

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Iggesund Paperboard (Workington) Limited

Workington Board Mill
Siddick
Workington
Cumbria
CA14 1JX

Variation application number

EPR/BJ7590IB/V005

Permit number

EPR/BJ7590IB

Workington Board Mill

Permit number EPR/BJ7590IB

Introductory note

This introductory note does not form a part of the notice

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

Changes introduced by this variation notice/statutory review

This variation has been issued to update some of the conditions following a statutory review of the permits in the industry sector for the production of pulp, paper and board. The opportunity has also been taken to consolidate the original permit and subsequent variations.

The Industrial Emissions Directive (IED) came into force on 7th January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) conclusions as described in the Commission Implementing Decision. The BAT conclusions for production of pulp, paper and board were published on 30 September 2014 in the Official Journal of the European Union (L284) following a European Union wide review of BAT, implementing decision 2014/687/EU of 26 September 2014. The relevant BAT conclusions that apply from 1 October 2018 are 1 to 8, 10, 12, 13, 14, 16, 17, 18, 40, 41, 47, 49 to 53. The operator is compliant with the exception of BAT conclusions 5, 14, 16, 40 and 50. We have set improvement conditions to track progress against future compliance for these BAT conclusions.

A Derogation for BAT conclusions 40 and 50, supporting a time limited delay to 31/12/21 in meeting the new Industrial Emission Directive (IED) BAT AEL's (Best Available Technique Associated Emission Levels) for Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS) as detailed in the Annex to conditions of this permit.

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

Brief description of the process

The site is located in the village of Siddick, just north of Workington on the A596 road to Maryport.

The main purpose of the activity at the installation is the manufacture of paperboard.

The papermill has a capacity of around 235,000 tonnes per year of folding boxboard for the packaging and graphics industries. Folding boxboard is a paperboard product in which the two outer plies are made from bleached chemical pulp and the middle plies are made from bleached or unbleached mechanical pulp.

The permit covers all stages of the paperboard manufacturing process from raw materials storage and handling, the pulp mill, the paper mill, surface coating, conversion to finished reels and sheets, warehousing prior to despatch and the effluent treatment plant. Electricity and steam are generated by the biomass Combined Heat and Power (CHP) plant.

The fibre source for the installation is either wood from the UK or imported bleached chemical pulp.

Paperboard Process Stages

The Wood yard

Timber in cut lengths enters the mill by road. Logs are de-barked in a dry rotary drum process, and the bark is taken away from the site to be reprocessed for use in horticulture or as a fuel for the biomass CHP. The de-barked logs are conveyed to a chipper that is a rapidly rotating disk with knife blades, and the chips are stock piled for use in the pulp mill. Some chips are purchased from saw mills. Chipper fines are taken away from site and used for animal bedding or in other suitable recovery routes.

The Pulp mill

All wood chips are washed and conveyed to a pulp mill consisting of one primary refiner. The refiner uses plates to break the chips into fibre bundles. The refined fibres are thickened on disc filters and then bleached with hydrogen peroxide. The pulp is screened and cleaned and stored for use on the board machine. Water used in the pulp mill is recycled from the board machine.

Stock Preparation

Bales of chemical pulp are purchased from approved sources and stored in a warehouse. The bales are fed to a hydropulper which uses recycled water from the board machine, to form a slurry of about 4% concentration.

Both the chemical pulp and mechanical pulp are refined by passing through further rotating metal plates to fibrillate the fibres and make them easier to bond together. The mechanical pulp is also mixed with 'broke' which is uncontaminated recycled board from various parts of the mill.

The Board Machines

There is one board machine, which has an output of up to 45 tonnes per hour. The board machine produces board in five plies. The two outer plies are of bleached chemical pulp and the three inner plies are of mechanical pulp with broke.

