



# **Notice of variation and consolidation with introductory note**

## **The Environmental Permitting (England & Wales) Regulations 2010**

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E.On UK CHP Limited  
Kemsley Paper Mill CHP  
Kemsley Paper Mill  
Kemsley  
Sittingbourne  
Kent  
ME10 2SG

### **Variation application number**

EPR/BJ7395IG/V009

### **Permit number**

EPR/BJ7395IG

# Kemsley Paper Mill CHP

## Permit number EPR/BJ7395IG

### Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies that all the conditions of the permit have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made and contains all conditions relevant to this permit.

The requirements of the Industrial Emissions Directive (IED) 2010/75/EU are given force in England through the Environmental Permitting (England and Wales) Regulations 2010 (the EPR) (as amended).

This Permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED), 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.

As well as implementing Chapter III of IED, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issued. It also modernises all conditions to reflect the conditions contained in our current generic permit template.

The Operator has chosen to operate these LCP's under the Transitional National Plan (TNP) compliance route. LCP 208 will operate in Open Cycle for less than 500Hrs and therefore no ELV's apply to this mode of operation.

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

- LCP 206 is changed to LCP 208; and
- LCP 207 is changed to LCP 206; and
- LCP 208 is changed to LCP 207.

The net thermal input of the LCPs are as follows:

LCP 208 – one 317MWth Gas Turbine and Heat Recovery Steam Generators,

LCP 207 – three gas fired boilers totalling 71MWth

LCP 206 – three gas fired boilers totalling 71MWth

The rest of the installation is unchanged and continues to be operated as follows:

The operation of a Combined Heat and Power (CHP) Plant, fired on natural gas, and a Fluidised Bed Combustor (FBC) to provide heat and power to the Kemsley Paper Mill Installation.

The CHP plant comprises a single Gas Turbine (GT) with two Heat Recovery Steam Generators (HRSGs) producing high pressure steam from the hot turbine exhaust gases and a single steam turbine generating electricity from the steam. The steam exiting the steam turbine is used on the paper mills of the installation. Additional steam is available from a battery of 6 package boilers.

Around 80 MW of electricity and 200 tonnes per hour of steam can be generated from the gas turbine, HRSG's and steam turbine equipment. The package boilers are capable of producing around 72 tonnes of low pressure steam for the paper mills. The gas turbine and the packaged boilers burn natural gas fuel. The HRSG's has a common 75 metre high chimney with 2 flues, one for each HRSG. The gas turbine also has a 30 metre high by-pass stack which is for use on infrequent occasions when either a heat recovery boiler is out of action, or the gas turbine is in a special start-up mode. The waste gases from the six packaged boilers release through separate flues in two 72 metre chimneys.

LCP 208 has the following operating modes available;

Mode 1 – GT and 2 HRSG`s operating with, or without supplementary firing on either, or both HRSG`s (Emission Point A1/A2);

Mode 2 – GT and 1 HRSG in operation with, or without supplementary firing (Emission Point A1, or A2, and A3);

Mode 3 – HRSG`s only (auxiliary firing) (Emission Point A1 and/or A2);

Mode 4 – GT Only (Emission Point A3).

The Fluidised Bed Combustor is designed to incinerate the majority of the paper related wastes (PRW) from the paper mills and the associated effluent treatment plants. The waste is comprised of paper sludge from de-inking, paper sludge and activated sludge from the effluent treatment plants and contraries that are contaminants present in the recycled materials feed streams. Energy in the form of steam is recovered from the combustor and is used in the paper mills. The FBC is designed to burn approximately 180,000 tonnes per year of PRW and generate around 25MW of steam for the paper mills.

Waste combustion gases are passed through extensive air pollution control equipment to meet the requirement of the E C Directive 2000/76/EC on the incineration of waste before being released from a 72 metre chimney. Ash from the plant which will amount to around 20,000 tonnes per year will be taken off site for use elsewhere as suitable markets are developed.

Raw materials used at the site include natural gas and distillate fuel oil for fuels, water and water treatment chemicals, Paper Related Wastes, sand, urea, boiler wash chemicals, compressor wash chemicals, oils, greases and antifreeze.

De-ionised water is produced on-site as a feed stream for steam production, and also for the treatment of recovered condensate. Regeneration liquors are neutralised prior to discharge to the DS Smith operated effluent treatment plant.

Surface water is protected by interceptors and the site is designed to retain all fire fighting waters.

The site is adjacent to The Swale Site of Special, Scientific Interest (SSSI) and RAMSAR site. The site also operates an environmental management system to control it's impacts on the environment.

The schedules specify the changes made to the permit.

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

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application BJ7395 received (EPR/BJ7395IG/A001)	16/02/01	Application for operation of a Combined Heat and Power Plant, Waste Incinerator and standby package boilers to provide Heat and Power to the Kemsley Paper Mill Installation
Permit determined EPR/BJ7395IG  <i>EPR/BJ7395IG/V001</i>	18/04/02	Permit issued
Variation BX0407 Determined <i>EPR/BJ7395IG/V002</i>	20/02/04	Environment Agency initiated Variation to clarify regulation of the Incineration Plant– Notice sent 24/10/03
Variation DP3139SB determined  <i>EPR/BJ7395IG/V003</i>	22/11/2004	Variation to introduce monitoring and reporting requirements for large combustion plant required for compliance with the revised Large Combustion Plant Directive (Directive 2001/80/EC).

