

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Sofidel UK Limited

Baglan Paper Mill
Brunel Way
Baglan Energy Park
Briton Ferry
Neath
United Kingdom
SA11 2FP

Permit number
EPR/BU2489IT

Baglan Paper Mill

Permit number EPR/BU2489IT

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The main purpose of the activities at the installation is to produce paper tissue from imported wood pulp. The paper tissue is formed into a variety of products including toilet paper and kitchen rolls.

Pre-formed virgin wood pulp is imported in the form of bales. Water is added and then the diluted wood pulp is spread and dried to form tissue paper, which is then converted into the final products. The water removed during the drying process is recycled via the on-site primary wastewater treatment plant.

Steam for the papermaking process is currently generated by a standalone gas fired boiler. However, the site is permitted to operate an 8MWth (input) small waste wood co-incineration plant to generate steam.

Emissions to water are treated by on-site secondary water treatment plant before being discharged. The effluent plant consists of a bioreactor and a Dissolved Air Flotation Unit. The treated water is discharged into the Welsh Water outfall and then via a series of diffusers into Swansea Bay.

There are a number of SSSI in the area, which include Crymlyn Bog, Crymlyn Burrows, Pant-y-Sais and the Earlswood Road Cutting and Ferryboat Inn Quarries.

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

Status log of the permit		
Description	Date	Comments
Application BU2489 received (EPR/BU2489IT/A001)	31/03/2003	-
Response to request for information	1 st Schedule 4 notice, Dated 19/05/2003	Response received 03/07/03
	2 nd Schedule 4 notice, Dated 24/07/2003	Response received 08/09/03

Status log of the permit

Description	Date	Comments
Request by Environment Agency to extend determination from 30/10/03 to 30/12/03	Request dated 10/09/2003	Request accepted 22/09/03
Permit determined BU2489	30/01/2004	-
Variation application received (EPR/BU2489IT/V002)	18/07/2006	Determined 13/9/2006
Variation Initiated by the Environment Agency (EPR/BU2489IT/V003)	08/08/2007	Determined 22/8/2007
Regulation 16 Application (EPR/BU2489IT/V004)	28/03/2008	-
Variation Initiated by the Environment Agency GP3636XZ (EPR/BU2489IT/V005)	29/03/2008	Determined 8/5/2008
Variation application EPR/BU2489IT/V006	08/02/2010	Determined 22/02/10
Environment Agency Paper and Pulp Sector Review 2011 Variation determined EPR/BU2489IT/V007	09/01/2012	Varied and consolidated permit issued in modern condition format
Regulation 60 Notice	19/11/2014	Request for Operator to demonstrate compliance with revised technical standards detailed in revised BREF Note.
Regulation 60 response	30/03/2015	Operator response providing information to demonstrate that relevant BAT conclusions are met for the production of paper, pulp and board
Variation application received (PAN-000045)	14/12/2015	Application to include 8MWth waste wood co-incineration plant for generation of steam
Natural Resources Wales Variation Application EPR/BU2489IT/V008 (Variation and Consolidation)	31/03/2016	Natural Resources Wales Variation and consolidation following the implementation of the Industrial Emissions Directive
Additional information requested	14/04/2016	Electronic copy of Opra spreadsheet, clarification of CEMS failure procedure, and waste codes to be accepted, requested
Additional information received	04/05/2016	Electronic copy of Opra spreadsheet, clarification of CEMS failure procedure, and waste codes to be accepted, received

Status log of the permit		
Description	Date	Comments
Variation application PAN-000045 Variation number EPR/BU2489IT/V009 (Variation and Consolidation)	03/06/2016	Determined Permit varied and consolidated to include 8MWth waste wood co- incineration plant
Application EPR/BU2489IT/T010	Duly made 15/10/2019	Application to transfer the permit in full from Intertissue Limited to Sofidel UK Limited
Application EPR/BU2489IT/T010	11/12/2019	Full transfer of permit complete

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number
EPR/BU2489IT

This is the consolidated permit referred to in the transfer notice for application
EPR/BU2489IT/T010 authorising,

