Notice of variation and consolidation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

Shotton Paper Mill

UPM-Kymmene UK Ltd

Weighbridge Road
Shotton
Deeside
Flintshire
CH5 2LL

Variation application number
EPR/BT4885IT/V010

Permit number

EPR/BT4885IT

Shotton Paper Mill
Permit number EPR/BT4885IT

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.

This variation has been issued to consolidate the original permit and subsequent variations and to update some of the conditions following a statutory review of permits in the Paper & Pulp Sector. At the same time the permit has been converted into the current EPR Permit format.

The Schedules specify the changes made to the permit.

The main features of the permit are as follows.

The installation is located adjacent to the Dee Estuary in Shotton, Flintshire. The whole of the Dee Estuary is designated a Site of Special Scientific Interest (SSSI), and has also been listed as a Ramsar Site, Special Protection Area (SPA) and a Special Area of Conservation (SAC).

The installation was constructed from 1985 onwards utilising a 'Brownfield' site formerly used for the production of steel until 1980. The principal activity at the installation is Section 6.1 Part (A)1, specifically the production of newsprint from recycled fibre.

The site has a large recovered paper storage warehouse where direct deliveries of recovered paper are received. A Dry Materials Recovery and Recycling Facility (MRRF) with a capacity to sort 300,000 tonnes per year of dry co-mingled recyclates started up in 2011. The MRRF removes several recyclate streams in order to deliver good quality recovered paper directly to the site recovered paper warehouse.

The recycled pulp required for papermaking is produced in three separate de-inking plants and transferred to two high-speed newsprint production lines. All process plant is operated and maintained on a 24 hour basis, 365 days per year. Newsprint paper rolls for a range of printers are cut from the large 'parent' rolls produced on the two paper machines. Each newsprint production line has two winders to cut the customer roll dimensions that are required at any time. All newsprint rolls are automatically wrapped to protect them during storage and transit.

Finally, the customer newsprint rolls are stored in a large paper warehouse and loaded on to a range of road and rail containers for delivery to printers in the UK and overseas. The site has direct connections to the local road and rail networks.

The site has provision for the storage and use of a range of materials and chemicals, mostly for the de-inking and paper production processes.

The processes on site can be energy intensive. The steam required to dry the newsprint and heat the processes is generated by a combination of boilers on site.

Boiler No	Thermal rating	Start date	Fuels	Operational status	Emission point	Regulation covering the operation
7	85 MW	2007	Solid Fuels Waste sludge and wood	Continuous operation	A20	Waste Incineration Directive
6	38MW	2003	Gas with Fuel oil back-up	Top-up operation	A18	EP Regulations
3	45MW	1989	Gas with Fuel oil back-up	Cold stand-by	A15*	Large Combustion Plant Directive
1	45MW	1985	Fuel Oil	Cold stand-by	A13*	Large Combustion Plant Directive

*Emission points A13 and A15 are connected to the same stack hence the operation is covered by the Large Combustion Plant Directive.

Additional process steam can be supplied by a local gas-fired power station through a connecting pipeline and heat exchanger on the site.

Further heat is recovered from the Boiler 7 flue gases by the wet scrubber at the base of the stack. The three boiler stacks are the principal emissions points to air.

Electrical energy is supplied via the on-site sub-station and also approximately a third of the site electrical energy requirement is supplied by a steam turbine linked to Boiler 7.

The operations on site produce a range of waste streams and investments on site have enabled the re-use of most of these wastes. Fibrous waste from the de-inking plants is de-watered and the resultant sludge is mixed with wood materials for burning in Boiler 7. The different ash streams from Boiler 7 are re-used in construction and liming applications. While a residue from the MRRF operation and the de-inking process are currently taken to local landfill sites the plan is to treat this material further in order to re-use it as a fuel.

The site incorporates an Effluent Treatment Plant to treat liquid effluent from the processes on site and the sewage produced. The effluent treatment plant utilises some large lagoons that were previously constructed as part of the steel works. The effluent plant also includes clarifiers and activated sludge reaction vessels constructed between 1985 and 2000.

The installation emits no effluent to sewer, and the permit also includes a point source emission to the Dee Estuary, via the White Sands Gutter on a tidal basis.The holding capacity of the lagoons allows the final effluent to be pumped out for one hour before high tide then for up to a further three hours on the ebbing tide. There are limits on the total volume and flow rate that can be discharged on any tide as well as the quality of the final effluent itself.

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 BT4885	Duly made 11/10/02	
Permit determined BT4885	07/02/03	
Application for variation	Received 31/07/03	
Duly made	31/07/03	
Response to request for information	19/09/03	23/09/03
Response to request for information	25/09/03	01/10/03
Response to request for information	25/09/03 & 06/10/03	15/10/03
Variation BV4916	Determined 05/11/03	
Application for variation	Received 29/04/05	
Variation JP3030LM	Issued 16/12/2005	
Application for variation	Received 12/07/06	
Response to request for information	Received 14/07/06	
Variation WP3031LR	Issued 17/07/06	
Application for variation	Received 28/11/05	
Response to request for information	25/04/06	26/05/06
Variation PP3936SQ	Issued 11/08/06	
Variation notice NP3739XM issued	Issued 17/12/07	
Application for variation	Received 29/12/09	
Response to request for information	06/01/10	01/03/10
Variation EA/EPR/BT4885IT/V006	Issued 12/05/10	
Application for Partial Surrender	Duly Made 24/02/10	
Partial Surrender Notice EPR/BT4885IT/S007 issued	19/05/10	
Application for variation	Duly Made 10/05/10	
Variation EA/EPR/BT4885IT/V008	Issued 01/11/10	
Application for variation	Duly Made 28/05/10	

Variation EA/EPR/BT4885IT/V009	Issued 17/12/10	
Environment Agency Paper and Pulp Sector Review 2011 Variation determined EPR/BT4885IT V010	15/06/2012	Varied and consolidated permit issued in modern condition format.

End of Introductory note

Notice of variation and consolidation

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/BT4885IT

Issued to:
UPM-Kymmene UK Ltd ("the operator")

whose registered office is

Meadowhead Road
Shewalton
Irvine
Scotland
KA11 5AT

company registration number 102969

to operate a regulated facility at

Shotton Paper Mill
Weighbridge Road
Shotton
Deeside
Flintshire
CH5 2LL

to the extent set out in the schedules.

The notice shall take effect from 15/06/2012

Name	Date
Thomas Ruffell	**15/06/2012**

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/BT4885IT

This is the consolidated permit referred to in the variation and consolidation notice for application insert application number authorising,

UPM-Kymmene UK LTD ("the operator"),

whose registered office is

Meadowhead Road
Shewalton
Irvine
Scotland
KA11 5AT

company registration number 102969

to operate an installation and waste operations at

Shotton Paper Mill
Weighbridge Road
Shotton
Deeside
Flintshire
CH5 2LL

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

Name	Date
Thomas Ruffell	**15/06/2012**

Authorised on behalf of the Environment Agency

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 recovered with a high level of energy efficiency and energy is used efficiently in the activities.

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

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

1.2.2 The operator shall review the practicability of Combined Heat and Power (CHP) implementation at least every 2 years. The results shall be reported to the Agency within 2 months of each 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 Waste authorised under activity A5 (the Materials Recycling Facility) in schedule 1, table S1.1 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 on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 (a) 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.

(b) If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit, 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.

2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

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

(a) the combustion chamber temperature is below, or falls below, 850^{o}C; or

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

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

2.3.4 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 2.3.3, as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.3 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.

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

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

2.3.7 Where, during "WID abnormal operation", any of the following situations arise, the operator shall, as soon as is practicable, cease the burning of waste until normal operation can be restored:

(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 "WID abnormal operation" periods over 1 calendar year exceeds 60 hours on an incineration line;

(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;

(d) the alternative techniques to demonstrate compliance with the "WID abnormal operation" emission limit value(s) for particulates, TOC and / or CO in schedule 3 table S3.1 (c), as detailed in the application or as agreed in writing with the Environment Agency, are unavailable.

2.3.8 The operator shall interpret the end of the period of "WID 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 "WID abnormal operation";

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

2.3.9 Bottom ash and APC residues shall not be mixed.

2.3.10 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 table(s) S2.2, S2.3 and S2.4.

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

2.3.11 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.

2.3.12 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.3.13 Trials to burn alternative fuels to those described in table S2.2 can only be undertaken with the written agreement of the Agency.