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Variation QP3032SJ determined <i>EPR/BJ7395IG/V004</i>	20/12/05	Waste Incineration Directive (Directive EC 2000/76/EC) – application received 31/03/15
Variation GP3836LU determined <i>EPR/BJ7395IG/V005</i>	08/12/06	Variation to clarify regulation of the Incineration Plant and address surface water discharges – application received 26/05/06
Variation CP3036MH determined <i>EPR/BJ7395IG/V006</i>	25/01/08	Variation to increase quantity of DFO allowed to be burned in the package boilers – application received 22/12/06
Variation EPR/BJ7395IG/V007 determined	05/01/12	Environment Agency initiated variation for the Paper and Pulp Sector Review
Variation EPR/BJ7395IG/V008 Determined	24/07/13	Environment Agency initiated variation to implement the changes introduced by the Industrial Emissions Directive (Directive 2010/75/EU)
Regulation 60 Notice sent to the Operator	08/12/14	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. The permit is also updated to modern conditions
Regulation 60 Notice response	27/03/15	Response received from the Operator.
Additional information received	25/09/15	Response to request for further information (RFI) dated 14/08/15.
Variation determined EPR/BJ7395IGV009 (Billing ref: AP3934AH)	23/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/16.

<b>Other Part A installation permits relating to this installation</b>		
<b>Operator</b>	<b>Permit number</b>	<b>Date of issue</b>
DS Smith Paper Limited	EPR/BJ7468IC	2002
WTI UK Ltd	EPR/SP3431KJ	2011

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/BJ7395IG**

### Issued to

**E.ON UK CHP Limited** (“the operator”)

whose registered office is

**Westwood Way  
Westwood Business Park  
Coventry  
CV4 8LG**

company registration number 02684288

to operate part of a regulated facility at

**Kemsley Paper Mill  
Kemsley  
Sittingbourne  
Kent  
ME10 2SG**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

<b>Name</b>	<b>Date</b>
<b>Tom Swift</b>	<b>23/12/2015</b>

Authorised on behalf of the Environment Agency

## **Schedule 1**

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

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2010

### Permit number

**EPR/BJ7395IG**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BJ7395IG/V009 authorising,

**E.ON UK CHP Limited** (“the operator”),

whose registered office is

**Westwood Way  
Westwood Business Park  
Coventry  
CV4 8LG**

company registration number 02684288

to operate part of an installation at

**Kemsley Paper Mill**

**Kemsley**

**Sittingbourne**

**Kent**

**ME10 2SG**

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

Name	Date
Tom Swift	23/12/2015

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) for Activity A1, referenced in schedule 1, table S1.1, take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
- (b) for Activity A1, referenced in schedule 1, table S1.1, 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) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (d) take any further appropriate measures identified by a review.

1.2.2 The operator shall review the viability of further Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:

- (a) new plans for significant developments within 15 km of the installation;
- (b) changes to the Local Plan;
- (c) changes to the DECC UK CHP Development Map or similar; and
- (d) new financial or fiscal incentives for CHP.

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

### 1.3 Efficient use of raw materials

1.3.1 The operator shall:

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



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

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities;
  - (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.

## **1.5 Multiple operator installations**

- 1.5.1 Where the operator notifies the Environment Agency under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operators of the installation of the same information.

# **2 Operations**

## **2.1 Permitted activities**

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

## **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in red with a white background on the site plan at schedule 7 to this permit, which is within the area edged in green on the site plan that represents the extent of the installation covered by this permit and those of the other operators of the installation.

## **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 For Activity A1 (LCP 206, 207, 208) referenced in schedule 1, table S1.1, 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.
- 2.3.3 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.

- 2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.5 For Activity A1 (LCP 208) referenced in schedule 1, table S1.1, 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
- 2.3.6 For Activity A1 (LCP 208 Emission Point A3) referenced in schedule 1, table S1.1, the activities shall not operate for more than 500 hours per year in open cycle mode.
- 2.3.7 For Activity A2 referenced in schedule 1, table S1.1, waste shall not be charged, or shall cease to be charged, if:
- (a) the combustion chamber temperature is below, or falls below, 850°C or
  - (b) the oxygen level is below, or falls below 6% (wet) by volume or
  - (c) any continuous emission limit value in schedule 3 table S3.1(c) is exceeded; or
  - (d) any continuous emission limit value in schedule 3 table S3.1(b) is exceeded, other than under abnormal operating conditions ; or
  - (e) 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.
- 2.3.8 For Activity A2 referenced in schedule 1, table S1.1, 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 2.3.7, as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.7 is maintained in the combustion chamber, such burner(s) may be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.
- 2.3.9 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.10 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.
- 2.3.11 Where, during “abnormal operation”, on any 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) 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 (c) due to disturbances or failures of the abatement systems;
- 2.3.12 The operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:
- (a) when the failed equipment is repaired and brought back into normal operation;
  - (b) when the operator initiates a shut-down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;
  - (c) when a period of four hours has elapsed from the start of the “abnormal operation”;
  - (d) when, in any calendar year, an aggregated period of 60 hours “abnormal operation” has been reached for a given incineration line.
- 2.3.13 Bottom ash and APC residues shall not be mixed.

- 2.3.14 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2; and
  - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.15 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.
- 2.3.16 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 Improvement programme**

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

## **3 Emissions and monitoring**

### **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1(a) S3.1(b), S3.1(c), S3.2 and S3.3 except in "abnormal operation", where 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), S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 3 tables S3.2 or S3.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 Total annual emissions from the LCP emission point(s) set out in schedule 3 tables S3.1, of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 3.1.5 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.
- 3.1.6 For the following activities referenced in schedule 1, table S1.1 (A2) Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S 3.6 Additional samples shall be taken and tested and appropriate action taken, whenever:
- (a) disposal or recovery routes change; or
  - (b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

## **3.2 Emissions 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 Monitoring

- 3.5.1 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), S3.2, S3.3 and S3.4;
  - (b) process monitoring specified in table S3.5;
  - (c) residue quality specified in table S3.6.
- 3.5.2 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 continuous), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency. For the following activities referenced in schedule 1, table S1.1, A2 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. 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.
- 3.5.4 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), S3.2, S3.3 and S3.5 unless otherwise agreed in writing by the Environment Agency.