Sofidel UK Limited (“the operator”),

whose registered office is

**Brunel Way
Baglan Energy Park
Briton Ferry
Neath
United Kingdom
SA11 2FP**

company registration number 02245657

to operate an installation at

**Baglan Paper Mill
Brunel Way
Baglan Energy Park
Briton Ferry
Neath
United Kingdom
SA11 2FP**

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

Name	Date
Holly Noble	11/12/2019

Authorised on behalf of Natural Resources Wales

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

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

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

- 1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

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

2.2 The site

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

2.3 Operating techniques

- 2.3.1 (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 Natural Resources Wales.
- (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 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 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.
- 2.3.4 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.
- 2.3.5 Waste shall only be accepted, for co-incineration, if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer or holder; and
 - (c) it having been separately collected for recycling, it is subsequently unsuitable for recovery by recycling.
- 2.3.6 Waste shall not be charged, or shall cease to be charged, for co-incineration, if:
- (a) the combustion chamber temperature is below, or falls below, 850°C; or
 - (b) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than under abnormal operating conditions; or
 - (c) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than under abnormal operating conditions.
- 2.3.7 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 2.3.6, as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.6 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.
- 2.3.8 The operator shall record the beginning and end of each period of “abnormal operation” for the co-incineration plant.
- 2.3.9 During a period of “abnormal operation” within the co-incineration plant, the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.
- 2.3.10 Where, during “abnormal operation”, on a co-incineration line, any of the following situations arise, waste shall cease to be charged on that line until normal operation can be restored:
- (a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 due to disturbances or failures of the abatement systems, or continuous emission monitor(s) are out of service, as the case may be, for a total of 4 hours uninterrupted duration; and
 - (b) the cumulative duration of “abnormal operation” periods over 1 calendar year has reached 60 hours.
- 2.3.11 The operator shall interpret the end of the period of “abnormal operation”, for the co-incineration plant, 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 Natural Resources Wales;

- (c) when a period of four hours has elapsed from the start of the “abnormal operation”;
- (d) when, in any calendar year, an aggregated period of 60 hours “abnormal operation” has been reached.

2.3.12 Bottom ash and APC residues shall not be mixed.

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

2.5 Pre-operational conditions

- 2.5.1 Activity A5 in table S1.1 shall not be brought into operation until the measures specified in table S1.4 have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2 except in “abnormal operation”, when there shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.
- 3.1.4 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.5. Additional samples shall be taken and tested and appropriate action taken, whenever:
 - (a) disposal or recovery routes change; or
 - (b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be 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 Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 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 Monitoring

- 3.3.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2;
 - (b) process monitoring specified in table S3.4;
 - (c) residue quality in table S3.5.
- 3.3.2 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.
- 3.3.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.
- 3.3.4 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 and S3.2 unless otherwise agreed in writing by Natural Resources Wales.

- 3.3.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements for emission to air point A6 in schedule 3 table S3.1; 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 3.3.5 (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.

3.4 Odour

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

3.5 Noise and vibration

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

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 Natural Resources Wales, 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 Natural Resources Wales.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) 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 S4.4; and
 - (c) the performance parameters set out in schedule 4 table S4.2 using the forms specified in table S4.3 of that schedule.
 - (d) the functioning and monitoring of the incineration plant in a format agreed with Natural Resources Wales. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, 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 S4.3; 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 Natural Resources Wales, 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 Natural Resources Wales using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

- 4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
- (i) inform Natural Resources Wales,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) in the event of a breach of any permit condition the operator must immediately—
- (i) inform Natural Resources Wales, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on

the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

- 4.3.2 Any information provided under condition 4.3.1(a)(i) or 4.3.1(b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 Natural Resources Wales 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.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 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) Natural Resources Wales 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 Natural Resources Wales 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, Natural Resources Wales 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.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately”, in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
A1	S6.1 A1 (b)	Producing, in industrial plant, paper and board where the plant has a production capacity of more than 20 tonnes per day. Production of paper tissue in one paper machine.	Receipt of paper pulp and other raw materials to dispatch of finished goods
A2	S5.4 A1 (a) (ii)	Physico-chemical treatment	Effluent from paper mill and on-site power generation facility only
Directly Associated Activity			
A4	Combustion Plant	Provision of steam for use in the process by burning of natural gas in one boiler with a 10.5 MW thermal input, and a 12.6 MW gas-fired paper drier.	Combustion of fuel to release of combustion gases to atmosphere The 10.5 MW thermal input combustion plant will be maintained in hot standby to supplement the waste wood co-incinerator plant if required.
A5	Waste wood co-incineration plant for the co-incineration of waste wood and virgin wood for the purposes of generating steam for use in the paper-making process	Small waste co-incineration plant for the co-incineration of non-hazardous waste wood biomass in a single co-incineration line with a 8MW thermal input	From receipt of waste to emission of exhaust gas and disposal of waste arising Waste types and quantities as specified in Table S2.2 of this permit

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The responses to questions B2.1, B2.2, B2.3, B2.4, B2.5, B2.6, B2.7.1, B2.7.2, B2.7.3, B2.8, B2.9, B2.10, B2.11 and B3.1 given in Sections 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7.0, 2.7.1, 2.7.2, 2.7.3, 2.8, 2.9, 2.10, 2.11 and Part 3 of the application	31 March 2003
Response to 1 st Schedule 4 notice	All responses	03 July 2003
Response to 2 nd Schedule 4 notice	All responses	08 September 2003
Variation Application	All	17 July 2006
Regulation 16 Application	All	28 March 2008