2.3.14 Subject to the outcome of the burning trials in condition 2.3.13, the use of alternative fuels as a substitution to those fuels described in table S2.2 can only be undertaken with the written agreement of the Agency, which will include the maximum throughput, the fuel composition and the maximum duration of the fuel use.

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), S3.2 and S3.3 except in “WID 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(c), S3.2 and S3.3.

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

3.1.3 Total annual emissions from the emission point(s) set out in tables schedule 3 S3.1(a), S3.1(b), S3.1(c), S3.2 and S3.3 of a substance listed in schedule 3 tables S3.4 (a) and S3.4 (b) shall not exceed the relevant limit in tables S3.4 (a) and S3.4(b).

3.1.4 Wastes Produced shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.6. 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;

(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;

(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;

(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 and S3.3;

(b) process monitoring specified in table S3.5;

(c) residue quality 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 continual), 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) unless otherwise agreed in writing by the Environment Agency. For the following activities referenced in schedule 1, table S1.1 (A3). 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.

3.5.4 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 and S3.3 unless otherwise agreed in writing by the Environment Agency.

3.5.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 tables S3.1(b) and S3.1(c) ; 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 & NO2 expressed as NO2) 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 3.5.5(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.

3.6 Monitoring for the purposes of the Large Combustion Plant Directive

3.6.1 All LCP monitoring required by this permit shall be carried out in accordance with the provisions of Annex VIII of the Large Combustion Plant Directive.

3.6.2 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.

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 For the following activities referenced in schedule 1, table S1.1 (A1 to A5). 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 Article 12(2) of the Waste Incineration Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the WID.

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 The Environment Agency shall be notified without delay following the detection of:

(a) 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) the breach of a limit specified in the permit; or

(c) any significant adverse environmental effects.

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

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

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

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

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

(b) any steps taken with a view to the dissolution of the operator.

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

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

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

4.3.7 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 From 1 January 2008 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

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
A1	S6.1 A1 (b) - Producing in an industrial plant paper and board where the plant has a production capacity of more than 20 tonnes per day.	Newsprint manufacture from recycled fibre in two paper machines each with capacity > 200,000 tonnes per annum .	Receipt of waste paper, fibre recovery, manufacture of newsprint to dispatch of finished product
A2	Section 1.1 Part (A)1(a) - Burning any fuel in an appliance with a rated thermal input of 50 MW or more.	One 38 MW gas / LFO fuelled boiler; one 45 MW gas / LFO fuelled boiler and one 45 MW LFO fuelled boiler	Combustion of fuel to release of exhaust gases to atmosphere
A3	Section 5.1 Part (A) 1 (c) - The incineration of non-hazardous waste in an incineration plant with a capacity of 1 tonne or more per hour	Fluidised bed incinerator, 85MW thermal input burning 57 tonnes per hour of waste fuels.	Incineration and steam generation, plus receipt, storage and preparation of waste materials – limited to the waste materials, descriptions and quantities identified in table S2.2
A4	Section 5.3A(1)I(i) Disposal of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by biological treatment	Activated sludge treatment of all liquid effluent from the papermaking activity.	Effluent flow from paper machines, effluent treatment, associated sludge handling and treatment, lagoons and discharge system
Directly Associated Activity Release to controlled waters	Discharge of site drainage from the installation		Collection in effluent lagoon for pumped discharge via White Sands Gutter
	Description of activities for waste operations	**Limits of activities**	
A5	Materials recycling facility (not subject to standard rules as >75kte). (Recovery Operations: R3, R4, R5 and R13)	From receipt of non-hazardous wastes and raw materials to transfer of separated wastes to further treatment and recovery activities; dispatch of residual wastes.	

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	The response to question 2.3 given in the Application section 2.3; excluding Tables 2.3.1, 2.3.3, 2.3.8, 2.3.9, 2.3.10, 2.3.12, 2.3.13.	11/10/02

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Response to Sch 4 Notice	Item 4, 9, 10,11, 12, 13, 14, 15, 16, 17, 18, 19, 20	11/10/02
Application for variation BV4916	Application for variation dated 25/07/03 excluding references to the burning of de-inking sludge (deinking sludge cake) and effluent treatment plant sludge (primary sludge cake) in boiler 2.	31/07/03
Response to request for information	Response dated 23/09/03	23/09/03
Application for variation JP3030LM	Application for variation dated 22/04/05.	29/04/05
Application for Variation WP3031LR	Application for Variation dated 12/07/06	12/07/06
Application for variation PP3936SQ	Application for variation dated 24/11/05	28/11/05
Response to request for information	Response dated 26/05/06	26/05/06
Application for variation EA/EPR/BT4885IT/V006	Application for variation dated December 2009	29/12/09
Application for variation EA/EPR/BT4885IT/V008	Application for variation dated 10/05/10– Annex 1 (Fuels Testing Protocol), Annex 1 (Waste Acceptance Procedures) and Annex 2 (Accident Management Plan). Documents referenced in response to 6f. – the location of waste storage areas. Technical Description – Dry Materials Recycling Facility and Annex 3 (MRF Risk Assessment)	10/05/10
Application for variation EA/EPR/BT4885IT/V009	Application for variation dated 27/5/2010	28/05/2010
Response to request for information	Response dated 28/03/2012	28/03/2010
Abnormal operation monitoring techniques	Response dated 8 April 2012 on abnormal operation monitoring techniques	

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
1	The Operator shall submit a written report for the subsequent approval of the Environment Agency that summarises a review of the provision of MCERTS accreditation for the continuous water monitoring equipment, personnel and organisations employed for the emissions monitoring programme in condition 3.5.1. The report shall also propose a timetable for achieving this standard for any elements that are not MCERTS certified.	14/12/2012

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
2	The Operator shall submit a written report detailing a review of the current monitoring methods for discharges to surface water. The review shall consider both in-house and external monitoring against the standards set out in Environment Agency technical guidance note 'M18 – Monitoring of Discharges to Water and Sewer', and identify where these standards are met, justify deviations or submit proposals for improvements. The report shall propose a timetable for completion of improvements for any elements that are not MCERTS certified. Once approved by the Environment Agency any improvements identified by the review will be implemented to the agreed timescale.	14/12/2012
3	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; (a) Classify the wastes under the European Waste Catalogue; (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); (c) Assess the pollution potential of the residues to demonstrate it is within acceptable limits for the Paper Sludge Ash Quality Protocol; (d) Meet the residue quality assessments required under Table 3.6 (e) Provide sufficient data to ensure any residues land filled meet the relevant Landfill Waste acceptance assessment. A copy of the plan shall be submitted to the Environment Agency	14/08/2012
4	The Operator shall submit the assessment of the hazardous properties of Air Pollution Control residues to the Environment Agency	14/10/2012

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 combustion in the WID incinerator	
Maximum quantity	1. Paper mill sludge - maximum throughput of 350,000t/yr 2. Biomass (forest residues, round wood logs and sawmill residuals) - maximum throughput of 270,000t/yr 3. Waste wood - maximum throughput of up to 60% of biomass substitution. 4. For fuel mixes that contain materials other than those described in points 1, 2 and 3, the fuel composition, maximum throughput and duration of the fuel substitution must be confirmed in writing by the Environment Agency prior to burning trials or substitution as a fuel.
Waste code	**Description**
02 01 07	Biomass: Forest residues, round wood logs and sawmill residuals.
03 03 05	Paper Mill Sludge: Mixed waste sludge from de-inking process and effluent treatment. rejects from recovered paper slushing process
17 02 01	Waste wood: Waste wood from construction and demolition
15 01 03	Waste wood: Wooden packaging
19 12 07	Waste wood: Waste wood from the mechanical treatment of waste.
19 12 10	Combustible waste (refuse derived fuel)[1]
20 01 38	Waste wood: Municipal Waste wood not containing dangerous substances.
03 01 01	Waste wood: Waste bark from wood processing and the production of panels and furniture
03 01 05	Waste wood: Sawdust, shavings, cuttings wood from wood processing and the production of panels and furniture
03 03 01	Waste wood: Waste bark and wood from pulp, paper and cardboard production.
19 05 01	Waste wood: Organic rejects from compost screening process.