The first layer (liner) is formed on a Fourdrinier forming section, where water is initially drained leaving a wet web. The three middle plies are formed directly on to the liner by a series of Inverform units. Finally the upper layer (backs) is formed separately on a second Fourdrinier and brought down to meet the other plies. The web is removed from the wet end wire and transferred to a fabric which then passes through the press section in the next stage of water removal. The sheet is then dried in a controlled manner through a series of steam heated drying cylinders. There is one large cylinder, the Machine Glazing Cylinder that imparts a glaze to one surface of the board. The board is surface sized.

Further drying on cylinders follows and the board passes to the in-line coating section. Coating involves the addition of coating colour, which contains mineral pigments together with a synthetic binder to improve printability.

Finishing

The parent board reel is slit into reels, which are either film wrapped for despatch to customers, or are cut into sheets for packing and despatch.

Effluent Treatment Plant

There is an effluent treatment plant (primary treatment) for coarse screening of process effluent prior to continuous discharge of clarified effluent to the Irish Sea. The effluent cake is currently used for animal bedding but will be used as a part of the fuel mix in the Biomass CHP provided there is sufficient calorific value.

Some of the site surface waters are collected and passed through an interceptor before discharge to Siddick Pond, a Site of Special Scientific Interest (SSSI) adjacent to the site.

Biomass CHP Plant (LCP 186)

The LCP reference was changed from LCP 438 to LCP 186 by variation EPR/BJ7590IB/V003.

The Biomass Combined Heat and Power (CHP) plant consists of a bubbling fluidised bed boiler (BFB) to provide steam and a single steam turbine to provide electricity. The BFB is rated at 150MW thermal input and abatement is provided by Selective Non-Catalytic Reduction (SNCR) and an electrostatic precipitator and discharges to emission point A2. The boiler is fuelled by clean biomass, virgin timber products or clean recovered wood which is excluded from the requirements of Chapter IV of the Industrial Emissions Directive (IED).

The Biomass CHP is subject to Chapter III of the IED.

Other operations include fuel receipt, storage and processing, a water demineralisation plant to provide boiler water, cooling towers and waste storage.

Emissions to air from the Biomass CHP are oxides of nitrogen, sulphur dioxide, carbon monoxide, particulates and ammonia.

Emissions to water include boiler blow-down and neutralised water from the water demineralisation plant.

Boilers (LCP 187)

The LCP reference was changed from LCP 440 to LCP 187 by variation EPR/BJ7590IB/V003.

The boilers comprise two natural gas fired 35MW thermal input boilers which discharge to a common windshield providing an aggregated net rated thermal input of 70MW. The boilers discharge to emission points A3 and A4. The boilers are subject to Chapter III of the IED.

Concurrent operation of the biomass CHP plant and two gas fired boilers is authorised, in which case, power generation is optimised and supplied into the National Grid.

The site operates an Environmental Management System which is certified to ISO 14001 and ISO 50001.

There is one Special Area of Conservation (SAC), two SSSIs and five non statutory habitat sites within 10 km of the site.

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

Status log of the permit		
Description	Date	Comments
Application received EPR/BJ7590IB/A001	Duly made 24/02/01	Application for pulp mill and board mills
Additional information received	20/01/02 & 23/03/02	Confirmation of site boundary
Permit determined EPR/BJ7590IB	25/03/02	
Application EPR/BJ7590IB/V002 (variation and consolidation)	Duly made 24/02/11	Application for Biomass CHP plant
Additional information received	08/11/11 & 19/12/11	
Variation determined EPR/BJ7590IB/V002	07/08/12	Varied and consolidated permit issued in modern condition format
Regulation 60 Notice sent to the Operator	31/10/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit. under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V
Regulation 60 Notice response	25/03/15	Response received from the Operator
Variation determined EPR/BJ7590IB/V003	30/12/15	Varied permit issued. Variation effective from 01/01/16
Application received EPR/BJ7590IB/V004	Duly made 16/05/16	To allow the concurrent operation of the biomass CHP plant and two gas fired boilers
Additional information received	17/06/16	Maintenance of boilers
Variation determined EPR/BJ7590IB/V004	10/08/16	Varied permit issued.