Table S1.2 Operating techniques

Description	Parts	Date Received
Report on monitoring standards for discharges to surface waters received in response to IC1 issued 9 th January 2012	Full report	03 April 2012
Regulation 60 Notice response	All parts including supporting documents	30 March 2015
Application PAN-000045 (Variation number EPR/BU2489IT/V009)	<p>Application form C3:</p> <p>Response to question 3a – Section 1.6 of the application supporting information describing the process operation;</p> <p>Response to question 3b – Environmental Risk assessment in Annex 4 of the application describing the control measures in place to mitigate noise, fugitive releases and accidents;</p> <p>Response to Q3c – Section 2.1 of the application supporting information describing the raw materials and reagents to be used;</p> <p>Response to Appendix 6, Q4 – Section 2.1.4 of the application supporting information describing how the plant meets IED requirements;</p> <p>Response to Appendix 6, Q5 – Section 2.6 of the application supporting information describing energy efficiency measures;</p> <p>Response to Appendix 6, Q6 – Sections 2.1.4 and 2.7 of the application supporting information describing residue recovery and disposal; and</p> <p>Response to Appendix 6, Q7 – confirming that stand-by spares will be available in the event of failure of the duty CEMS.</p> <p>Response to request for information dated 14/04/2016 – confirming procedure for repairing the duty CEMS in the event of its failure.</p> <p>The application supporting information also includes a description of:</p> <ul style="list-style-type: none"> • plant capacity • the waste feed cessation system • start-up and shut down • temperature monitoring in the combustion chamber • energy recovery from the installation • temperature, oxygen, water vapour and pressure at air release sampling points 	Duly made 14 th December 2015
Response to Improvement Condition IC 3 as approved in writing by Natural Resources Wales	As stated in written approval to the response to Improvement Condition IC 3.	Post issue of the Variation number EPR/BU2489IT/V009)

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC1	<p>If storing Priority Hazardous Substances on site, the Operator must carry out the following assessments with reference to the Environment Agency's guidance "<i>How to carry out a risk assessment if you're applying for a bespoke permit that includes discharging hazardous pollutants to surface water</i>",</p> <ul style="list-style-type: none"> Phase 1 Part A screening tests for mercury, cadmium, nickel, lead, benzene, polyaromatic hydrocarbons and any other relevant substances. Phase 1 Part B screening tests for mercury, cadmium, polyaromatic hydrocarbons and any other relevant priority hazardous substances. For any substance which is not screened out by the Phase 1 Part A or Part B screening tests the Operator will also need to carry out Phase 2 modelling, as described in "<i>How to carry out a risk assessment if you're applying for a bespoke permit that includes discharging hazardous pollutants to surface water</i>". <p>The Operator must provide Natural Resources Wales with the results of the emissions monitoring, the results from the screening tests and the results from any Phase 2 modelling. The Operator may use the Environment Agency's H1 electronic screening tool to present the emissions data and to carry out the Phase 1 screening tests.</p> <p>Note: With regard to the Phase 1 Part A screening - a full list of relevant substances is provided in the Environment Agency guidance "<i>How to carry out a risk assessment if you're applying for a bespoke permit that includes discharging hazardous pollutants to surface water</i>" under the section entitled "<i>Screening test: priority hazardous pollutants</i>". The Operator must review the list and carry out the screening for any substances, in addition to those specified above, that may be present in the installations discharges to surface water. With regard to the Phase 1 Part B screening for priority hazardous pollutants, the section entitled "<i>Screening test: priority hazardous pollutants</i>" provides a full list of relevant priority hazardous substances and their associated annual significant loads.</p>	Completed (See CAR form 20/12/2016)
IC2	The Operator shall submit a report on the baseline conditions of soil and groundwater at the installation. The report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for in Article 22(3) of the IED. The report shall contain information, supplementary to that already provided in the application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.	Completed (See CAR form 23/02/2018)
IC 3	The Operator shall submit a written report to Natural Resources Wales for approval on the commissioning of the waste wood co-incineration plant referred to in activity A5 in table S1.1 on commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in variation application PAN-000045 (Variation number EPR/BU2489IT/V009). The report shall also include a review of the performance of the facility against the conditions of the permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions.	Within four months of commissioning of the waste wood co-incineration plant