## 3.6 Monitoring for the purposes of the Industrial Emissions Directive Chapter III (activities referenced in Schedule 1 Table S1.1, A1)

- 3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.
- 3.6.2 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.
- 3.6.3 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.
- 3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 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.
- 3.6.5 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.
- 3.6.6 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.

- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1(a); 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 (a) 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.

### **3.7 Monitoring for the purposes of the Industrial Emissions Directive Chapter IV (activities referenced in Schedule 1 Table S1.1, A2)**

- 3.7.1 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1(b) and S3.1(c) and S3.5; 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:
 

• Carbon monoxide	10%
• Sulphur dioxide	20%
• Oxides of nitrogen (NO & NO <sub>2</sub> expressed as NO <sub>2</sub> )	20%
• Particulate matter	30%
• Total organic carbon (TOC)	30%
• 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 3.7.1(a);
  - (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour 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.

### **3.8 Pests**

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

## **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; and,
  - (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; and,

- (e) for LCP 208, the hours of operation in each mode in any year,
- (f) for LCP 206 and 207 the hours of operation in any year.

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 For Activity A1 (LCP206, LCP207 and LCP208) referenced in schedule 1, table S1.1, unless otherwise agreed in writing with the Environment Agency, within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form IED RTA1, listed in table S4.4, the information specified on the form relating to the site's mass emissions.

### 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), 4.3.1 (b)(i) where the information relates to the breach of a condition 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 "without delay" in which case it may be provided by telephone.

# Schedule 1 – Operations

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
A1	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	<p><b>LCP208:</b> Combined heat and power for production of steam and electricity. Single Gas Turbine, Two Heat Recovery Steam Generators, Steam Turbine operated in Modes 1,2,3,4</p> <p><b>LCP206:</b> Package Boilers for production of steam (Boilers A,B,C)</p> <p><b>LCP207:</b> Package Boilers for production of steam (Boilers D,E,F)</p>	<p>From receipt of natural gas to discharge of exhaust gases, and electrical power delivered to substation. Steam from the CHP and Package Boilers to supply the paper mill.</p> <p>LCP 208 Mode 4 - for emergency use only</p> <p>LCP 208 Mode 3 - only when the Gas Turbine is not in use.</p>
A2	Section 5.1 Part A(1) (b) – The incineration of non-hazardous waste in an incineration or co-incineration plant with a capacity exceeding 3 tonnes per hour	Operation of a Fluidised Bed Combustor for the incineration of sludges and contraries and including the production of steam for on-site use.	<p>Sludges and contraries from the Kemsley Mill Installation, unless agreed in writing with the Environment Agency</p> <p>Reception hoppers to loading of ash for off-site transport. Steam from FBC to supply the tap off low pressure steam for NOx suppression in the gas turbine.</p>
<b>Directly Associated Activity</b>			
A3	Treatment of Water	Water treatment plant for the conditioning of incoming water and treatment of recovered condensate.	Receipt of water from the supply lagoons for the production of boiler water.

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
A4	Surface Water Drainage	Discharge of site drainage via oil interception.	Drainage system from roof and hardstanding until discharge to Surface Waters

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application BJ7395	The response to questions 2.3 given in pages 20-29 of the application. The response to questions 2.7 given in pages 31-33 of the application.	16/02/01
Application for variation QP3032SJ	The response to questions C2.1.1, C2.1.2, C2.1.4, C2.1.5, C2.1.6, C2.1.7, C2.1.26, C2.1.29, C2.1.29.1, C2.1.30, C2.7.1, C2.10.1, C2.10.3, C2.10.4, C2.10.5 and C2.10.14 of the Application for variation.	31/03/05
Response to regulation 60(1) Notice – request for information dated 8/12/14	Operating techniques associated with Article 32 Compliance Route (TNP), identified in response to questions 2, 4, 5, 6, 7,9 and Annexe 3 Excluding techniques associated with Article 30(2) Annex V Part 1 Compliance Routes	Dated 27/03/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 14/08/15	Further clarification on operation of plant. All Parts	Dated 25/09/15

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC 1	<p>The operator shall develop and implement a sampling plan for waste residues from the incineration plant in accordance with the Agency's Guidelines for Ash Sampling and Analysis (Version 6). The plan shall detail how samples of residues are collected and analysed to;</p> <p>(a) Classify the wastes under the European Waste Catalogue;</p> <p>(b) Assess the hazardous properties to identify whether they are subject to the Hazardous Waste Regulations (in accordance with WM2 – The Interpretation of the definition and classification of Hazardous Waste);</p> <p>(c) Assess the pollution potential of the residues to demonstrate it is within acceptable limits for the Paper Sludge Ash Quality Protocol;</p> <p>(d) Meet the residue quality assessments required under Table 3.6</p> <p>(e) Provide sufficient data to ensure any residues land filled meet the relevant Landfill Waste acceptance criteria.</p> <p>A copy of the plan shall be submitted to the Environment Agency.</p>	Complete
IC 2	<p>'For LCP 208, 207 and 206. 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.'</p>	28/01/16
IC 3	<p>The Operator shall submit a report to the Environment Agency detailing the performance of the Heat Recovery Steam Generators when auxiliary fired on natural gas (Mode 3), the report shall include the following:</p> <ul style="list-style-type: none"> <li>• A review of the emissions of NOx and CO and stack conditions (i.e. oxygen content) during this mode.</li> <li>• A comparison with the relevant emission limits of NOx in Annexe 5 Part 1 of the Industrial Emissions Directive</li> <li>• Any technical modifications which would reduce NOx emissions from firing the HRSG in both auxiliary and supplementary fired modes.</li> </ul>	01/10/16
IC 4	<p>The Operator shall submit a report to the Environment Agency detailing the effects on the operation of the CHP from the reduction in paper mill operations at the Kemsley Mill Installation. The report shall include the following:</p> <ul style="list-style-type: none"> <li>• A comparison of CHP operations now to those originally set out in the application.</li> <li>• Modes of operation to match heat and power demand from different production scenarios.</li> <li>• The performance of the CHP (e.g. CHP efficiency) under different production scenarios.</li> <li>• Production scenarios that result in dumping steam.</li> </ul> <p>Production scenarios shall relate to how the variation in steam demand is met for the number of assets (e.g. paper machines) operating, rather than variation in production of different paper products.</p>	01/10/16

