste Incineration - ERB)					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
	Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.			protocol.	
Other solid residues	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No Limit Set	Before use of a new disposal or recycling route	Sampling and analysis as per Environment Agency ash sampling protocol.	None

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 3.5.1.	A2, A3	Every 6 months	1 January
Emissions to water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July
Industrial Emissions Directive Chapter III COMBUSTION			
Oxides of nitrogen	A1	Every 3 months	1 January, 1 April, 1 July, 1 October
Carbon Monoxide	A1	Every 3 months	1 January, 1 April, 1 July, 1 October
Sulphur dioxide	A1	Every 6 months	1 January, 1 July
Dust	A1	Every 6 months	1 January, 1 July
WASTE INCINERATION			
LOI Parameters as required by condition 3.5.1	Bottom Ash	Every 3 months but monthly for the first year of operation	Start of commissioning
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	Bottom Ash	Every 3 months but monthly for the first year of operation	Start of commissioning
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 3.5.1	Bottom Ash	Before use of a new disposal or recycling route	Start of commissioning
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	APC Residues	Every 3 months but monthly for the first year of operation	Start of commissioning

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 3.5.1	APC Residues	Before use of a new disposal or recycling route	Start of commissioning
Functioning and monitoring of the incineration plant as required by condition 4.2.2		Every 12 months	1 January

Table S4.2: Annual production/treatment	
Parameter	**Units**
Production of recycled paper	tonnes
COMBUSTION	
Power generated	GWHr
WASTE INCINERATION	
Total Waste Incinerated	tonnes
Electrical energy exported	KWhrs
Electrical energy used on installation	KWhrs
Other energy produced by installation	KWhrs

Table S4.3 Performance parameters			
Parameter	**Frequency of assessment**	**Units**	**Units**
Water inputs to the Mill	Annually	tonnes	m^3/t
Water used in manufacturing	Annually	tonnes	m^3/t
Other inputs of water/moisture	Annually	tonnes	m^3/t
Water outputs	Annually	tonnes	m^3/t
Waste/raw material inputs	Annually	tonnes	
Waste/raw material outputs	Annually	tonnes	
Net total annual production	Annually	tonnes	
Total mass release of oxides of nitrogen	Annually	tonnes	
WASTE INCINERATION			
Electrical energy Imported to site	Quarterly	KWhrs / tonne of waste incinerated (dry basis)	
Fuel oil consumption	Quarterly	Kgs / tonne of waste incinerated (dry basis)	
Mass of Bottom Ash produced	Quarterly	Kgs / tonne of waste incinerated (dry basis)	
Mass of APC residues produced	Quarterly	Kgs / tonne of waste incinerated (dry basis)	
Mass of Other solid residues produced	Quarterly	Kgs / tonne of waste incinerated (dry basis)	
[Ammonia / Urea] consumption	Quarterly	Kgrs / tonne of waste incinerated (dry basis)	
Activated Carbon consumption	Quarterly	Kgs / tonne of waste incinerated (dry basis)	
Lime consumption	Quarterly	Kgs / tonne of waste incinerated (dry basis)	
LCP			
Thermal Input Capacity for LCP 293	Annually	MW	
Annual Fuel Usage for LCP 293	Annually	TJ	
Total Emissions to Air of NO_x for LCP 293	Annually	t	
Total Emissions to Air of SO_2 for LCP 293	Annually	t	
Total Emissions to Air of Dust for LCP 293	Annually	t	

Table S4.3 Performance parameters			
Parameter	**Frequency of assessment**	**Units**	**Units**
Operating Hours for LCP 293	Annually	hr	

Table S4.4 Reporting forms				
Media/ parameter	**Reporting format**	**Starting Point**	**Agency recipient**	**Date of form**
LCP				
Air & Energy	Form IED AR1 – SO_2, NO_x and dust mass emission and energy	01/01/16	National	31/12/15
LCP	Form IED HR1 – operating hours	01/01/16	National	31/12/15
Air	Form IED CON 2 – continuous monitoring	01/01/16	Area Office	31/12/15
CEMs	Form IED CEM – Invalidation Log	01/01/16	Area Office	31/12/15
Air	Form IED PM1 - discontinuous monitoring and load.	01/01/16	Area Office	31/12/15
Waste Incineration				
Air	Forms Air 5 to Air 12 or other form as agreed in writing by the Agency		Area Office	13/03/10
Residue quality	Ash 1 and Ash 2 or other form as agreed in writing by the Agency		Area Office	02/12/08
Other forms				
Water	Form water 1 or other form as agreed in writing by the Agency			01/09/14
Water usage	Form water usage1 or other form as agreed in writing by the Agency			02/12/08
Energy usage	Form energy 1 or other form as agreed in writing by the Agency			02/12/08
Other performance indicators	Form performance 1 or other form as agreed in writing by the Agency			02/12/08

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	
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 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 for activity reference A1 - Papermaking (Table S1.1)

"accident" means an accident that may result in pollution.