IC 4	The Operator shall submit a written report to Natural Resources Wales that demonstrates that the operation of the waste wood co-incineration plant referred to in activity A5 in table S1.1 has been incorporated in its Environmental Management System.	Within six months of commissioning of the waste wood co-incineration plant
IC 5	With reference to the waste wood co-incineration plant referred to in activity A5 in table S1.1, the Operator shall submit a written report to Natural Resources Wales which presents the results of calibration and verification testing to confirm that the performance of Continuous Emissions Monitors for parameters as specified within tables S3.1 complies with the requirements of BS EN 14181 (specifically the requirements of QAL1, QAL2 and QAL3)	Initial calibration report to be submitted to Natural Resources Wales within three months of completion of commissioning Full summary of evidence compliance report to be submitted within 18 months of commissioning
IC 6	With reference to the waste wood co-incineration plant referred to in activity A5 in table S1.1, the Operator shall carry out checks to verify the residence time, minimum temperature and oxygen content of the exhaust gases in the furnace whilst operating under the anticipated most unfavourable operating conditions. The results shall be submitted in writing to Natural Resources Wales	Within four months of the completion of commissioning
IC 7	The Operator shall submit a written proposal to Natural Resources Wales to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point A6, identifying the fractions within the PM ₁₀ , and PM _{2.5} ranges. The proposal shall include a timetable for approval by Natural Resources Wales to carry out such tests and produce a report on the results. On receipt of written agreement by Natural Resources Wales to the proposal and timeline, the Operator shall carry out the tests and submit to Natural Resources Wales a report on the results	Within six months of completion of commissioning of the waste wood co-incineration plant referred to in activity A5 in Table S1.1
IC 8	<p>The Operator shall submit a written report to Natural Resources Wales describing the performance and optimisation of the Selective Non Catalytic Reduction (SNCR) system and combustion settings to minimise oxides of nitrogen (NO_x) emissions within the emission limit values described in this permit with the minimisation of nitrous oxide emissions. This report shall include an assessment of the level of NOX and N2O emissions that can be achieved under optimum operating conditions.</p> <p>The report shall also provide details of the optimisation (including dosing rates) for the control of acid gases and dioxins.</p>	Within four months of the completion of commissioning of the waste wood co-incineration plant referred to in activity A5 in Table S1.1

IC 9	<p>The Operator shall carry out an assessment of the impact of emissions to air of all the following component metals subject to emission limit values: Cd, As, Cr(VI), Pb, Mn and Ni. A report on the assessment shall be made available to Natural Resources Wales.</p> <p>Emissions monitoring data obtained during the first year of operation shall be used to compare the actual emissions with those assumed in the impact assessment submitted with variation application PAN-000045 (Variation number EPR/BU2489IT/V009). An assessment shall be made of the impact of each metal against the relevant EQS/EAL. In the event that the assessment shows that an EQS/EAL can be exceeded, the report shall include proposals for further investigative work to determine whether the emissions of these metals from the site can be further reduced.</p>	<p>Within 15 months of the completion of commissioning</p>
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Table S1.4 Pre-operation conditions

Reference	Pre-operational measures
PO 1	At least two months prior to commencement of commissioning of the waste wood co-incineration plant referred to in activity A5 in table S1.1, the Operator shall provide a written commissioning plan, including timelines for completion, for approval by Natural Resources Wales. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions taken to protect the environment and report to Natural Resources Wales in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved
PO 2	At least two months prior to the commencement of commissioning of the waste wood co-incineration plant referred to in activity A5 in table S1.1, the Operator shall submit a written report to Natural Resources Wales which confirms and justifies the selection of the reagent to be used within the SNCR system. The report shall also include details of the procedures in place for the safe handling and management of the reagent and an assessment of the level of oxides of nitrogen and nitrous oxide emissions that can be achieved under optimum operating conditions
PO 3	At least three months prior to the commencement of commissioning of the waste wood co-incineration plant referred to in activity A5 in table S1.1, the Operator shall submit a written report to Natural Resources Wales which confirms whether or not flue gas recirculation (FGR) has been included in the final design of the plant. The report shall demonstrate how the chosen design will minimise the impact on the environment (including waste generated / raw material used)
PO 4	At least one month prior to the commencement of commissioning of the waste wood co-incineration plant referred to in activity A5 in table S1.1, the Operator shall submit a written report to Natural Resources Wales for approval a protocol for the sampling and testing of co-incinerator bottom ash for the purposes of assessing its hazard status. Sampling and testing shall be carried out in accordance with the protocol as approved
PO 5	After completion of furnace design and at least three calendar months before any furnace operation; the operator shall submit a written report to Natural Resources Wales of the details of the computational fluid dynamic (CFD) modelling. The report shall demonstrate whether the design combustion conditions comply with the residence time and temperature requirements as defined by the Industrial Emissions Directive.