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC 5	<p>Prior to changes in Heat and Power supply to the Mill from the activities permitted in Environmental Permit EPR/SP3431KJ the operator, in conjunction with the other operators of the Regulated Facility (Kemsley Paper Mill), shall submit a report detailing how those changes;</p> <ul style="list-style-type: none"> <li>• may impact on the emissions from and performance of the Kemsley Mill CHP facility;</li> <li>• may impact in meeting the provisions of the Industrial Emissions Directive and any published BAT Conclusions Documents relevant to those activities.</li> </ul>	12 months before commissioning of the activities permitted in EPR/SP3431KJ

<b>Table S1.4 Start-up and Shut-down thresholds</b>		
<b>Emission Point and Unit Reference</b>	<b>“Minimum Start -Up load” Load in MW and/or steam flow rate in kg/s and/or when two of the criteria listed below for LCP 208</b>	<b>“Minimum Shut-Down load” Load in MW and/or steam flow rate in kg/s and/or when two of the criteria listed below for the LCP 208</b>
A1/A2 and A3 when Mode 2	<p>Gas Turbine and / or Boiler(s) A or B on; Steam Flow from Boilers A and / or B is greater than 5kg/s or; Gas Turbine Load greater than 24 MW</p>	<p>Gas Turbine load less than 24 MW; Steam Flow from A and / or B Boilers less than 5kg/s Gas Turbine and / or Boilers A and B off</p>

## Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification

Table S2.2 Permitted waste types and quantities for activity reference A2	
Maximum quantity	Upto 190000t/yr total plant incineration capacity
Waste code	Description
030305	De-inking sludges from paper recycling
030307	Mechanically separated rejects from pulping waste paper and cardboard
030310	Fibre rejects, fibre-, filler and coating sludges from mechanical separation
030311	Sludges from on-site effluent treatment plant
191204	Plastics from the mechanical treatment of pulping wastes (030307)

## Schedule 3 – Emissions and monitoring

Table S3.1 (a) Point source emissions to air from Large Combustion Plant						
Emission point ref. & location 1	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/A2 & A3 (when Mode 2) [Points A1, A2, A3 in Figure 1 of the application]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	<b>LCP No. 208 Modes 1, 2, 3</b>  Gas turbine and HRSG A&B fired on natural gas	90 mg/m <sup>3</sup>	Monthly mean of validated hourly averages	Continuous	BS EN 14181
	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )		99 mg/m <sup>3</sup>	95% of validated daily means within a calendar year	Continuous	BS EN 14181
	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )		180 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
	Carbon Monoxide		100 mg/m <sup>3</sup>	Monthly mean of validated hourly averages	Continuous	BS EN 14181
	Carbon Monoxide		110 mg/m <sup>3</sup>	Daily mean of validated hourly averages	Continuous	BS EN 14181
	Carbon Monoxide		200 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181

Table S3.1 (a) Point source emissions to air from Large Combustion Plant						
Emission point ref. & location 1	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/A2 & A3 (when Mode 2) [Points A1, A2 & A3 in Figure 1 of the application]	Sulphur Dioxide	<b>LCP No. 208 Modes 1, 2, 3</b>  Gas turbine and HRSG A&B fired on natural gas	-	-	6 monthly by calculation	Agreed in writing with the Environment Agency
	Duct Survey		-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A3 [Point A3 in Figure 1 of the application]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	<b>LCP No. 208 Mode 4</b>  Gas turbine fired on natural gas in Open Cycle	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner.	Agreed in writing with the Environment Agency
	Carbon Monoxide		-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner.	Agreed in writing with the Environment Agency
	Sulphur Dioxide		-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner.	Agreed in writing with the Environment Agency



<b>Table S3.1 (a) Point source emissions to air from Large Combustion Plant</b>						
<b>Emission point ref. &amp; location 1</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
<p style="text-align: center;"><b>A4</b> [Point A4 in Figure 1 of the application]</p>	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	<b>LCP 206</b>  Boiler plant fired on natural gas	200 mg/m <sup>3</sup>	-	Twice per year with at least 3 months between	BS EN 14792
	Carbon Monoxide		300 mg/m <sup>3</sup>	-	Twice per year with at least 3 months between	BS EN 15058
	Sulphur Dioxide		35mg/m <sup>3</sup>	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
	Dust		5mg/m <sup>3</sup>	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
	Duct Survey		-	-	Pre-operation and when there is a significant operational change	BS EN 15259
<p style="text-align: center;"><b>A5</b> [Point A5 in Figure 1 of the application]</p>	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	<b>LCP 207</b>  Boiler plant fired on natural gas	200 mg/m <sup>3</sup>	-	Twice per year with at least 3 months between	BS EN 14792
	Carbon Monoxide		300 mg/m <sup>3</sup>	-	Twice per year with at least 3 months between	BS EN 15058