1 Subject to meeting the requirements of Conditions 2.3.13 and 2.3.14

Table S2.3 Permitted waste types and quantities for sorting in the Dry Materials Recycling Facility	
Maximum quantity	Annual throughput of 300,000 tonnes per annum. Up to 42 tonnes per hour with 25% glass and 32 tonnes without glass.
Waste code	**Description**
03 03 08	Wastes from sorting of paper and cardboard destined for recycling
15 01 06	Mixed packaging
19 12 01	Paper and cardboard
19 12 12	Other wastes (including mixtures of other materials) from the mechanical treatment of wastes other than those mentioned in 19 12 11
20 03 01	Mixed municipal waste (in the form of co-mingled waste)
20 03 02	Waste from markets (in the form of co-mingled waste)

Table S2.4 Permitted waste types and quantities for the production of newsprint	
Maximum quantity	
Waste code	**Description**
20 01 01	Paper and Cardboard – Municipal Waste
15 01 01	Paper and Cardboard Packaging
19 12 12	Other wastes (including mixtures of other materials) from the mechanical treatment of wastes other than those mentioned in 19 12 11
19 12 01	Paper and cardboard

Schedule 3 – Emissions and monitoring

Table S3.1 (a) Point source emissions to air

Emission point ref. Locations shown on site plan, Sch 7 in this permit	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	No parameters set	PM1 Hood Exhaust	No limit set	-	-	-
A2	No parameters set	PM1 Vacuum Pump Exhaust	No limit set	-	-	-
A9	No parameters set	RCF1 Pulper Vent	No limit set	-	-	-
A10	No parameters set	PM2 Hood Exhaust	No limit set	-	-	-
A11	No parameters set	PM2 Vacuum Pump Exhaust	No limit set	-	-	-
A12	No parameters set	RCF2 Pulper Vent	No limit set	-	-	-
A13	Oxides of Nitrogen (as NO2)	Boiler 1 Stack	450 mg/m^3	Average over the sampling period. Minimum sampling period 30 minutes and maximum 8 hours	Quarterly spot measurement, during operational periods	BS EN 14792
A15	Oxides of Nitrogen (as NO2)	Boiler 3 Stack	150 mg/m^3	Average over the sampling period. Minimum sampling period 30 minutes and maximum 8 hours	Quarterly spot measurement, during operational periods	BS EN 14792

Table S3.1 (a) Point source emissions to air						
Emission point ref. Locations shown on site plan, Sch 7 in this permit	**Parameter**	**Source**	**Limit (including unit)- these limits do not apply during start up or shut down.**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A18	Oxides of Nitrogen (as NO2)	Boiler 6 Stack	150 mg/m^3	Average over the sampling period. Minimum sampling period 30 minutes and maximum 8 hours	Quarterly	BS EN 14792
A19	No parameters set	RCF3 Pulper Vent	No limit set	-	-	-

Table S3.1 (b) Point source emissions to air – emission limits and monitoring requirements (WID Incinerator)						
Emission point ref. Locations shown on site plan, Sch 7 in this permit	**Parameter**	**Source**	**Limit (including unit)[1]**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method[3]**
A20	Particulate matter	Boiler 7 Stack	30 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Particulate matter	Boiler 7 Stack	10 mg/m^3	Daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Total Organic Carbon (TOC)	Boiler 7 Stack	20 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Total Organic Carbon (TOC)	Boiler 7 Stack	10 mg/m^3	Daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Hydrogen chloride	Boiler 7 Stack	60 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Hydrogen chloride	Boiler 7 Stack	10 mg/m^3	Daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Hydrogen fluoride	Boiler 7 Stack	2 mg/m^3	Periodic over minimum 1-hour period	Bi-annual	BS ISO 15713
A20	Carbon monoxide	Boiler 7 Stack	100 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Carbon monoxide	Boiler 7 Stack	50 mg/m^3	Daily average	Continuous measurement	BS EN 15267-3 BS EN 14181

Table S3.1 (b) Point source emissions to air – emission limits and monitoring requirements (WID Incinerator)						
Emission point ref. Locations shown on site plan, Sch 7 in this permit	**Parameter**	**Source**	**Limit (including unit)[1]**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method[3]**
A20	Sulphur dioxide	Boiler 7 Stack	200 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Sulphur dioxide	Boiler 7 Stack	50 mg/m^3	Daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	Boiler 7 Stack	400 mg/m^3	½-hr average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	Boiler 7 Stack	200 mg/m^3	Daily average	Continuous measurement	BS EN 15267-3 BS EN 14181
A20	Cadmium & thallium and their compounds (total) [2]	Boiler 7 Stack	0.05 mg/m^3	Periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385
A20	Mercury and its compounds [2]	Boiler 7 Stack	0.05 mg/m^3	Periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 13211
A20	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) [2]	Boiler 7 Stack	0.5 mg/m^3	Periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385
A20	Ammonia (NH_3)	Boiler 7 Stack	No Limit Set	Half hour average and daily average if CEMs installed or periodic over minimum 1 hour period	Continuous	As described in the Application
A20	Nitrous oxide (N_2O)	Boiler 7 Stack	No Limit Set	Periodic over minimum 1 hour period	Bi-annual	BS EN ISO 21258
A20	Dioxins / furans (I-TEQ)	Boiler 7 Stack	0.1 ng/m^3	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948
A20	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	Boiler 7 Stack	No Limit Set	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948
A20	Dioxin-like PCBs (WHO-TEQ Fish)	Boiler 7 Stack	No Limit Set	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948

Table S3.1 (b) Point source emissions to air – emission limits and monitoring requirements (WID Incinerator)						
Emission point ref. Locations shown on site plan, Sch 7 in this permit	**Parameter**	**Source**	**Limit (including unit)[1]**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method[3]**
A20	Dioxin-like PCBs (WHO-TEQ Birds)	Boiler 7 Stack	No Limit Set	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948
A20	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Boiler 7 Stack	No Limit Set	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	Procedure shall use BS ISO 11338-1 and BS-ISO 11338-2.
A20	Dioxins / furans (WHO-TEQ Humans / Mammals)	Boiler 7 Stack	No Limit Set	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948
A20	Dioxins / furans (WHO-TEQ Fish)	Boiler 7 Stack	No Limit Set	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual	BS EN 1948
A20	Dioxins / furans (WHO-TEQ Birds)	Boiler 7 Stack	No Limit Set	Periodic over minimum 6 hours, maximum 8 hour period	Bi-annual.	BS EN 1948

Note 1: See Section 6 for reference conditions

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

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

Table S3.1(c) Point source emissions to air during abnormal operation of WID incineration plant – emission limits and monitoring requirements						
Emission point ref. Location shown on site plan, Sch 7 of this permit	**Parameter**	**Source**	**Limit (including unit) [1]**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A20	Particulate matter	Boiler 7 Stack	150 mg/m^3	½-hr average	Continuous measurement	BS EN 13824-2 [2] during abatement plant failure or during failure of the continuous emission monitor

Table S3.1(c) Point source emissions to air during abnormal operation of WID incineration plant – emission limits and monitoring requirements						
Emission point ref. Location shown on site plan, Sch 7 of this permit	**Parameter**	**Source**	**Limit (including unit) [1]**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A20	Total Organic Carbon (TOC)	Boiler 7 Stack	20 mg/m^3	½-hr average	Continuous measurement	BS EN 12619 [2] during abatement plant failure or during failure of the continuous emission monitor
A20	Carbon monoxide	Boiler 7 Stack	100 mg/m^3	½-hr average	Continuous measurement	ISO 12039[2] during abatement plant failure or during failure of the continuous emission monitor

Note 1: See Section 6 for reference conditions

Note 2: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. Location shown on site plan, Sch 7 of this permit	**Parameter**	**Source**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method (Note 5)**
W1	Biochemical Oxygen Demand (measured after 5 days at 20^{O}C) with nitrification suppressed by the addition of allylthiourea)	Treated effluent from the Effluent Treatment Plant	25mg/l	Spot	Weekly	ISO 5815: 1989
W1	Chemical Oxygen Demand	Treated effluent from the Effluent Treatment Plant	None Set	Spot sample	Daily	In-house
W1	Suspended Solids	Treated effluent from the Effluent Treatment Plant	60 mg/l	Spot	Weekly	BS EN 872:2005
W1	pH max	Treated effluent from the Effluent Treatment Plant	9 pH	Instantaneous	Continuous	
W1	pH min	Treated effluent from the Effluent Treatment Plant	6 pH	Instantaneous	Continuous	
W1	Ammoniacal Nitrogen	Treated effluent from the Effluent Treatment Plant	4 mg/l	Spot	Daily	Method in accordance with M18