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels

Raw materials and fuel description	Specification
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Table S2.2 Permitted waste types and quantities for Waste Wood Co-incineration plant

Maximum quantity	25,000 tonnes per annum
Waste code	Description
02	Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting and Fishing, Food Preparation and Processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 07	wastes from forestry
03	Wastes from Wood Processing and the Production of Panels and Furniture, Pulp, Paper and Cardboard
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
15	Waste Packaging; Absorbents, Wiping Cloths, Filter Materials and Protective Clothing not otherwise specified
15 01	packaging (including separately collected municipal packaging waste)
15 01 03	wooden packaging
17	Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 02	wood, glass and plastic
17 02 01	wood
19	Wastes from Waste Management Facilities, Off-site Waste Water Treatment Plants and the Preparation of Water Intended for Human Consumption and Water for Industrial Use
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than that mentioned in 19 12 06
20	Municipal Wastes (Household waste and similar commercial, industrial and institutional wastes) Including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 38	wood other than that mentioned in 20 01 37

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A2 on site plan	Particulate matter	Paper machine dust removal.	10 mg/m ³	Spot	Six Monthly	BS EN 13284
A3 on site plan	Particulate matter	Exhaust to reel system	10 mg/m ³	Spot	Six Monthly	BS EN 13284
A4 on site plan	No parameters set	Gas hood exhaust	No limit set	-	-	-
A5 on site plan	No parameters set	Boiler exhaust	No limit set	-	-	-
A6 on site plan	Particulate matter	Waste Wood co-incineration plant	45 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
	Particulate matter		15 mg/m ³	Daily average	Continuous measurement	BS EN 14181
	Total organic carbon (TOC)		30 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
	Total organic carbon (TOC)		15 mg/m ³	Daily average	Continuous measurement	BS EN 14181

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
	Hydrogen chloride		90 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
	Hydrogen chloride		15 mg/m ³	Daily average	Continuous measurement	BS EN 14181
	Hydrogen fluoride		3 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
	Hydrogen fluoride		1.5 mg/m ³	Daily average	Continuous measurement	BS EN 14181
	Carbon monoxide		150 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
	Carbon monoxide		75 mg/m ³	Daily average	Continuous measurement	BS EN 14181
	Sulphur dioxide		300 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
	Sulphur dioxide		75 mg/m ³	Daily average	Continuous measurement	BS EN 14181
	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)		600 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)		300 mg/m ³	Daily average	Continuous measurement	BS EN 14181

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
	Cadmium & thallium and their compounds (total)		0.05 mg/m ³	Periodic over minimum 30 minute, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN 14385
	Mercury and its compounds		0.05 mg/m ³	Periodic over minimum 30 minute, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN 13211
	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)		0.5 mg/m ³	Periodic over minimum 30 minute, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN 14385
	Dioxins / furans (I- TEQ)		0.1 ng/m ³	Periodic over minimum 30 minute, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN 1948 Parts 1, 2 and 3
	Ammonia (NH ₃)		No limit set	Daily average	Continuous measurement	BS EN 14181
	Nitrous oxide (N ₂ O)		No limit set	Daily average	Continuous measurement	BS EN 14181
	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)		No limit set	Periodic over minimum 6 hour, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN/TS 1948-4
	Dioxin-like PCBs (WHO-TEQ Fish)			Periodic over minimum 6 hour, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN/TS 1948-4
	Dioxin-like PCBs (WHO-TEQ Birds)			Periodic over minimum 6 hour, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN/TS 1948-4

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.		No limit set	Periodic over minimum 6 hour, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS ISO 11338 Parts 1 and 2
	Dioxins / furans (WHO-TEQ Humans / Mammals)		No limit set	Periodic over minimum 6 hour, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN 1948 Parts 1, 2 and 3
	Dioxins / furans (WHO-TEQ Fish)			Periodic over minimum 6 hour, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN 1948 Parts 1, 2 and 3
	Dioxins / furans (WHO-TEQ Birds)			Periodic over minimum 6 hour, maximum 8 hour period	Quarterly in the first year, then bi-annual	BS EN 1948 Parts 1, 2 and 3

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method [Note 1]
W1 [SS 72540 91890]	Maximum Daily Flow	On-site biological effluent treatment plant	850m ³ /day [Note 2]	24 hours	Continuous	MCERTS self-monitoring of effluent flow scheme
W1 [SS 72540 91890]	Mean Daily Flow	On-site biological effluent treatment plant	-	24 hours	Daily	MCERTS self-monitoring of effluent flow scheme
W1 [SS 72540 91890]	Flow rate	On-site biological effluent treatment plant	30 l/s	Instantaneous	Continuous	MCERTS self-monitoring of effluent flow scheme
W1 [SS 72540 91890]	Temperature	On-site biological effluent treatment plant	40°C	Instantaneous	Continuous	Standard temperature sensor
W1 [SS 72540 91890]	pH maximum	On-site biological effluent treatment plant	9	Instantaneous	Continuous	MCERTS self-monitoring of effluent flow scheme
W1 [SS 72540 91890]	pH minimum	On-site biological effluent treatment plant	6	Instantaneous	Continuous	MCERTS self-monitoring of effluent flow scheme
W1 [SS 72540 91890]	Suspended solids	On-site biological effluent treatment plant	100mg/l	Spot sample	Daily	BS EN 872:2005