<b>Table S3.1 (a) Point source emissions to air from Large Combustion Plant</b>						
<b>Emission point ref. &amp; location 1</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A5 [Point A5 in Figure 1 of the application]	Sulphur Dioxide	<b>LCP 207</b>  Boiler plant fired on natural gas	35mg/m <sup>3</sup>	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
	Dust		5mg/m <sup>3</sup>	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
	Duct Survey		-	-	Pre-operation and when there is a significant operational change	BS EN 15259

<b>Table S3.1(b) Point source emissions to air from Incineration Plant</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A6 (Point 6 in Figure 1 of the application)	Particulate matter	Fluidised Bed Combustor	30 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 13284-1,2
	Particulate matter		10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 15267-3 BS EN 13284-1,2
	Total Organic Carbon (TOC)		20 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181

<b>Table S3.1(b) Point source emissions to air from Incineration Plant</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A6 (Point 6 in Figure 1 of the application)	Total Organic Carbon (TOC)	Fluidised Bed Combustor	10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Hydrogen chloride		60 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Hydrogen chloride		10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Hydrogen fluoride		2 mg/m <sup>3</sup>	Average value over minimum 1-hour period	Bi-annual	EN15713
	Carbon monoxide		100 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Carbon monoxide		50 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Sulphur dioxide		200 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Sulphur dioxide		50 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )		400 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )		200 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
Ammonia	10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 15267-3 BS EN 14181		

<b>Table S3.1(b) Point source emissions to air from Incineration Plant</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A6 (Point 6 in Figure 1 of the application)	Cadmium & thallium and their compounds (total) <sup>1</sup>	Fluidised Bed Combustor	0.05 mg/m <sup>3</sup>	Average value over minimum 30 minute, maximum 8 hour period	Bi-annual periodic measurement	BS EN 14385
	Mercury and its compounds <sup>1</sup>		0.05 mg/m <sup>3</sup>	Average value over minimum 30 minute, maximum 8 hour period	Bi-annual periodic measurement	BS EN 13211
	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) <sup>1</sup>		0.5 mg/m <sup>3</sup>	Average value over minimum 30 minute, maximum 8 hour period	Bi-annual periodic measurement	BS EN 14385
	Dioxins / furans (I-TEQ)		0.1 ng/m <sup>3</sup>	Average value over minimum 6 hours, maximum 8 hour period	Bi-annual periodic measurement	BS EN 1948 Parts 1,2,3
	Nitrous oxide (N <sub>2</sub> O)		50 mg/m <sup>3</sup>	Average value over 8 hour sampling period	Bi-annual periodic measurement	BS EN ISO 21258
	Dioxin-like PCBs (WHO-TEQ <sup>1</sup> Humans / Mammals)		No limit set	Average value over sample period of between 6 and 8 hours.	Bi-annual periodic measurement	BS EN 1948
	Dioxin-like PCBs (WHO-TEQ <sup>1</sup> Fish)		No limit set	Average value over sample period of between 6 and 8 hours.	Bi-annual periodic measurement	BS EN 1948

<b>Table S3.1(b) Point source emissions to air from Incineration Plant</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A6 (Point 6 in Figure 1 of the application)	Dioxin-like PCBs (WHO-TEQ <sup>1</sup> Birds)	Fluidised Bed Combustor	No limit set	Average value over sample period of between 6 and 8 hours.	Bi-annual periodic measurement	BS EN 1948
	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in condition 4.4.1		No limit set	Average value over sample period of between 6 and 8 hours.	Bi-annual periodic measurement	BS ISO 11338 – 1, 2
	Dioxins / furans (WHO-TEQ Humans/Mammals) <sup>1</sup>		No limit set	Average value over sample period of between 6 and 8 hours.	Bi-annual periodic measurement	BS EN 1948
	Dioxins / furans (WHO-TEQ Fish) <sup>1</sup>		No limit set	Average value over sample period of between 6 and 8 hours.	Bi-annual periodic measurement	BS EN 1948
	Dioxins / furans (WHO-TEQ Birds) <sup>1</sup>		No limit set	Average value over sample period of between 6 and 8 hours.	Bi-annual periodic measurement	BS EN 1948
A7(Top of Furnace chamber)	-	Emergency venting point for Fluidised bed combustor	-	-	-	-

Note 1: Metals include gaseous, vapour and solid phases as well as their compounds (expressed as the metal or the sum of the metals as specified). Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V mean antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium respectively.

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A6 (Point 6 in Figure 1 of the application)	Particulate matter	Fluidised bed combustor	150 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3
	Total Organic Carbon (TOC)		20 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3
	Carbon monoxide		100 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 15267-3

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (incl. unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
W1	pH	CHP surface water, via interceptor	6-9	Instantaneous	Monthly spot sample	-
	Oil & grease		No visible oil or grease in the discharge	Instantaneous	Monthly spot sample	Visual
W2	pH	K2 Plant surface water, via interceptor	6-9	Instantaneous	Monthly spot sample	-
	Oil & grease		No visible oil or grease in the discharge	Instantaneous	Monthly spot sample	Visual
W3	pH	K2 Plant roof drainage only	6-9	Instantaneous	Monthly spot sample	-
	Oil & grease		No visible oil or grease in the discharge	Instantaneous	Monthly spot sample	Visual

<b>Emission point ref. &amp; location Note 1</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
E1	Flow (m3)	Boiler blowdown, neutralised ion exchange regeneration	No limit set	Instantaneous	Continuous	As agreed in writing with the Environment Agency
	pH	liquors, compressor wash and overflows, cooling waters.		Instantaneous	Continuous	
	Mercury (kgs)	Collected surface waters, raw waters and demineralised waters.		n/a	n/a	
	Cadmium (kgs)			n/a	n/a	

Note 1: The point of reception at Kemsley Effluent Treatment Plant for this transfer is the Clarified Effluent Tank.