Status log of the permit		
Description	Date	Comments
Regulation 60 Notice dated 21/11/14 (Notice requiring information for statutory review of permit)	Response Received 30/03/15	Technical standards detailed in response to the information notice. Information to demonstrate that relevant BAT conclusions are met for the production of pulp, paper and board as detailed in document reference L284. Derogation request BAT conclusions 40 and 50.
Additional information received	29/07/15	Response to request for further information (RFI) dated 22/06/15
Additional information received	27/05/16	Information relating to Derogation
DRAFT DECISION EPR/BJ7590IB/V005	07/10/16	Statutory review of permit - BAT Conclusions published 30 September 2014 Varied and consolidated permit
FINAL DECISION EPR/BJ7590IB/V005 (Billing ref: EP3135DL)	21/11/16	Statutory review of permit - BAT Conclusions published 30 September 2014 Varied and consolidated permit issued

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

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

Permit number

EPR/BJ7590IB

Issued to

Iggesund Paperboard (Workington) Limited ("the operator")

whose registered office is

Iggesund Paperboard

Siddick

Workington

Cumbria

CA14 1JX

company registration number **00075035**

to operate an installation at

Workington Board Mill

Siddick

Workington

Cumbria

CA14 1JX

to the extent set out in the schedules.

The notice shall take effect from 21/11/2016

Name	Date
SIMON HEWITT	21/11/2016

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions/tables have been changed by the consolidated permit EPR/BJ7590IB as a result of an Environment Agency initiated variation:

CONDITIONS	
1.2.3	amended to provide clarity on CHP requirements
2.3.5	amended to correct reference to table number from 6.3.3 to S3.2 and to include the ceasing of direct discharge at W1
2.3.12	added due to deletion of pre-operational measure POM3
3.1.4	deleted/added original condition for background concentration for emissions to water included in error by V003, replaced with annual emissions condition
3.5.1	amended to change reference to table number from S3.3 to S3.4
3.5.5	deleted
4.3.1	amended to change reference to condition number from 2.3.9 to 2.3.8
Schedule 6	updated
TABLES	
S1.1	amended for clarity on description of activities
S1.2	amended to introduce new operating techniques
S1.3	amended to reflect current improvement conditions
S1.4	amended pre-operational conditions to remove completed measures
S1.5	amended to change IP reference numbers
S2.2	amended to delete quantity description for 03 03 10
S3.2	amended to revise Hazardous pollutants and metals monitoring and update monitoring methods
S3.3	added to include annual limits and S3.3 for process monitoring renumbered to S3.4
S3.4	amended process monitoring to include hazardous pollutants
S4.1	amended reporting period
S4.2	amended
S4.3B	amended performance parameters
S4.4	amended reporting forms
Annex	
Annex to conditions	added to include a summary of the derogation

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BJ7590IB

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BJ7590IB/V005 authorising,

Iggesund Paperboard (Workington) Limited ("the operator"),

whose registered office is

Iggesund Paperboard

Siddick

Workington

Cumbria

CA14 1JX

company registration number **00075035**

to operate an installation at

Workington Board Mill

Siddick

Workington

Cumbria

CA14 1JX

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

Name	Date
SIMON HEWITT	21/11/2016

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

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

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
 - (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (d) take any further appropriate measures identified by a review.
- 1.2.2 The operator shall provide and maintain steam and/or hot water pass-outs such that opportunities for the further use of waste heat may be capitalised upon should they become practicable.
- 1.2.3 The operator shall review the options for enhanced or additional Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:
- (a) new plans for significant developments within 15 km of the installation;
 - (b) changes to the Local Plan;
 - (c) changes to the DECC UK CHP Development Map or similar; and
 - (d) new financial or fiscal incentives for CHP.

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

1.3 Efficient use of raw materials

1.3.1 The operator shall:

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

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

1.4.1 The operator shall take appropriate measures to ensure that:

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

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

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”).