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method [Note 1]
W1 [SS 72540 91890]	Chemical Oxygen Demand (COD)	On-site biological effluent treatment plant	No limit set	Spot sample	Daily	MCERTS - Performance Standards and Test Procedures for Continuous Water Monitoring Equipment
W1 [SS 72540 91890]	Total Nitrogen	On-site biological effluent treatment plant	No limit set	24-hour flow proportional composite sample	Weekly	MCERTS - Performance Standards and Test Procedures for Continuous Water Monitoring Equipment
W1 [SS 72540 91890]	Total Phosphorous	On-site biological effluent treatment plant	No limit set	24-hour flow proportional composite sample	Weekly	MCERTS - Performance Standards and Test Procedures for Continuous Water Monitoring Equipment

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method [Note 1]
W1 [SS 72540 91890]	Biological Oxygen Demand (BOD)	On-site biological effluent treatment plant	25mg/l	24-hour flow proportional composite sample	Weekly	MCERTS - Performance Standards and Test Procedures for Continuous Water Monitoring Equipment
W1 [SS 72540 91890]	AOx	On-site biological effluent treatment plant	No limit set	24-hour flow proportional composite sample	Every two months	BS EN ISO 9562 or other method as agreed in writing with Natural Resources Wales
W1 [SS 72540 91890]	Total cadmium and its compounds	On-site biological effluent treatment plant	No limit set	24-hour flow proportional composite sample	Quarterly	BS EN ISO 5961:1995
W1 [SS 72540 91890]	Individual concentrations of the following total and dissolved metals and their compounds: Fe, Pb, Zn, As, Cu, Cr, Ni and Cd	On-site biological effluent treatment plant	No limit set	24-hour flow proportional composite sample	Annually	BS EN ISO 15586:2003
W1 [SS 72540 91890]	Total mercury and its compounds	On-site biological effluent treatment plant	No limit set	24-hour flow proportional composite sample	Quarterly	BS EN 1483:2007

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method [Note 1]
W1 [SS 72540 91890]	Priority Hazardous Substances Screen	On-site biological effluent treatment plant	No limit set	24-hour flow proportional composite sample	Annually	GC/MS analysis to be carried out by UKAS accredited laboratory
W2 (SS 73061, 93116) [Note 3]	-	Uncontaminated surface water	No limit set	-	-	-
W3 (SS 73083, 93137) [Note 3]	-	Uncontaminated surface water	No limit set	-	-	-

Note 1: 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 frequency.

Note 2: Limit does not apply to start up or shut down periods.

Note 3: The receiving waters are the River Neath via an oil interceptor.

Table S3.3 Annual limits

Substance	Medium	Limit (including unit)
Chemical Oxygen Demand (COD)	Water	1.5 kg/t
Total suspended solids (TSS)	Water	0.35 Kg/t
Total nitrogen	Water	0.15 kg/t
Total phosphorus	Water	0.012 kg/t
Adsorbable organically bound halogens (AOX)	Water	0.05 kg/t

Table S3.4 Process monitoring requirements

Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Location close to the Combustion Chamber inner wall or as identified and justified in Application	Temperature (° C)	Continuous	Traceable to national standards	As agreed in writing with Natural Resources Wales
A6	Exhaust gas temperature	Continuous	Traceable to national standards	As agreed in writing with Natural Resources Wales
A6	Exhaust gas pressure	Continuous	Traceable to national standards	As agreed in writing with Natural Resources Wales
A6	Exhaust gas oxygen content	Continuous	BS EN 14181	-
A6	Exhaust gas water vapour content	Continuous	BS EN 14181	Unless gas is dried before analysis of emission
Bag Filter	Pressure drop	Continuous	Not applicable	-

Table S3.5 Residue Quality

Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method *	Other specification
Bottom Ash (including boiler ash)	Total Organic Carbon (TOC)	<3%	Monthly in the first year of operation, then quarterly	Environment Agency ash sampling protocol	-
Bottom Ash (including boiler ash)	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs	No Limit Set	Monthly in the first year of operation, then quarterly	Sampling and analysis as per Environment Agency ash sampling protocol	-
Bottom Ash (including boiler ash)	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No Limit Set	Before use of a new disposal or recycling route	Sampling and analysis as per Environment Agency ash sampling protocol	-
APC Residues	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs	No Limit Set	Monthly in the first year of operation, then quarterly	Sampling and analysis as per Environment Agency ash sampling protocol	-
APC Residues	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No Limit Set	Before use of a new disposal or recycling route	Sampling and analysis as per Environment Agency ash sampling protocol	-
* Or other equivalent standard as agreed in writing with Natural Resources Wales					

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.3.1.	A2, A3	Every 6 months	30/09/2018
Emissions to air Parameters as required by condition 3.3.1	A6	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total Organic Carbon Parameters as required by condition 3.3.1	Bottom Ash (including Boiler Ash)	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.3.1	Bottom Ash (including Boiler Ash)	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.3.1	Bottom Ash (including Boiler Ash)	Before use of a new disposal or recycling route	-
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.3.1	APC Residues	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.3.1	APC Residues	Before use of a new disposal or recycling route	-
Functioning and monitoring of the co-incineration plant as required by condition 4.2.2.	-	Annually	1 Jan