<b>Substance</b>	<b>Medium</b>	<b>Limit (including unit)</b>		<b>Emission Points</b>
Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	LCP 208 (Emission Points A1, A2, A3)
		01/01/16 and subsequent years until 31/12/19	Emission allowance figure shown in the TNP Register as at 30 April the following year	LCP 206 (Emission Point A4)
		01/01/20-30/06/20		LCP 207 (Emission Point A5)

<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
A1, A2, A4, A5 and A6	Exhaust gas temperature °C	Continuous	Traceable to National Standards	Emission Points A4 and A5 continuous during extractive sampling
	Exhaust gas pressure	Continuous	Traceable to National Standards	Emission Points A4 and A5 continuous during extractive sampling
A1, A2, and A6	Exhaust gas oxygen content	Continuous	BS EN 14181	
A4, A5		During Extractive Sampling to Reference Method	BS EN 14789	
A1, A2, and A6	Exhaust gas	Continuous	BS EN 14181	Unless gas is dried

<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
A4, A5	water vapour content	During Extractive Sampling to Reference Method	BS EN 14790	before analysis of emissions
A1, A2, A4, A5	Stack Gas Volume Flow	Continuous	BS EN 16911 & TGN M2	
Location close to the Combustion Chamber Inner Wall	Temperature °C	Continuous	Traceable to National Standards	

<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Limit</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method *</b>	<b>Other specifications</b>
Bottom (Combustor) Ash	TOC	<3%	Quarterly	Sampling and analysis as per Agency Ash sampling protocol	-
Bottom (Combustor) Ash	Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	-	Quarterly	Sampling and analysis as per Agency Ash sampling protocol	-
Bottom (Combustor) Ash	Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	-	Before use of a new disposal or recycling route	Sampling and analysis as per Agency Ash sampling protocol	-



**Table S3.6 Residue Quality**

<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Limit</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method *</b>	<b>Other specifications</b>
APC Residues (Bag Filter and Boiler Ash)	Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	-	Before use of a new disposal or recycling route	Sampling and analysis as per Agency Ash sampling protocol	-
APC Residues (Bag Filter and Boiler Ash)	Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	-	Quarterly	Sampling and analysis as per Agency Ash sampling protocol	-

## Schedule 4 – Reporting

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

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air – Continuous Monitoring Parameters as required by condition 3.5.1	A1/A2,A3, A6	Every 3 months	1 January, 1 April, 1 July, 1 October
Emissions to air - Periodic Monitoring Parameters as required by condition 3.5.1	A4, A5, A6	Every 6 months	1 January, 1 July
Emissions to Water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July
Emissions to Sewer Parameters as required by condition 3.5.1	E1	Every 6 months	1 January, 1 July
TOC or LOI Parameters as required by condition 3.5.1	Bottom Ash	Every 3 months	1 January, 1 April, 1 July, 1 October
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	1 January, 1 April, 1 July, 1 October
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	
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	1 January, 1 April, 1 July, 1 October
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	
Functioning and monitoring of the incineration plant as required by condition 4.2.2	n/a	Every 12 months	1 January
Operating hours	A3	Every 12 months	1 January

<b>Parameter</b>	<b>Units</b>
RCF (De-inking sludge) waste incinerated	t
Plastics waste incinerated	t
P & S waste incinerated	t
Thermal energy produced e.g. steam (activities A1 and A2)	MWhrs
Waste heat utilised by the installation (activities A1 and A2)	MWhrs
Power Generation	MWhrs

<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	TJ
Total Emissions to Air of NO <sub>x</sub> for each LCP	Annually	t
Total Emissions to Air of SO <sub>2</sub> for each LCP	Annually	t
Total Emissions to Air of Dust for each LCP	Annually	t
Annual Operating Hours	Annually	hrs
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)
Urea Consumption	Quarterly	Kgs / tonne of waste incinerated (dry basis)
Periods of abnormal operation (Activity Referenced in Table S1.1, A2)	Quarterly	No of occasions and cumulative hours for current calendar year for each line.
Water consumption (Activity Referenced in Table S1.1, A2)	Quarterly	litres/ tonne of waste incinerated (dry basis)
Electricity consumption (Activity Referenced in Table S1.1, A2)	Quarterly	MWh/tonne of waste (dry basis) incinerated
Natural gas consumption (Activity Referenced in Table S1.1, A2)	Quarterly	m <sup>3</sup> /tonne of waste (dry basis) incinerated

<b>Media/ parameter</b>	<b>Reporting format</b>	<b>Starting Point</b>	<b>Agency recipient</b>	<b>Date of form</b>
Air (LCP)	Form IED HR1 – operating hours	01/01/16	Area Office	31/12/15
Air (LCP)	Form IED AR1 – SO <sub>2</sub> , NO <sub>x</sub> and dust mass emission and energy	01/01/16	Area Office	31/12/15