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. Location shown on site plan, Sch 7 of this permit	**Parameter**	**Source**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method (Note 5)**
W1	Temperature degrees Celsius	Treated effluent from the Effluent Treatment Plant	25° Celsius Note 4	Instantaneous	Continuous	Standard Temperature Sensor
W1	Maximum instantaneous Flow rate	Treated effluent from the Effluent Treatment Plant	800 l/s	Instantaneous	Continuous [1]	MCERTS self-monitoring of effluent flow scheme
W1	Maximum Daily Flow	Treated effluent from the Effluent Treatment Plant	22,000 m^3/day	24 hour period beginning 00.01	Daily[2]	MCERTS self-monitoring of effluent flow scheme
W1	Maximum Tidal Flow	Treated effluent from the Effluent Treatment Plant	11,000 m^3/tide	Instantaneous	Daily[3]	MCERTS self-monitoring of effluent flow scheme
W1	Total Phosphorous	Treated effluent from the Effluent Treatment Plant	No limit set	Spot	weekly	Method in accordance with M18
W1	Metals Fe, Mn, Zn, As, Cu, Cr, Ni, Pb, Cd, Hg,	Treated effluent from the Effluent Treatment Plant	No limit set	Spot	Quarterly	Method in accordance with M18
W1	Water Framework Directive Dangerous Substance screen	Treated effluent from the Effluent Treatment Plant	No limit set	Spot	Annual	GC/MS analysis to be carried out by UKAS accredited laboratory
W2	No parameter set	Site drainage from main car park	No limit set	-	-	-
W3	No parameter set	Site drainage from northern half of main production area	No limit set	-	-	-
W4	No parameter set	Site drainage from HGV carpark and interior of the northern section of the finished paper warehouse	No limit set	-	-	-
W5	No parameter set	Site drainage from the roundwood storage area	No limit set	-	-	-

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. Location shown on site plan, Sch 7 of this permit	**Parameter**	**Source**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method (Note 5)**
W6	No parameter set	Site drainage from south end of waste paper storage warehouse	No limit set	-	-	-

Note 1 – Flows of the discharge shall be measured at the outlet NGR SJ 30057 71141.

Note2 – Maximum daily flow calculated from continuous monitoring of instantaneous flow

Note 3 – Maximum tidal flow calculated from continuous monitoring of instantaneous flow during a tidal discharge
Note 4- The maximum discharge temperature of the treated effluent from the Effluent Treatment Plant can be raised temporarily to 28^{O}C subject to the following criteria:

- The air temperature data for Hawarden Airport Met Office Station indicates an average temperature exceeding 20^{O}C for the six hours preceding effluent discharge.
- The temporary temperature derogation only applies between the 1st May and the last day of October.

Note 5 - Where in-house analysis is used for compliance assessment purposes, a duplicate sample shall be sent for external analysis (UKAS/ ISO17025) at a six monthly / annual frequency.

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. Location shown on site plan, Sch 7 of this permit	**Parameter**	**Source**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
E1	Volumetric Flow	Boiler 7 effluent and treated scrubber water	300m^3/day	24 hour period beginning 00.01	Continuous	BS3680
E1	pH	Boiler 7 effluent and treated scrubber water	-	Instantaneous	Continuous	BS 1647-2:1984
E1	pH	Boiler 7 effluent and treated scrubber water	-	Instantaneous	Continuous	BS 1647-2:1984
E1	Total suspended solids as defined by Directive 91/271/EEC	Boiler 7 effluent and treated scrubber water	30mg/l	95% of all measured values of periodic or flow proportional samples taken over one year.[1]	Daliy	BS EN 872

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. Location shown on site plan, Sch 7 of this permit	**Parameter**	**Source**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
E1	Total suspended solids as defined by Directive 91/271/EEC	Boiler 7 effluent and treated scrubber water	45 mg/l	100% of all measured vaulesof periodic or flow proportional sample. [1]	Daily	BS EN 872
E1	Mercury and its compounds, expressed as mercury (Total Hg)	Boiler 7 effluent and treated scrubber water	0.03 mg/l	24-hour flow proportional sample [2]	Monthly	BS EN 13506
E1	Cadmium and its compounds, expressed as cadmium (Total Cd)	Boiler 7 effluent and treated scrubber water	0.05 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.89
E1	Thallium and its compounds, expressed as thallium (Total Tl)	Boiler 7 effluent and treated scrubber water	0.05 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.89
E1	Arsenic and its compounds, expressed as arsenic (Total As)	Boiler 7 effluent and treated scrubber water	0.15 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.60
E1	Lead and its compounds, expressed as lead (Total Pb)	Boiler 7 effluent and treated scrubber water	0.2 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.60
E1	Chromium and its compounds, expressed as chromium (Total Cr)	Boiler 7 effluent and treated scrubber water	0.5 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.60
E1	Copper and its compounds, expressed as copper (Total Cu)	Boiler 7 effluent and treated scrubber water	0.5 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.60
E1	Nickel and its compounds, expressed as nickel (Total Ni)	Boiler 7 effluent and treated scrubber water	0.5 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.60
E1	Zinc and its compounds, expressed as Zinc (Total Zn)	Boiler 7 effluent and treated scrubber water	1.5 mg/l	24-hour flow proportional sample [2]	Monthly	BS 6068-2.60
E1	Dioxins/ furans (I-TEQ)	Boiler 7 effluent and treated scrubber water	0.3 ng/l	24-hour flow proportional sample	Bi-annual.	USEPA Method 1613

Note 1: Total suspended solids limits apply as 24hr flow proportional sample.

Note 2: Only 1 sample per year OR 5% of annual samples (where more than 20 samples are taken) may exceed the limits stated above.

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Table S3.4 (a) Annual limits

Substance	Medium	Limit (including unit)

Table S3.4 (b) Annual limits(Excluding start up and shut down except where otherwise stated).

Substance	Medium	Limit (including unit)		Emission Points
Oxides of nitrogen, oxides of sulphur, and particulate matter	Air	Assessment year	LCP NERP Limit	Windshield comprising emission points A13 & A15
		01/01/08-31/12/08 and subsequent years until 31/12/15	Emission allowances figure shown in the NERP Register as at 30 April the following year	

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
A13, A15, A18	Oxygen	During periodic monitoring in table S3.1	MCERTS	
	Temperature			
	Pressure			
A20	temperature	continuous	As described in the Application	
A20	pressure	continuous	As described in the Application	
A20	oxygen content	continuous	As described in the Application	
A20	water vapour content	continuous	As described in the Application	
Close to the Combustion Chamber inner wall	Temperature (°C)	Continuous	Traceable to National Standards	

Table S3.6 Residue quality					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method ***	**Other specifications**
Bottom Ash	LOI	<5%	Quarterly	Sampling and analysis as per Agency ash sampling protocol	
Bottom 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 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	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.	
APC Residues	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 or when a new waste fuel is introduced	Sampling and analysis as per Agency ash sampling protocol.	

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

Schedule 4 - Reporting

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

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air – Continuous monitoring parameters as required by condition 3.5.1	A 20	Every 3 months	
Emissions to air – periodic monitoring parameters as required by Condition 3.5.1	A13, A15, A18 & A20	Every 6 months	
Emissions to Water – parameters as required by Condition 3.5.1	W1	Every 3 months	
Emissions to water – Parameters as required by Water Framework Directive Dangerous Substances Screen under Condition 3.5.1	W1	Every 12 months	
Emissions to Sewer – Parameters as required by Condition 3.5.1	E1	Every 3 months	
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	APC Residues	Every 3 months	
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	APC Residues	Before use of a new disposal or recycling route, or when a new waste fuel is introduced	
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Bottom Ash	Before use of a new disposal or recycling route	
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Bottom Ash	Every 3 months	
LOI	Bottom Ash	Every 3 months	
Temperature degrees Celsius (when a discharge limit of 28^{O}C is permitted)	W1	Within 14 days of occurrence – using form W3	
Flow m^3/tide (when a discharge limit of 28^{O}C is permitted)	W1	Within 14 days of occurrence – using form W3	

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Functioning and monitoring of the incineration plant as required by Condition 4.2.2	n/a	Every 12 months	
Annual LCP Releases	A13 & A15	Every 12 months	
CEMs Invalidation Log	A20	Every 6 months	