2.2 The site

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

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 For the following activities referenced in schedule 1, table S1.1: LCP186 and LCP187. Without prejudice to condition 2.3.1, the activities shall be operated in accordance with the "Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines" revision 1 dated February 2015 or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.4 In the case of emergencies direct discharges to emission point W1 may be made from the surge well, the distribution chamber or the mill sea valve. The circumstances for direct discharges shall be as defined in the Environmental Management System. Any direct discharge will be notifiable under condition 4.3.1. During the period of direct discharge the emission limits specified for emission point W1 in Table S3.2 shall not apply.
- 2.3.5 Direct discharges of untreated effluent to emission point W1 may be made from the mill sea valve with the prior agreement of the Environment Agency. During the period of direct discharge the emission limits specified for emission point W1 in table 3.2 shall not apply. Direct discharges of untreated effluent via emission point W1 shall cease when compliance has been reached as specified in IP3 in table S1.3 of this permit.
- 2.3.6 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.7 For the following activities referenced in schedule 1, table S1.1: LCP186 and LCP187. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.5.
- 2.3.8 For the following activities referenced in schedule 1, table S1.1: LCP186. The following conditions apply where there is a malfunction or breakdown of any abatement equipment:
Unless otherwise agreed in writing by the Environment Agency:
- (i) if a return to normal operations is not achieved within 24 hours, the operator shall reduce or close down operations, or shall operate the activities using low polluting fuels;
 - (ii) the cumulative duration of breakdown in any 12-month period shall not exceed 120 hours; and
 - (iii) the cumulative duration of malfunction in any 12-month period shall not exceed 120 hours.
- 2.3.9 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.

- 2.3.10 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.
- 2.3.11 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.
- 2.3.12 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 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.

2.5 Pre-operational conditions

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table 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, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 The emission values from emission point A2 listed in schedule 3 table S3.1, measured during periods of abatement equipment malfunction and breakdown shall be disregarded for the purposes of compliance with Table S3.1 emission limit values.
- 3.1.4 Total annual emissions from the emission point(s) set out in schedule 3 tables S3.1, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 3.1.5 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

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

3.4 Noise and vibration

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

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2;
 - (b) process monitoring specified in table S3.4.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continuous), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 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 and S3.2 unless otherwise agreed in writing by the Environment Agency.

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

- 3.6.1 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:
- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
 - (b) implement the approved proposals.
- 3.6.2 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.
- 3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.
- 3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.
- 3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.
- 3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1; the Continuous Emission Monitors shall be used such that:
- (a) for the continuous measurement systems fitted to the LCP release points defined in Table S3.1 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;
 - (b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;
 - (c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;
 - (d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;
 - (e) an invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing; and
 - (f) any day, in which more than three hourly average values are invalid shall be invalidated.

4 Information

4.1 Records

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

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

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

4.2 Reporting

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

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production /treatment data set out in schedule 4 table S4.2;
- (c) the performance parameters set out in schedule 4 tables S4.3A and S4.3B using the forms specified in table S4.4 of that schedule;
- (d) where condition 2.3.8 applies, the cumulative duration of breakdown and cumulative duration of malfunction in any 12 month period.

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.
- 4.2.6 Within 10 days of the notification of abatement equipment malfunction or breakdown (condition 2.3.8) the operator shall submit an Air Quality Risk Assessment as outlined in the IED Compliance Protocol (condition 2.3.2).

4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
 - (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
 - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
 - (d) of any malfunction or breakdown of abatement equipment relating to condition 2.3.8, the operator shall notify the Environment Agency within 48 hours unless notification has already been made under (a) to (c) above.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit, or 4.3.1 (d) where the information relates to malfunction or breakdown of abatement equipment shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

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

Where the operator is a registered company:

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

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

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

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

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

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

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

- (a) a decision by the Secretary of State not to re-certify the agreement;
- (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
- (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