<b>Table S4.4 Reporting forms</b>				
<b>Media/ parameter</b>	<b>Reporting format</b>	<b>Starting Point</b>	<b>Agency recipient</b>	<b>Date of form</b>
Air (LCP)	Form IED RTA1 –TNP quarterly emissions summary log	01/01/16	Area Office	31/12/15
Air (LCP)	Form IED CON 2 Continuous Monitoring	01/01/16	Area Office	31/12/15
Air (LCP)	Form IED PM1 - discontinuous monitoring and load	01/01/16	Area Office	31/12/15
Air (LCP)	Form IED CEM – Invalidation Log	01/01/16	Area Office	31/12/15
Air	Form Air - 1 Continuous monitoring to air for NOx from emission point A6	01/01/2012	Area Office	01/01/12
Air	Form Air – 2 Continuous monitoring to air for CO from emission point A6	01/01/2012	Area Office	01/01/12
Air	Form Air – 3 Continuous monitoring to air for SO2 from emission point A6	01/01/2012	Area Office	01/01/12
Air	Form Air – 4 Continuous monitoring to air for Particulate Matter from emission point A6	01/01/2012	Area Office	01/01/12
Air	Form Air – 5 Continuous monitoring to air for TOC from emission point A6	01/01/2012	Area Office	01/01/12
Air	Form Air – 6 Continuous monitoring to air for HCL from emission point A6	01/01/2012	Area Office	01/01/12
Air	Form Air – 7 Continuous monitoring to air for Ammonia from emission point A6	01/01/2012	Area Office	01/01/12
Air	Form Air – 8 Periodic monitored emissions from point A6 biannually	01/01/2012	Area Office	01/01/12
Residues	Form Residue 1 - residue quality reporting form	01/01/2012	Area Office	01/01/12
	Form Residue 2 - ash solubility	01/01/2012	Area Office	01/01/12
Water	Form water 1 or other form as agreed in writing by the Environment Agency	01/01/2012	Area Office	01/01/12
Sewer (Transfers to Effluent treatment Plant)	Form sewer 1 or other form as agreed in writing by the Environment Agency	01/01/2012	Area Office	01/01/12
Water usage	Form water usage1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	01/01/12
Performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15

## 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	

<b>(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</b>	
<b>To be notified within 24 hours of detection</b>	
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>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
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

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
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.	

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

abatement equipment” means that equipment dedicated to the removal of polluting substances from releases from the installation to air or water media.

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

“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 and includes Ash from the Bag filters and Boiler

“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.

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

“biomass” means:

- (a) vegetable matter from agriculture and forestry;
- (b) vegetable waste from the food processing industry, if the heat generated is recovered;
- (c) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered;
- (d) cork waste; and
- (e) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste.

“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.

“Bottom (Combustor) Ash” means oversized material from sand conditioning or FBC bed dig out maintenance.

“breakdown” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

“CEM” means continuous emission monitor

“CEN” means Comité Européen de Normalisation.

“Commissioning” relates to the period after construction has been completed or when a modification has been made to the plant or the raw materials when the Permitted Installation process is being tested and modified to operate according to its design;

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“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.

“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.

“DLN” means dry, low NO<sub>x</sub> burners.

“ELV” means emission limit value.

“emissions to land” includes emissions to groundwater.

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

“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).

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

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

“ISO” means International Standards Organisation.

“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.

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

“malfunction” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

“Mid-merit” means combustion plant operating between 1,500 and 4,000 hrs/yr.

“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.

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

“PCB” means Polychlorinated Biphenyl. Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in the table below.

Pests” means Birds, Vermin and Insects.

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

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

“SI” means site inspector.

“shut down” is any period where the plant is being returned to a non-operational state and in relation to the Incineration plant, there is no waste being burned

“Start-up”

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

“substances prescribed for water” means those substances mentioned in Paragraph 7 of Part 1 of Schedule 1 to the EP Regulations

“Standby fuel” means alternative liquid fuels that are used in emergency situations when the gas fuel which is normally used, is not available.

“TNP Register” means the register maintained by the Environment Agency in accordance with regulation 4 of the Large Combustion Plants (Transitional National Plan) Regulations 2015 SI2015 No.1973

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

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (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.

“year” means calendar year ending 31 December.

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 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; and/or