Table S4.2: Annual production/treatment	
Parameter	**Units**
Total Biomass Incinerated	tonnes
Total Sludge Incinerated	tonnes
Total Waste wood Incinerated	tonnes
Total Wastes not otherwise specified on the list Incinerated	tonnes
Total MRF materials accepted for sorting	tonnes
Total MRF facility throughput	tonnes
Total MRF material sent for recycling off-site	tonnes
Total MRF material utilised on site for production of newsprint	tonnes
Total MRF waste material sent off-site for disposal	tonnes
Thermal energy produced (steam)	MWhrs
Waste heat utilised	MWhrs
Power generation	MWhrs

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
WID plant electricity consumption	Quarterly	MWhrs / tonne of waste incinerated (dry basis)
WID plant natural gas consumption	Quarterly	M^3 / 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)
[Ammonia / Urea] consumption	Quarterly	Kgs / tonne of waste incinerated (dry basis)
Water consumption (WID plant)	Quarterly	litres / tonne of waste incinerated (dry basis)
Periods of WID abnormal operation	Quarterly	No of occasions and cumulative hours for current calendar year for each line.
NOx/ ADt	Quarterly	Kg/ADT
CO_2/ADt	Quarterly	Kg/ADT
Total P	Quarterly	Kg/ADT
Ammoniacal N	Quarterly	Kg/ADT
Suspended solids	Quarterly	Kg/ADT
BOD	Quarterly	Kg/ADT

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air (WID	Form A1 – Periodic monitored emissions from A20	15/06/12
Air (WID)	Form A2 - continuously monitored emissions to air for particulates from A20	15/06/12
	Form A3 - continuously monitored emissions to Air for HCl from A20	15/06/12
	Form A4 - continuously monitored emissions to Air for TOC from A20	15/06/12
	Form A5 continuously monitored emissions to air for carbon monoxide from A20	15/06/12
	Form A6 - continuously monitored emissions to air for sulphur dioxide from A20	15/06/12
	Form A7 - continuously monitored emissions to air for oxides of nitrogen from A20	15/06/12
	Form A8 - continuously monitored emissions to air for Ammonia from A20	15/06/12
Air	Form A9 – periodic monitoring from A13, A15 & A18	
Air - LCPD	Electronic form RTA1 at: http://www.environment-agency.gov.uk/business/topics/pollution/32230.aspx	----------
Water	Form W1 – Quarterly emissions report	15/06/12
	Form W2 – High temperature emissions report	
Sewer - WID	Form S1 emissions to sewer from point E1 (transfer to effluent treatment plant)	15/06/12
Residues - WID	Form residue 1 residue quality reporting form	15/06/12
	Form residue 2 ash solubility reporting form	15/06/12
Performance indicators (WID)	Form Performance 1 or other form as agreed in writing by the Environment Agency	
Energy - LCPD	Electronic form AAE1 at: http://www.environment-agency.gov.uk/business/topics/pollution/32230.aspx	----------
Other performance indicators	Form Performance 2 or other form as agreed in writing by the Environment Agency	15/06/12

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

"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.

"ADT" means Air Dried Tonnes (6% moisture)

"*annually*" means once every year.

"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.

"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;

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.

"bottom ash" means [ash falling through the grate][transported by the grate]*;*

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

"CEM" Continuous emission monitor

"CEN" means Commité Européen de Normalisation

Conditions 2.3.3 to 2.3.9 inclusive apply to activity A3 only as described in schedule 1 tableS1.1

"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 NOx burners.

"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.

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

"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 MWth or more, based on gross calorific value.

"*Large Combustion Plant Directive"* means Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants.

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

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

"*mcr" means* maximum continuous rating.

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

"*National Emission Reduction Plan*" (NERP) is the plan issued by Defra in accordance with Article 4.6 of the Large Combustion Plants Directive and associated guidance.

"*NERP Register"* means the register maintained by the Environment Agency in accordance with regulation 6(1) of the Large Combustion Plants (National Emission Reduction Plan) Regulations 2007.

"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, 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.

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

"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.

"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.

"*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 or agreed in writing with the Environment Agency].

"*SI"* means site inspector

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

"TOC" means Total Organic Carbon. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC.

"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

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

Water Framework Directive Dangerous Substances and other plant protection substances are: aldrin, dieldrin, endrin, atrazine, endosulfan, hexachlorobenzene, simazine, trifluralin, azinphos methyl, fenitrothion, dichlorvos, cypermethrin, pentachlorophenol, hexachlorocyclohexane, TBT and chlorpyrifos.

"WID 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.

"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:

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

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

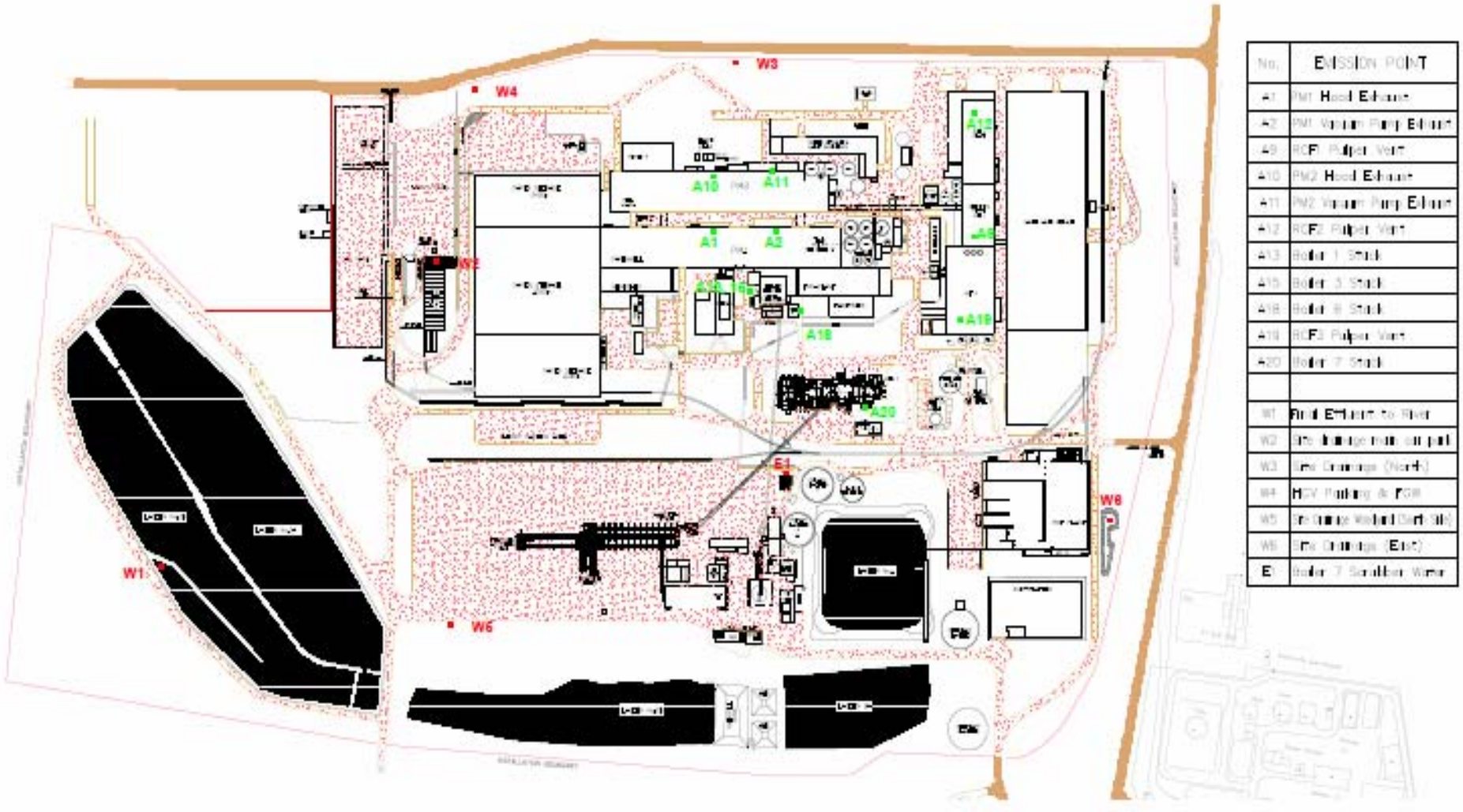
(c) in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry,

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 then the detection limit assumed to be at the detection limit as a maximum.