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

4.4 Interpretation

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

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

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 1.1 Part A(1)(a) Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP186: a 150MW bubbling fluidised bed (BFB) biomass fired boiler. Net rated thermal input to be confirmed upon completion of IP10 in table S1.3 of this permit. LCP187: two x nominal 35MW gas fired boilers. Net rated thermal input to be confirmed upon completion of IP10 in table S1.3 of this permit.	Combustion plant including air supply, boilers, power plant, facilities for treatment of exhaust gases, stacks and systems for controlling combustion.
A2	Section 5.4 Part A(1)(a)(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day by physio-chemical treatment (D9)	Treatment of effluent from pulp and paperboard production, combustion plant, water treatment and surface water drainage	From receipt of effluent to discharge to Irish Sea via release point W1.
A3	Section 6.1 Part A(1)(a) Producing, in industrial plant, pulp from timber or other fibrous materials.	Production of mechanical pulp in a pulp mill	From receipt of raw logs to transfer of mechanical pulp to stock preparation. Includes debarking, chipping, refining and bleaching of mechanical pulp.
A4	Section 6.1 Part A(1)(b) Producing, in industrial plant, paper and board where the plant has a production capacity of more than 20 tonnes per day.	Production of paperboard on a single machine	From stock preparation to despatch of finished product storage including re-pulping of chemical pulp.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
Directly Associated Activity			
A5	Electrical Power Station	Generation of electricity using a single steam turbine	From transfer of heat to steam turbine, generation of electricity and its use on site.
A6	Fuel handling and storage	Fuel receipt, storage and processing prior to use in biomass boiler	Receipt of fuel feedstock, storage, processing (chipping, crushing, screening) and transfer to biomass boiler.
A7	Water treatment plant	Treatment of raw water supply in a sand filtration plant for use in pulp and paperboard production and biomass CHP plant	From receipt of incoming water on site to transfer to treated water storage tank.
A8	Water demineralisation plant	Treatment of boiler makeup water	Treatment of boiler feed water by filtration and ion exchange, including regeneration and condensate polishing plant.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to question 2.3 in section 2.3 of the application	24/02/01
Response to Schedule 4 Part 1 Notice	Response to questions 15 - 24	20/01/02
Variation EPR/BJ7590IB/V002	Response to Part C3, section 3 of the variation application	24/02/11
Receipt of the additional information to the variation application EPR/BJ7590IB/V002	Response to question 1a (process overview), 2d & 2e (fuel receipt/acceptance), 2f (fuel processing), 4a & 4b (combustion control), 4c (SNCR optimisation), 6a (monitoring) 7b, (standby plant monitoring), 8a (water treatment plant), 11a (ash storage), 14b (fugitive emission control) in the further information request dated 23/08/11	08/11/11 &19/12/11
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance route(s) and operating techniques identified in response to questions: 2 - compliance route 4 - configuration 5 - net rated thermal input 6 - start-up and shut-down 8 – choice of fuel (no standby fuel)	Received 25/03/15
Application variation EPR/BJ7590IB/V004	Application forms C2 and C3 and referenced supporting information	Duly made 16/05/16
Receipt of the additional information to the variation application EPR/BJ7590IB/V004	Email response from the operator dated 17/06/16 relating to maintenance of boilers.	17/06/16
Receipt of information to the regulation 60(1) Notice. requested by letter dated 21/11/14	Technical standards detailed in response to BAT conclusions of the notice provided under Regulation 60 of Environmental Permitting Regulations. Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for production of pulp, paper and board	30/03/15
Receipt of additional information to the regulation 60(1) Notice: request for further information requested by letter dated 22/06/15	Technical standards detailed in response to BAT conclusions of the notice provided under Regulation 60 of Environmental Permitting Regulations. Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for production of pulp, paper and board	29/07/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IP1	<p>The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP186 and LCP 187. The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised).</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:-</p> <ul style="list-style-type: none"> - Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), - Performance test results after a significant modification (quoting the specified standards or test codes), - Manufacturer's contractual guarantee value, - Published reference data, e.g., Gas Turbine World Performance Specifications (published annually); - Design data, e.g., nameplate rating of a boiler or design documentation for a burner system; - Operational efficiency data as verified and used for heat accountancy purposes, - Data provided as part of Due Diligence during acquisition. <p>*Performance test results shall be used if these are available. .</p>	31/12/16
IP2	<p>The operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a written justification of the "minimum start up load" and "minimum shut-down load", for each unit within the LCP as required by the Implementing Decision 2012/249/EU in terms of:</p> <ul style="list-style-type: none"> - The output load (i.e. electricity, heat or power generated) (MW); and, - This output load as a percentage of the rated thermal output of the combustion plant (%). <p>And / Or</p> <ul style="list-style-type: none"> - At least three criteria (operational parameters and / or discrete processes as detailed in the Annex) or equivalent operational parameters that suit the technical characteristics of the plant, which can be met at the end of start-up or start of shut-down as detailed in Article (9) 2012/249/EU. 	31/12/16