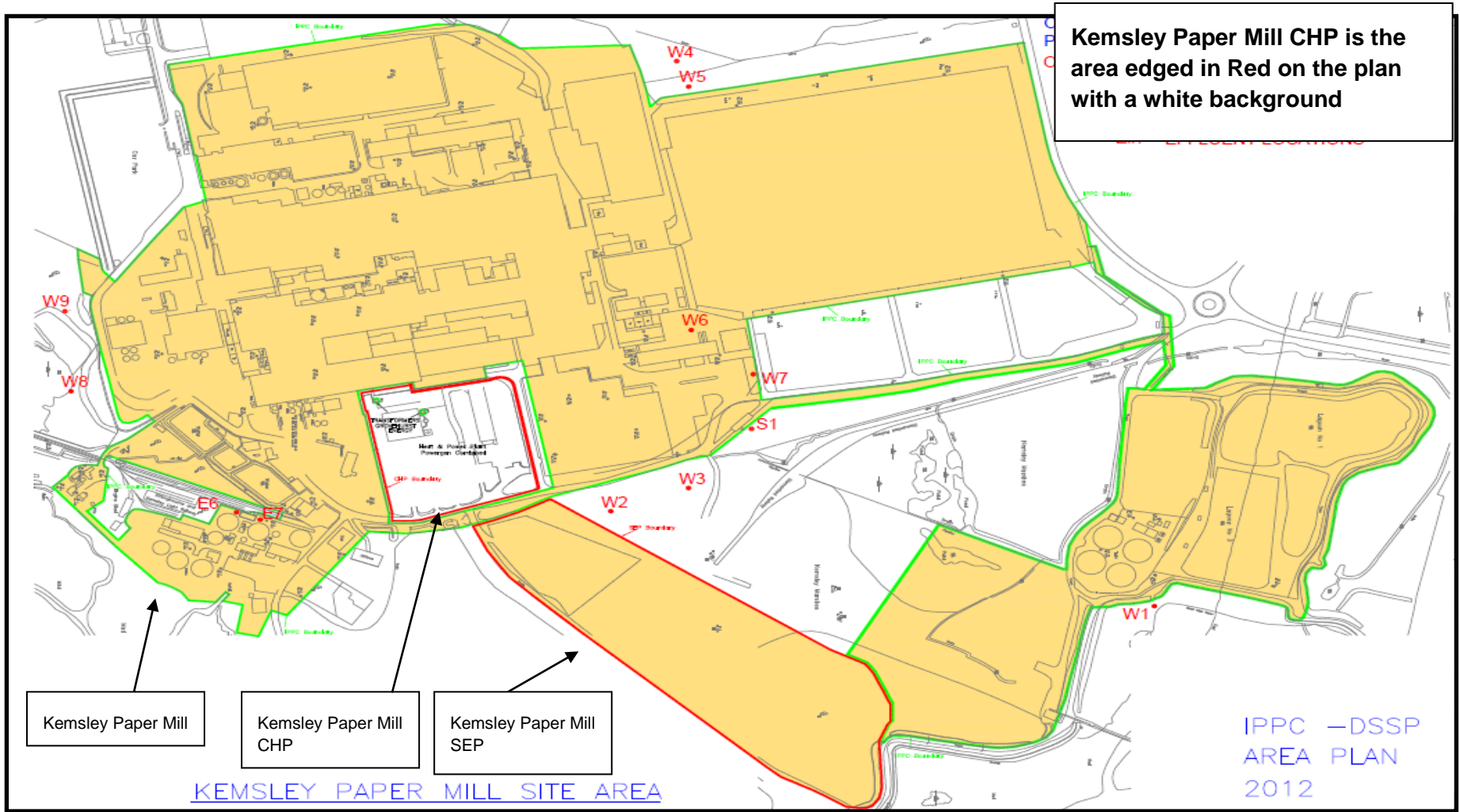
- in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

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.

<b>Congener</b>	<b>I-TEF(1990)</b>	<b>WHO-TEF (1997/8)</b>		
		<b>Humans /Mammals</b>	<b>Fish</b>	<b>Birds</b>
<i>Dioxins</i>				
<b>2,3,7,8-TCDD</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>1,2,3,7,8-PeCDD</b>	<b>0.5</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.1</b>	<b>0.1</b>	<b>0.5</b>	<b>0.05</b>
<b>1,2,3,6,7,8-HxCDD</b>	<b>0.1</b>	<b>0.1</b>	<b>0.01</b>	<b>0.01</b>
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.1</b>	<b>0.1</b>	<b>0.01</b>	<b>0.1</b>
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.01</b>	<b>0.01</b>	<b>0.001</b>	<b>&lt;0.001</b>
<b>OCDD</b>	<b>0.001</b>	<b>0.0001</b>	<b>-</b>	<b>-</b>
<i>Furans</i>				
<b>2,3,7,8-TCDF</b>	<b>0.1</b>	<b>0.1</b>	<b>0.05</b>	<b>1</b>
<b>1,2,3,7,8-PeCDF</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.1</b>
<b>2,3,4,7,8-PeCDF</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>1</b>
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
<b>1,2,3,4,6,7,8_HpCDF</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>
<b>1,2,3,4,7,8,9-HpCDF</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>
<b>OCDF</b>	<b>0.001</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0001</b>

<b>Congener</b>	<b>WHO-TEF (1997/8)</b>		
	<b>Humans / mammals</b>	<b>Fish</b>	<b>Birds</b>
<i>Non-ortho PCBs</i>			
<b>3,4,4',5-TCB (81)</b>	<b>0.0001</b>	<b>0.0005</b>	<b>0.1</b>
<b>3,3',4,4'-TCB (77)</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.05</b>
<b>3,3',4,4',5 - PeCB (126)</b>	<b>0.1</b>	<b>0.005</b>	<b>0.1</b>
<b>3,3',4,4',5,5'-HxCB(169)</b>	<b>0.01</b>	<b>0.00005</b>	<b>0.001</b>
<i>Mono-ortho PCBs</i>			
<b>2,3,3',4,4'-PeCB (105)</b>	<b>0.0001</b>	<b>&lt;0.000005</b>	<b>0.0001</b>
<b>2,3,4,4',5-PeCB (114)</b>	<b>0.0005</b>	<b>&lt;0.000005</b>	<b>0.0001</b>
<b>2,3',4,4',5-PeCB (118)</b>	<b>0.0001</b>	<b>&lt;0.000005</b>	<b>0.00001</b>
<b>2',3,4,4',5-PeCB (123)</b>	<b>0.0001</b>	<b>&lt;0.000005</b>	<b>0.00001</b>
<b>2,3,3',4,4',5-HxCB (156)</b>	<b>0.0005</b>	<b>&lt;0.000005</b>	<b>0.0001</b>
<b>2,3,3',4,4',5'-HxCB (157)</b>	<b>0.0005</b>	<b>&lt;0.000005</b>	<b>0.0001</b>
<b>2,3',4,4',5,5'-HxCB (167)</b>	<b>0.00001</b>	<b>&lt;0.000005</b>	<b>0.00001</b>
<b>2,3,3',4,4',5,5'-HpCB (189)</b>	<b>0.0001</b>	<b>&lt;0.000005</b>	<b>0.00001</b>

# Schedule 7 – Site plan



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END OF PERMIT

Permit number  
EPR/BJ7395IG