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

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



No.	EMISSION POINT
A1	PM1 Hood Exhaust
A2	PM1 Vacuum Pump Exhaust
A9	RCF Pulper Vent
A10	PM2 Hood Exhaust
A11	PM2 Vacuum Pump Exhaust
A12	RCF2 Pulper Vent
A13	Boiler 1 Stack
A15	Boiler 3 Stack
A18	Boiler 6 Stack
A19	RCF3 Pulper Vent
A20	Boiler 7 Stack
W1	Final Effluent to River
W2	Site drainage from oil pool
W3	Site Drainage (North)
W4	HGV Parking & RGR
W5	Site drainage Wetland (Surface)
W6	Site Drainage (East)
E	Boiler 7 Scrubber Water

END OF PERMIT

Permit Number: BT4885IT Operator: UPM-Kymmene UK Ltd

Facility: Shotton Paper Mill Form Number: A9

Release Point: A13, A15 & A18 (when in use) Time/Date of sampling: ……..

Discontinuous Measurement for the 3 months to …..20..

Discontinuous Measurement Form					
Pollutant & release point	**ELV (mg/m^3)**	**Measured value (mg/m^3)**	**Sampling method**	**Unit load (MW)**	**Fuel used during sampling period**
NOx - A13: Boiler Stack 1	450				
NOx - A15: Boiler Stack 3	150				
NOx - A18: Boiler Stack 6	150				

Please note: the measured value should be quoted at the appropriate reference conditions for the type of equipment being subject to emissions monitoring – see Schedule 7.

Signed ……. Date……..
(Authorised to sign as representative of Operator)

Permit Number: BT4885IT Operator: UPM-Kymmene UK Ltd

Facility: Shotton Paper Mill Form Number: W1

Reporting of emissions to water (other than to sewer) for the quarter from DD/MM/YYYY **to** DD/MM/YYYY

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
W1	BOD	25 mg/l	Weekly		BS EN 1899-1 (1998)		
W1	Total suspended solids	60 mg/l	Weekly. For 95% of all measured values of periodic samples taken over one month		BS EN 872		
W1	pH max	9	Instantaneous		BS6068-2.50		
W1	pH min	6	Instantaneous		BS6068-2.50		
W1	COD	-	Spot				
W1	Ammoniacal Nitrogen	4 mg/l	Spot				
W1	Temperature degrees Celsius	25^{o} Celsius	Continuous				
W1	Total Phosphorus	-	Spot				
W1	Maximum instantaneous Flow rate	800 l/s	24 hour period beginning 00:01				
W1	Maximum Daily Flow	22,000 m^3/day	Instantaneous				
W1	Maximum Tidal Flow	11,000 m^3/tide	Instantaneous				
W1	Cd (µg/m^3)	-					
W1	Hg (µg/m^3)	-					

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
W1	Fe (mg/m^3)	-					
W1	Mn (mg/m^3)	-					
W1	Zn (mg/m^3)	-					
W1	As (mg/m^3)	-					
W1	Cu (mg/m^3)	-					
W1	Cr (mg/m^3)	-					
W1	Ni (mg/m^3)	-					
W1	Pb (mg/m^3)	-					

The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..
(Authorised to sign as representative of Operator)

Permit Number: BT4885IT Operator: UPM-Kymmene UK Ltd

Facility: Shotton Paper Mill Form Number: Performance 2

Reporting of other performance indicators for the period DD/MM/YYYY **to** DD/MM/YYYY

Parameter	Units
BOD/ADT	Kg/ADT
Suspended Solids/ADT	Kg/ADT
Ammoniacal Nitrogen/ADT	Kg/ADT
Total Phosphorus/ADT	Kg/ADT
NOx/ADT	Tonnes/ADT
CO_2/ADT	Tonnes/ADT
Total MRF materials accepted for sorting	Tonnes
Total MRF facility throughput	Tonnes
Total MRF material sent for recycling off site	Tonnes
Total MRF material utilised on site for newsprint production	Tonnes
Total MRF material sent off site for disposal	Tonnes

Operator's comments :

Signed ……. Date……..

(Authorised to sign as representative of UPM-Kymmene UK Ltd)

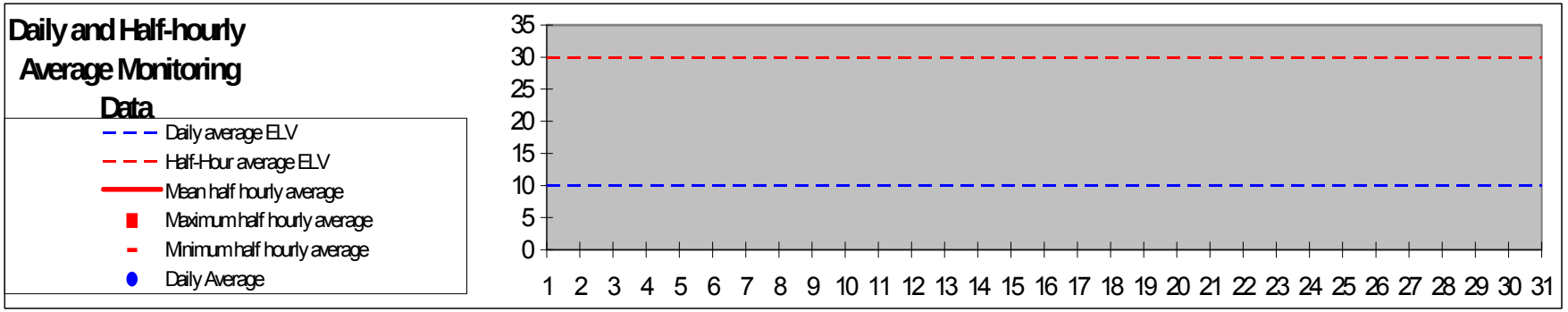
Permit Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : A2

Reporting of Continuously Monitored Emissions to Air for Particulates for the month of ……., 20__



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Half-hourly average			Half-Hour average ELV	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Monthly maximum	0	Maximum half hourly average																															
	Monthly mean	####	Mean half hourly average																															
	Monthly minimum	0	Minimum half hourly average																															
	Total invalid results	0	No. of invalid results																															
	Sum of exceedances	0	No. of exceedances of ELV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily average			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Monthly maximum	0	Daily Average																															
	No. of invalid days	0	Value valid? (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Sum of exceedances	0	Value exceeds ELV (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Signed ……. Date……..

(authorised to sign as representative of UPM-Kymmene UK Ltd)

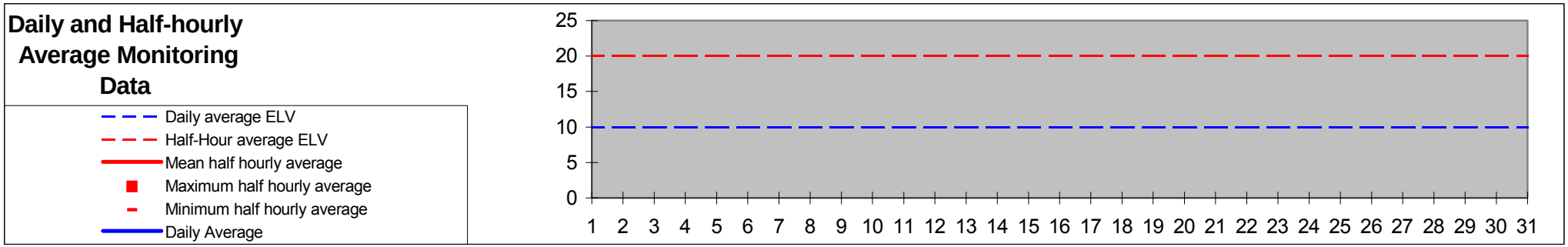
Permit Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility: Shotton Paper Mill

Form Number : A4

Reporting of Continuously Monitored Emissions to Air for TOC for the month of ……., 20__



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-Hour average ELV	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Half-hourly average	Monthly maximum	0	Maximum half hourly average																															
	Monthly mean	####	Mean half hourly average																															
	Monthly minimum	0	Minimum half hourly average																															
	Total invalid results	0	No. of invalid results																															
	Sum of exceedances	0	No. of exceedances of ELV																															
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily average	Monthly maximum	0	Daily Average																															
	No. of invalid days	0	Value valid?																															
	Sum of exceedances	0	Value exceeds ELV (Y/N)																															

Signed …… Date……..