"ADt" means Air Dried Tonnes (of pulp) expressed as 90% dryness. ADt for paper should be reported at "normal" or average moisture content for the production over the course of any one year, noted but not corrected.

AOX is adsorbable organic halides measured according to the EN ISO:9562 standard method for waste waters.

"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.

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

1. for emissions to surface water, the surface water quality up-gradient of the site; or
2. for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

"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 2010 No.675 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 or background concentration 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 given in Schedule 3 of the Hazardous Waste (England and Wales) Regulations 2005 No.894 and the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138).

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

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

Net production is as follows:
i) For paper mills: the unpacked, saleable production after the last slitter winder, i.e. before converting.
(ii) For off-line coaters: production after coating.
(iii) For tissue mills: saleable tonnes after the tissue machine before any rewinding processes and excluding any core.
(iv) For market pulp mills: tonnage after packing (pulp at 90 % dryness, i.e. 'air dry' - AD).
(v) For integrated pulp mills: net pulp production refers to the tonnage after packing (pulp at 90 % dryness, i.e. AD) plus the pulp

transferred to the paper mill (pulp calculated at 90 % dryness, i.e. air

dry). For the net paper production of the integrated mill refer to (i)

“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.

Total nitrogen (Tot-N). Total nitrogen (Tot-N) given as N, The sum of organic nitrogen, free ammonia and ammonium (NH_4^+-N), nitrites (NO_2^- -N) and nitrates (NO_3^- -N).

Total phosphorus (Tot-P). Total phosphorus (Tot-P) given as P, includes dissolved phosphorus plus any insoluble phosphorus carried over into the effluent in the form of precipitates or within microbes.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England)Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, 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:

- 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
- 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.

“year” means calendar year ending 31 December.

Interpretation for activity reference A2 - Combustion (Table S1.1)

“Air Quality Risk Assessment” has the meaning given in Annex D of IED Compliance Protocol for Utility Boilers and Gas Turbines.

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“CEN” means Commité Européen de Normalisation

“DLN” means dry, low NOx burners.

“Energy efficiency” the annual net plant energy efficiency means the value calculated from the operational data collected over the year.

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“MCR” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“NCV” means net calorific value.

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

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

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:

- 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
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels; and/or

“year” means calendar year ending 31 December

Interpretation for activity reference A3 – Incineration (Table S1.1)

“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 [other than continuous emission monitors for releases to air of particulates, TOC and/or CO], during which the concentrations in the discharges into air and the purified waste water of the regulated substances may exceed the normal emission limit values.

“APC residues” means air pollution control residues

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

“bottom ash” means ash falling through the grate][transported by the grate

“CEM” Continuous emission monitor

“CEN” means Commité Européen de Normalisation

“daily average” for releases of substances to air means the average of valid half-hourly averages over a calendar day during normal operation.

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

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

“infectious clinical waste” means clinical waste incorporating substances containing viable micro-organisms or their toxins which are known or reliably believed to cause disease in man or other living organisms

“ISO” means International Standards Organisation.

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

“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 the table below.

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

“shut down” 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.

“start up” is any period, where the plant has been non-operational, after igniting the auxiliary burner until waste has been fed to the plant 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)

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 gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or

(c) in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels.

(d) 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

(e) in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry, (Where the installation is a co-incineration plant) 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.

(f) (Where the installation is an incineration or co-incineration plant, and where hazardous wastes are burned on the installation and the emissions of pollutants are reduced by gas treatment) where hazardous wastes are burned in an incineration or co-incineration plant and the emissions of pollutants are reduced by gas treatment, standardisation of the gas with respect to oxygen content shall be carried out only if the oxygen concentration measured over the same period exceeds the relevant oxygen content defined in conditions (a) – (c) above. In other cases, the measured emissions shall be standardised only for moisture, pressure and temperature.

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.

TEF schemes for dioxins and furans				
Congener	**I-TEF(1990)**	**WHO-TEF (1997/8)**		
		Humans / Mammals	**Fish**	**Birds**
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0001	-	-

TEF schemes for dioxins and furans				
Congener	**I-TEF(1990)**	**WHO-TEF (1997/8)**		
		Humans / Mammals	**Fish**	**Birds**
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 7 – Site plan

END OF PERMIT