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to water Parameters as required by condition 3.3.1	W1	Every 12 months	30/09/2018

Table S4.2 Performance parameters

Parameter	Frequency of assessment	Units
Total Energy Used	Annually	MWh
Effluent discharged	Quarterly	m ³
Water usage	Annually	Tonnes
Chemical Oxygen Demand	Annually	kg/t
Total Suspended Solids	Annually	kg/t
Total Nitrogen	Annually	kg/t
Total Phosphorus	Annually	kg/t
Adsorbable organically bound halides (AOX)	Annually	kg/t
Mass of Bottom Ash (including Boiler Ash) produced	Quarterly	tonnes/tonne of waste co-incinerated
Mass of APC residues produced	Quarterly	Tonnes/tonne of waste co-incinerated
Ammonia / Urea consumption ¹	Quarterly	Tonnes/tonne of waste co-incinerated
Activated Carbon consumption	Quarterly	Tonnes/tonne of waste co-incinerated
Lime consumption	Quarterly	Tonnes/tonne of waste co-incinerated
Water consumption	Quarterly	M ³ /tonne of waste co-incinerated
Periods of abnormal operation for the co-incineration plant	Quarterly	Number of occasions and cumulative hours for current calendar year

¹ Subject to response to Pre-operational Condition PO 2

Table S4.3 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by Natural Resources Wales	30/09/18
Water	Form water 1 or other form as agreed in writing by Natural Resources Wales	30/09/18
Other performance indicators	Form performance 1 or other form as agreed in writing by Natural Resources Wales	30/09/18
Resource Efficiency	Form Performance 2 or other form as agreed in writing by Natural Resources Wales	30/09/18
Waste subject to condition 4.2.5	Waste tonnage return form from the Natural Resources Wales website or other form as agreed in writing by Natural Resources Wales	n/a
Residues	Form Residues 1 or other form as agreed in writing by Natural Resources Wales	30/09/18

Table S4.3 Reporting forms

Media/parameter	Reporting format	Date of form
Energy usage	Form Energy 1 or other form as agreed in writing by Natural Resources Wales	30/09/18

Table S4.4 Annual production/treatment

Parameter	Units
Total Waste Wood Received ⁽¹⁾	tonnes
Total Waste Wood Co-incinerated	tonnes
Thermal energy produced e.g. steam	MWh
Thermal energy used on installation	MWh
Total Bottom Ash (including Boiler Ash) produced	tonnes
Total APC residue produced	tonnes
¹ All waste wood delivered to the installation, including waste which is subsequently rejected	

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 activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
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 permit condition	
To be notified immediately	
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) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:

To be notified immediately	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

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

“abnormal operation” means any technically unavoidable stoppages, disturbances, or failures of the 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.

“accident” means an accident that may result in pollution. AOX is adsorbable organic halides measured according to the EN ISO:9562 standard method for waste waters.

“APC residues” means air pollution control residues

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

“authorised officer” means any person authorised by Natural Resources Wales 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

“boiler ash” means ash collected at the bottom of the boiler passes

“bottom ash” means ash transported by the grate

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

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

“Completion of Commissioning” means the date on which directly associated activity A5 as given in Table S1.1 of Schedule 1 activity is first operated

“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 IIA to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

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

“emissions to land” includes emissions to groundwater

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 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.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“hazardous property” has the meaning given in Schedule 3 of the Hazardous Waste (England and Wales) Regulations 2005 No.894 and the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138).

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

“ISO” means International Standards Organisation.

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

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

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

“Pests” means *Birds, Vermin and Insects*.

“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.

“shut down” is any period where the plant is being returned to a non-operational state and there is no waste being burned as agreed in writing with Natural Resources Wales

“start up” is any period, where the plant has been non-operational, after igniting the auxiliary burner until waste fuel 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 Natural Resources Wales

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

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

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

Water Framework Directive Priority Hazardous Substances are Anthracene, Brominated diphenyl ether, Cadmium, C10-13 Chloroalkanes, Endosulphan, Hexachlorobenzene, Hexachlorobutadiene, Hexachloro-cyclohexane, Mercury and its compounds, Nonylphenol (4-Nonylphenol), Pentachlorobenzene, Polycyclic aromatic Hydrocarbons (PAHs), Tributyltin compounds (Tributyltin-cation)

“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; and/or
- (c) in relation to gases from co-incineration plants the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 6% dry

‘The calculation for converting mg/m^3 to kg/t can be found in Annex 1 of the *Manufacture of Paper, Pulp and Board Best Available Techniques Reference document (BRef)* published on 26 September 2014.’