(authorised to sign as representative of UPM-Kymmene UK Ltd)

Permit Number : BT4885IT

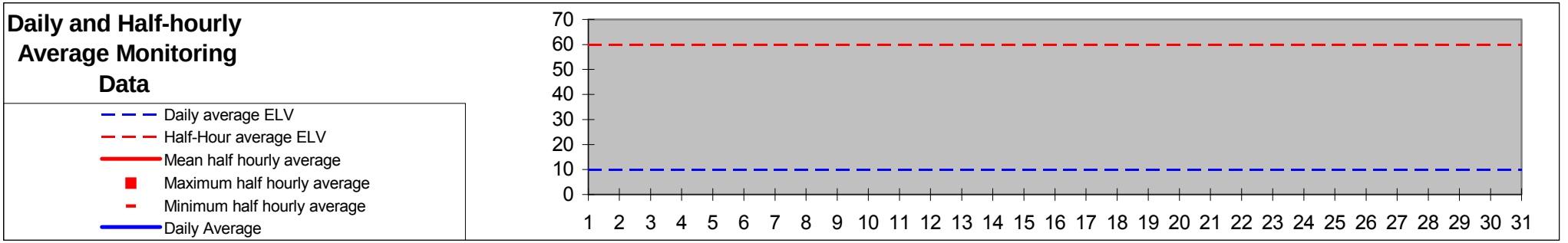
Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : A3

Reporting of Continuously Monitored Emissions to Air for Hydrogen Chloride for the month of ……., 20__

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-Hour average ELV	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Half-hourly average	Monthly maximum	0	Maximum half hourly average																															
	Monthly mean	####	Mean half hourly average																															
	Monthly minimum	0	Minimum half hourly average																															
	Total invalid results	0	No. of invalid results																															
	Sum of exceedances	0	No. of exceedances of ELV																															
			Daily average ELV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Daily average	Monthly maximum	0	Daily Average																															
	No. of invalid days	0	Value valid?																															
	Sum of exceedances	0	Value exceeds ELV (Y/N)																															

Signed …… Date……..

(authorised to sign as representative of UPM-Kymmene UK Ltd)

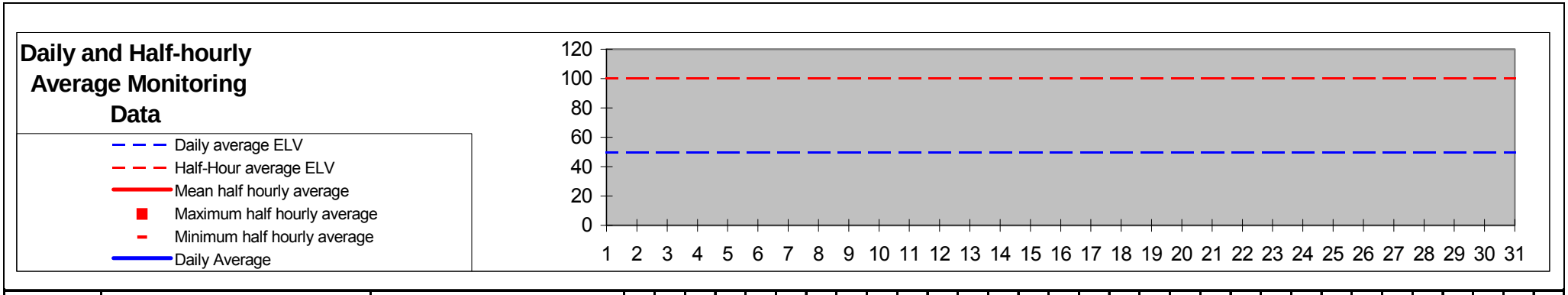
Permit Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : A5

Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide for the month of……, 20__



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-Hour average ELV	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Half-hourly average	Monthly maximum	0	Maximum half hourly average																															
	Monthly mean	####	Mean half hourly average																															
	Monthly minimum	0	Minimum half hourly average																															
	Total invalid results	0	No. of invalid results																															
	Sum of exceedances	0	No. of exceedances of ELV																															
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily average	Monthly maximum	0	Daily Average																															
	No. of invalid days	0	Value valid?																															
	Sum of exceedances	0	Value exceeds ELV (Y/N)																															

Signed ……. Date……..

(authorised to sign as representative of UPM-Kymmene UK Ltd)

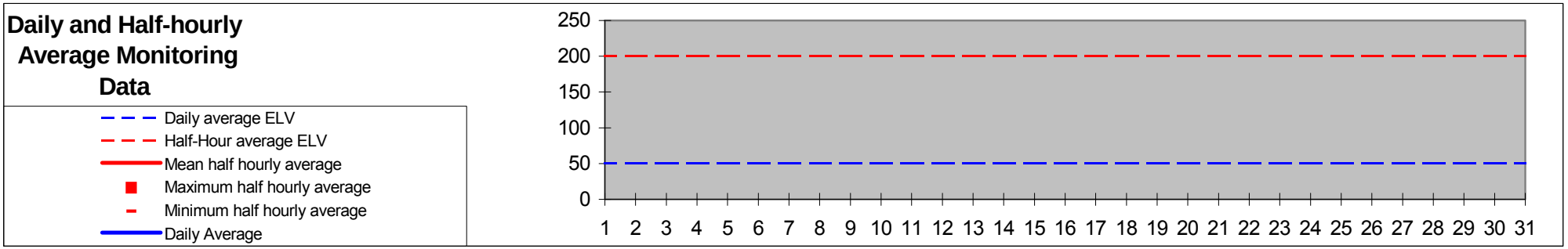
Permit Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : A6

Reporting of Continuously Monitored Emissions to Air for Sulphur Dioxide for the month of ……, 20__



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-Hour average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Half-hourly average	Monthly maximum	0	Maximum half hourly average																															
	Monthly mean	####	Mean half hourly average																															
	Monthly minimum	0	Minimum half hourly average																															
	Total invalid results	0	No. of invalid results																															
	Sum of exceedances	0	No. of exceedances of ELV																															
			Daily average ELV	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Daily average	Monthly maximum	0	Daily Average																															
	No. of invalid days	0	Value valid?																															
	Sum of exceedances	0	Value exceeds ELV (Y/N)																															

Signed …… Date……..

(authorised to sign as representative of UPM-Kymmene UK Ltd)

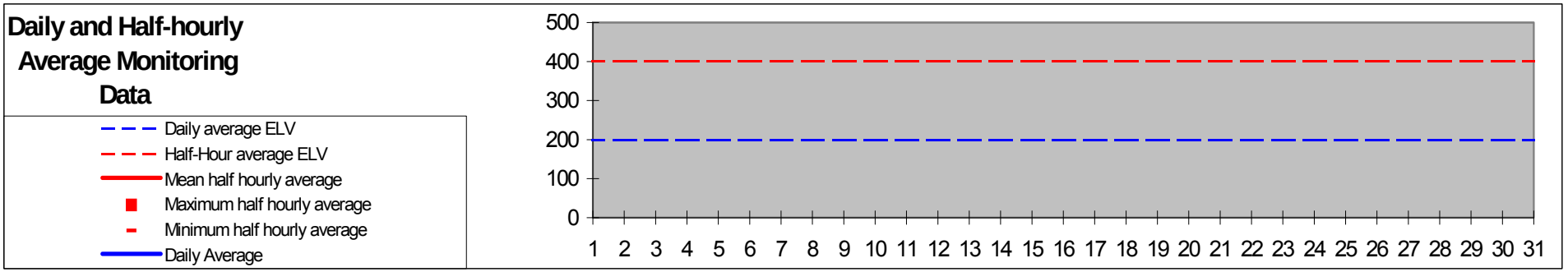
Permit Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : A7

Reporting of Continuously Monitored Emissions to Air for Oxides of Nitrogen for the month of ……, 20__



	Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
			Half-Hour average ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
Half-hourly average	Monthly maximum	0	Maximum half hourly average																															
	Monthly mean	#####	Mean half hourly average																															
	Monthly minimum	0	Minimum half hourly average																															
	Total invalid results	0	No. of invalid results																															
	Sum of exceedances	0	No. of exceedances of ELV																															
			Daily average ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Daily average	Monthly maximum	0	Daily Average																															
	No. of invalid days	0	Value valid?																															
	Sum of exceedances	0	Value exceeds ELV (Y/N)																															

Signed …… Date……..