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IP3	<p>The operator shall submit, for approval by the Environment Agency, a report setting out progress to achieving the BAT conclusion AELs where a derogation has been applied for and granted. The report shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> - Current performance against the BAT conclusion AELs. - Methodology for reaching the AELs. - Associated targets / timelines for reaching compliance by 31/12/21 for emissions of Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS) at W1 as defined in table S3.2 of this permit – time limited derogation. - Any alterations to the initial plan – for progress reports. <p>The report shall address BAT conclusions 40 and 50.</p> <p>The operator shall submit reports on progress with the approved compliance plan on a six monthly frequency specified by this condition.</p>	<p>Initial Report 01/03/17</p> <p>Progress reports by 01/09/17 01/03/18 01/09/18 01/03/19 01/09/19 01/03/20 01/09/20 01/03/21 01/09/21</p>
IP4	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 31 December 2021. The report shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> - Methodology for achieving BAT. - Associated targets / timelines for reaching compliance by 31 December 2021 - Any alterations to the initial plan <p>The report shall address BAT conclusions 5, 14 and 16.</p> <p>The operator shall submit reports on progress with the approved compliance plan on a six monthly frequency specified by this condition.</p>	<p>Initial Report 01/03/17</p> <p>Progress reports by 01/09/17 01/03/18 01/09/18 01/03/19 01/09/19 01/03/20 01/09/20 01/03/21 01/09/21</p>

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IP5	<p>The operator shall submit for approval a report that investigates and reviews the emissions of cadmium from the on-site effluent treatment plant to the receiving water body. The investigation shall include the following:</p> <ul style="list-style-type: none"> - A minimum of twelve months intensive sampling at a minimum monthly frequency commencing after commissioning of the upgraded effluent treatment plant. - The Limit of Detection or Minimum Reporting Value shall be agreed with the Environment Agency prior to commencement. - A review of abstracted water quality and potential sources from raw material inputs and process chemistry. - An impact assessment shall be carried out in accordance with the methodology in the Environment Agency H1 screening tool and using the results from the sampling programme. The outcome of this exercise shall determine whether detailed modelling of the discharge is required. - If required, detailed modelling shall be carried out to fully assess the impact. 	31/03/23
IP6	<p>The operator shall submit for approval by the Environment Agency a report that investigates the impact of the temperature as a result of the discharge from the on-site effluent treatment plant to the receiving water body. The investigation shall assess the extent and the potential impact at the edge of and beyond the mixing zone against the Water Framework Directive (WFD) proposed or current temperature standards for tidal waters available at the time.</p> <p>The results of the shoreline survey as specified in table S3.2 shall be reviewed to establish if additional modelling and/or monitoring is required.</p> <p>The report shall also consider the opportunities for reducing the residual temperature of the discharge by evaluating all options for heat recovery throughout the pulping and paper making operations on site, having tracked the changing temperature profile throughout the period.</p>	31/03/23
IP7	<p>The operator shall install an auto-sampler for the collection of flow proportional samples at emission point W1 as defined in table S3.2 of this permit.</p>	31/12/17