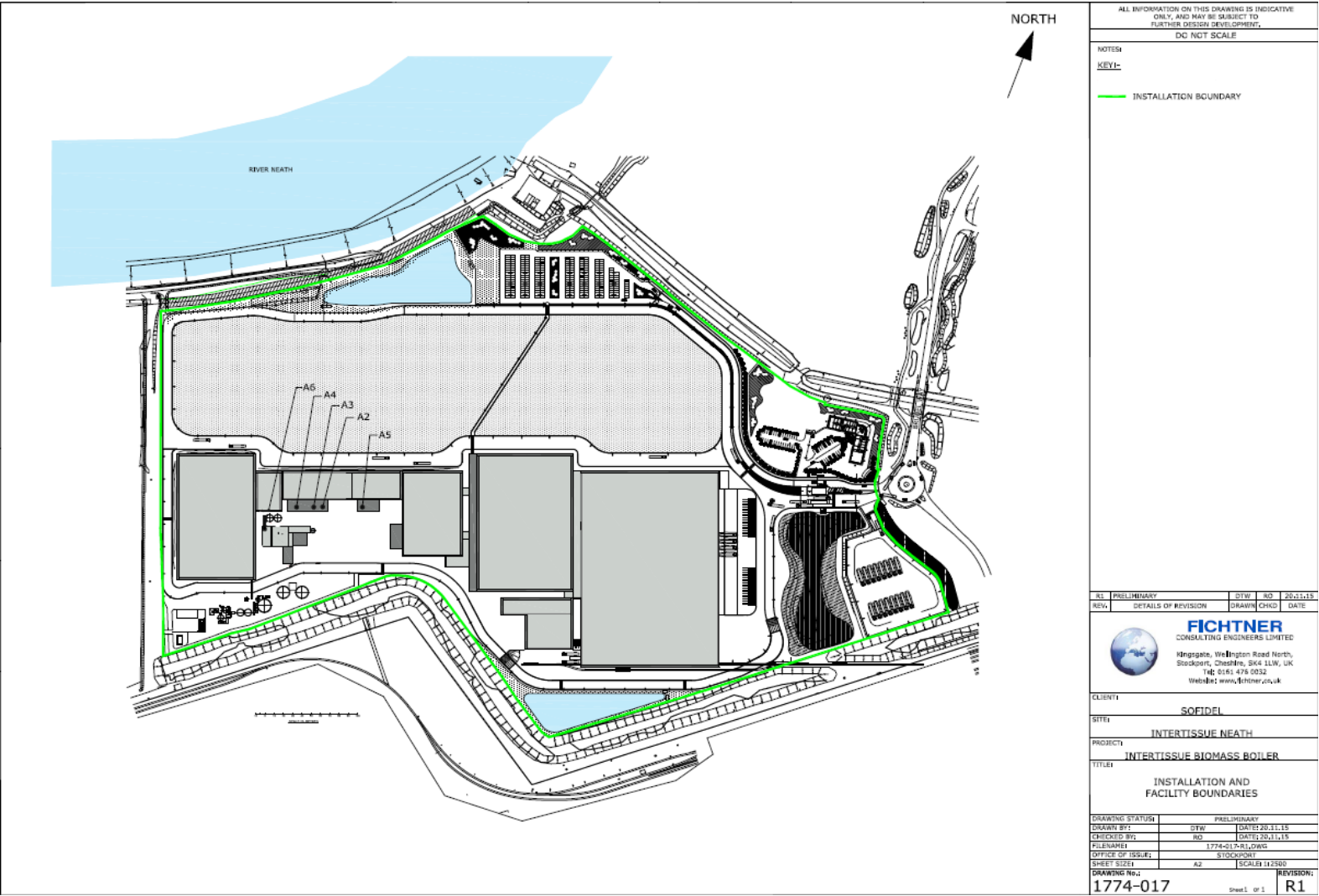
For dioxins/furans and dioxin-like PCBs the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their respective toxic equivalence factors before summing. When reporting on measurements of dioxins/furans and dioxin-like PCBs, the toxic equivalence concentrations should be reported as a range based on: all congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum. However the minimum value should be used when assessing compliance with the emission limit value in Table S3.1

TEF schemes for dioxins and furans				
Congener	I-TEF(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

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF (1997/8)		
	Humans / mammals	Fish	Birds
Non-ortho PCBs			
3,4,4',5-TCB (81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0001	0.0001	0.05
3,3',4,4',5 - PeCB (126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.01	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.0001	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.0005	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.0001	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.0001	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.0005	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.0005	<0.000005	0.0001

<i>2,3',4,4',5,5'-HxCB (167)</i>	<i>0.00001</i>	<i><0.000005</i>	<i>0.00001</i>
<i>2,3,3',4,4',5,5'-HpCB (189)</i>	<i>0.0001</i>	<i><0.000005</i>	<i>0.00001</i>

Schedule 7 - Site plan



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