(authorised to sign as representative of UPM-Kymmene UK Ltd)

Reporting of Continuously Monitored Emissions to Air for Ammonia for the month of ……, 20_

{insert chart}

Signed ……. Date……..
(authorised to sign as representative of UPM-Kymmene UK Ltd)

Permit Number: BT4885IT Operator: UPM-Kymmene UK Ltd

Facility: Shotton Paper Mill Form Number: A1

Reporting of periodically monitored emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A20	Hydrogen fluoride	2 mg/m^3	Periodic over minimum 1-hour period		BS ISO 15713		
A20	Nitrous Oxide (N_2O)	No limit applies	Periodic over minimum 1-hour period		FTIR		
A20	Cadmium & thallium and their compounds (total)	0.05 mg/m^3	over minimum 30 minute, maximum 8 hour period		BS EN 14385		
A20	Mercury and its compounds	0.05 mg/m^3	over minimum 30 minute, maximum 8 hour period		BS EN 13211		
A20	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m^3	over minimum 30 minute, maximum 8 hour period		BS EN 14385		
A20	Dioxins / Furans (I-TEQ)	0.1 ng/m^3	over minimum 6 hour period, maximum 8 hour period		BS EN 1948 Parts 1, 2 and 3		
A20	Dioxin like PCBs (WHO-TEQ Humans / Mammals) (5)	No limit applies	-		BS EN 1948 Parts 1, 2 and 3		
A20	Dioxin like PCBs (WHO-TEQ Fish)	No limit applies	-		BS EN 1948 Parts 1, 2 and 3		
A20	Dioxin like PCBs (WHO-TEQ Birds) (5)	No limit applies	-		BS EN 1948 Parts 1, 2 and 3		
A20	Dioxins / Furans (WHO – TEQ Humans / Mammals) (5)	No limit applies	-		BS EN 1948 Parts 1, 2 and 3		
A20	Dioxins / Furans (WHO – TEQ Fish)	No limit applies	-		BS EN 1948 Parts 1, 2 and 3		
A20	Dioxins / Furans (WHO –	No limit applies	-		BS EN 1948		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
	TEQ Birds)				Parts 1, 2 and 3		
A20	Poly-cyclic aromatic hydrocarbons (PAHs) Total	No limit applies	-		BS ISO 11338-1 & BS ISO 11338-2		
A20	Anthanthrene	No limit applies	-		BS ISO 11338-1 & BS ISO 11338-2		
A20	Benzo(a)anthracene	No limit applies	-				
A20	Benzo(b)fluoranthene	No limit applies	-				
A20	Benzo(k)fluoranthene	No limit applies	-				
A20	Benzo(b)naph(2,1-d)thiophene	No limit applies	-				
A20	Benzo(c)phenanthrene	No limit applies	-				
A20	Benzo(ghi)perylene	No limit applies	-				
A20	Benzo(a)pyrene	No limit applies	-				
A20	Cholanthrene	No limit applies	-				
A20	Chrysene	No limit applies	-				
A20	Cyclopenta(c,d)pyrene	No limit applies	-				
A20	Dibenzo(ah)anthracene	No limit applies	-				
A20	Dibenzo(ai)pyrene	No limit applies	-				
A20	Fluoranthene	No limit applies	-				
A20	Indo[1,2,3-cd]pyrene	No limit applies	-				
A20	Naphthalene	No limit applies	-				

[1] For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum

[2] The date and time of the sample that produced the result is given.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed ……. Date……..

(authorised to sign as representative of UPM-Kymmene UK Ltd)

Reporting of Emissions to Sewer for the period from ……to …….

Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Test Method	Sample Date and Times [2]	Uncertainty [3]
E1	Volumetric Flow	300m^3/day 24 hour period beginning 00:01		BS3680		
E1	pH	6(min) Instantaneous		BS 1647-2:1984		
E1	pH	9(max) Instantaneous		BS 1647-2:1984		
E1	Total suspended solids as defined by Directive 91/271/EEC	30mg/l for 95% of all measured values of periodic or flow proportional samples taken over one year. [1]		BS EN 872		
E1	Total suspended solids as defined by Directive 91/271/EEC	45mg/l periodic sample[1]		BS EN 872		
E1	Mercury and its compounds, expressed as mercury (Hg)	0.03 mg/l 24-hour flow proportional sample		BS EN 1483		
E1	Cadmium and its compounds, expressed as cadmium (Cd)	0.05 mg/l 24-hour flow proportional sample		BS 6068-2.89		
E1	Thallium and its compounds, expressed as thallium (Tl)	0.05 mg/l 24-hour flow proportional sample		BS 6068-2.89		
E1	Arsenic and its compounds, expressed as arsenic (As)	0.15 mg/l 24-hour flow proportional sample		BS 6068-2.60		
E1	Lead and its compounds, expressed as lead (Pb)	0.2 mg/l 24-hour flow proportional sample		BS 6068-2.60		
E1	Chromium and its compounds, expressed as chromium (Cr)	0.5 mg/l 24-hour flow proportional sample		BS 6068-2.60		
E1	Copper and its compounds, expressed as copper (Cu)	0.5 mg/l 24-hour flow proportional sample		BS 6068-2.60		

Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Test Method	Sample Date and Times [2]	Uncertainty [3]
E1	Nickel and its compounds, expressed as nickel (Ni)	0.5 mg/l 24-hour flow proportional sample		BS 6068-2.60		
E1	Zinc and its compounds, expressed as Zinc (Zn)	1.5 mg/l 24-hour flow proportional sample		BS 6068-2.60		
E1	Dioxins / Furans (I-TEQ)	0.3 ng/l – at least one measurement every six months		BS ISO 18703		

1. The result given is the maximum value obtained during the reporting period, expressed in the same terms as the emission limit value.
2. The date and time of measurements and the percentage of the process operating time covered by the result shall be given.
3. The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..
(authorised to sign as representative of UPM-Kymmene UK Lt

Reporting of residue quality for the period from ……to ……

Ash Composition (TOC/LOI)		
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$
Bottom Ash	*	*

- At least one of LOI or TOC to be reported.
-

Ash Composition (Metals, Dioxins, etc.)																
	Cd mg/kg	**Tl** mg/kg	**Hg** mg/kg	**Pb** mg/kg	**Cr** mg/kg	**Cu** mg/kg	**Mn** mg/kg	**Ni** mg/kg	**As** mg/kg	**Co** mg/kg	**V** mg/kg	**Zn** Mg/kg	**DIOXIN I-TEQ ng/kg**	**DIOXIN WHO-TEQ ng/kg**		
														Humans /	Birds	Fish
Bottom Ash																
APC Residues																

Signed …… Date……..
(authorised to sign as representative of UPM-Kymmene UK Ltd)

Reporting of Ash Solubility for the period from ……..to……

Ash solubility (Metals)												
	Cd mg/kg	**Tl** mg/kg	**Hg** mg/kg	**Pb** mg/kg	**Cr** mg/kg	**Cu** mg/kg	**Mn** mg/kg	**Ni** mg/kg	**As** mg/kg	**Co** mg/kg	**V** mg/kg	**Zn** mg/kg
Bottom Ash												
APC Residues												

Signed ……. Date……..
(authorised to sign as representative of UPM-Kymmene UK Ltd)

Permit Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : Performance 1

Reporting of WID Performance Indicators for the year 20_____

Quarterly Performance Parameters (WID Plant)		Units		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Mass of bottom/fly ash produced		Kg/tonne of waste incinerated (dry basis)					
Mass of combustor ash residues produced		Kg/tonne of waste incinerated (dry basis)					
Water consumption		M^3/tonne of waste incinerated (dry basis)					
Ammonia / Urea consumption		Kg/tonne of waste incinerated					
Electricity consumption		MWhr/tonne of waste incinerated (dry basis)					
Natural gas consumption		Tonne/tonne of waste incinerated (dry basis)					
Periods of WID Abnormal Operation		Number of Occasions					
		Cumulative Hours for Current Calendar Year					

Annual Production/Treatment			
RCF (De-inking sludge) waste incinerated			Tonnes
Biomass incinerated			Tonnes
Waste wood incinerated			Tonnes
Waste not otherwise specified incinerated			Tonnes
Thermal energy produced e.g. steam	LCP Plant		MWhrs
	WID Plant		MWhrs
Power Generated			MWHrs

Operator's comments :

Signed…… Date……..

(authorised to sign as representative of UPM Kymmene Limited)

Reporting of emissions to water (other than to sewer) and land for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission Limit Value	Result[1]				Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
			Min	Mean	Max	Total			
W1	Temperature degrees Celsius (when a discharge limit of 28^{O}C is permitted)	28^{O}C							
W1	Flow m^3/tide (when a discharge limit of 28^{O}C is permitted)	11,000 m^3/tide							
W1	Dissolved Oxygen mg/l (when a discharge limit of 28^{O}C is permitted)	-							

Notes:

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed ……. Date……..

(Authorised to sign as representative of Operator)