Table S1.4 Pre-operational measures for Biomass CHP Plant	
Reference	Pre-operational measures
POM1	<p>The operator shall provide a written demonstration that burning of the effluent filter cake will produce sufficient calorific value to be considered as a waste recovery operation rather than a waste disposal operation.</p> <p>The operator shall not burn any effluent filter cake until written acceptance has been provided by the Environment Agency.</p>

Table S1.5 Minimum Start-up Load and Minimum Shutdown load		
Emission Point and Unit Reference	“Minimum start up load”	“Minimum shut-down load”
A2	To be assessed upon completion of IP1 & IP2	To be assessed upon completion of IP1 & IP2
A3	To be assessed upon completion of IP1 & IP2	To be assessed upon completion of IP1 & IP2
A4	To be assessed upon completion of IP1 & IP2	To be assessed upon completion of IP1 & IP2

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Biomass	Trees, branches and bark derived from forestry works, woodland management, tree surgery and similar operations excluding clippings and trimmings consisting primarily foliage.
Virgin timber products	Wood off-cuts, shavings, sawdust and chippings from virgin timber processing or manufacture of timber products from virgin timber
Clean recovered products	Clean recovered wood excluded from the Waste Incineration Directive by virtue of Article 2 (2) (a) (iv) and in accordance with the specification(s) in the contract with the approved supplier(s).

Table S2.2 Permitted waste types and quantities for combustion in Biomass CHP Plant	
Maximum quantity	-
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
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation (filter cake from onsite effluent treatment plant only)
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

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in schedule 7]	Total Volatile Organic Compounds (expressed as Carbon)	Andritz Refiner	-	-	-	-
LCP186 BFB Plant						
A2 [Point A2 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP186 BFB Plant Stack	200 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP186 BFB Plant Stack	200 mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP186 BFB Plant Stack	400 mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Carbon Monoxide	LCP186 BFB Plant Stack	200 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Carbon Monoxide	LCP186 BFB Plant Stack	200 mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Carbon Monoxide	LCP186 BFB Plant Stack	400 mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A2 [Point A2 on site plan in schedule 7]	Sulphur Dioxide	LCP186 BFB Plant Stack	200 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Sulphur Dioxide	LCP186 BFB Plant Stack	200 mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Sulphur Dioxide	LCP186 BFB Plant Stack	400 mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Dust	LCP186 BFB Plant Stack	20 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Dust	LCP186 BFB Plant Stack	20 mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Dust	LCP186 BFB Plant Stack	40 mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Ammonia	LCP186 BFB Plant Stack	5 mg/m ³	Average value over monitoring period	Quarterly	TGN M22
A2 [Point A2 on site plan in schedule 7]	Oxygen	LCP186 BFB Plant Stack	-	-	Continuous As appropriate to reference	BS EN 14181
A2 [Point A2 on site plan in schedule 7]	Water Vapour	LCP186 BFB Plant Stack	-	-	Continuous As appropriate to reference	BS EN 14181

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A2 [Point A2 on site plan in schedule 7]	Stack gas temperature	LCP186 BFB Plant Stack	-	-	Continuous As appropriate to reference	Traceable to national standards
A2 [Point A2 on site plan in schedule 7]	Stack gas pressure	LCP186 BFB Plant Stack	-	-	Continuous As appropriate to reference	Traceable to national standards
A2 [Point A2 on site plan in schedule 7]	-	LCP186 BFB Plant Stack	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
LCP187 Boilers No.1 & No.2						
A3 & A4 [Point A3 & A4 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP 187 Boiler 1 & Boiler 2 Stack	100mg/m ³	-	At least every 6 months	BS EN 14792
A3 & A4 [Point A3 & A4 on site plan in schedule 7]	Sulphur Dioxide	LCP 187 Boiler 1 & Boiler 2 Stack	35mg/m ³	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A3 & A4 [Point A3 & A4 on site plan in schedule 7]	Carbon Monoxide	LCP 187 Boiler 1 & Boiler 2 Stack	20mg/m ³	-	At least every 6 months	BS EN 15058
A3 & A4 [Point A3 & A4 on site plan in schedule 7]	Dust	LCP 187 Boiler 1 & Boiler 2 Stack	5mg/m ³	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A3 & A4 [Point A3 & A4 on site plan in schedule 7]	Oxygen	LCP 187 Boiler 1 & Boiler 2 Stack	-	-	Periodic As appropriate to reference	BS EN 14789
A3 & A4 [Point A3 & A4 on site plan in schedule 7]	Water Vapour	LCP 187 Boiler 1 & Boiler 2 Stack	-	-	Periodic As appropriate to reference	BS EN 14790
A3 & A4 [Point A3 & A4 on site plan in schedule 7]	-	LCP 187 Boiler 1 & Boiler 2 Stack	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 emission point to Irish Sea at NGR NX 995 317 The sample point shall be at NGR NY 002 212	Total suspended solids	Effluent Treatment plant	750 mg/l 70 Te/week Note 2	24-hour flow proportional sample Note 7	Daily Note 6	BS EN 872
	Chemical Oxygen Demand (COD)	Effluent Treatment plant	2,250 mg/l Note 3 280 Te/week Note 2	24-hour flow proportional sample Note 7	Daily Note 6	BS ISO 15705 Note 2
	Biochemical oxygen demand (BOD ₅)	Effluent Treatment plant	No limit set	24-hour flow proportional sample Note 7	Weekly (once a week) Note 5	BS EN 1899-1
	Total nitrogen	Effluent Treatment plant	No limit set	24-hour flow proportional sample Note 7	Weekly (once a week) Notes 5 and 6	BS EN 12260
	Total phosphorus	Effluent Treatment plant	No limit set	24-hour flow proportional sample Note 7	Weekly (once a week) Notes 5 and 6	BS EN ISO 15681- 1 Or BS EN ISO 15681- 2
	EDTA, DTPA	Effluent Treatment plant	No limit set	24-hour flow proportional sample Note 7	Monthly	EDTA, DTPA BS EN ISO 16588 or alternative method to be agreed in writing with the Environment Agency
	Temperature	Effluent Treatment plant	No limit set	Instantaneous	Continuous	Standard temperature sensor

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
	Maximum Daily Flow	Effluent Treatment plant	No limit set	24 hours	Daily	MCERTS self-monitoring of effluent flow scheme
	Mean Daily Flow		No limit set	24 hours	Daily	
	Cadmium and its compounds, expressed as cadmium (Total Cd)	Effluent Treatment plant	2.5 µg/l	24-hour flow proportional sample Note 7	Monthly	BS EN ISO 15586
	Metals Total and Dissolved (Zn, Cu, Cd, Pb, Ni, Hg)	Effluent Treatment plant	No limit set	Spot sample	twice a year	BS EN ISO 15586 BS EN ISO 17852 for Hg only
	Hazardous Pollutants Screen Note 1	Effluent Treatment plant	No limit set	Spot sample	Twice a year	GC/MS analysis to be carried out by UKAS accredited laboratory
W1 Shoreline	To be agreed in writing with the Environment Agency	W1	No limit set	Periodic survey at frequency to be agreed with the Environment Agency	To be agreed with the Environment Agency Note 4	Survey shall be undertaken by persons or organisations with suitable experience as agreed in writing with the Environment Agency
W2 emission point to Siddick Point at NGR NY 0009 3072	Chemical Oxygen Demand (COD)	Surface water drainage from yard areas	350 mg/l	Spot sample	Daily (Monday to Friday) subject to flow over the weir	BS ISO 15705 Note 2
	pH	Surface water drainage from yard areas	5 – 9.5	Instantaneous	Continuous	BS EN ISO 10523

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
	Visible oil and grease	Surface water drainage from yard areas	No trace present	Instantaneous (spot sample)	Daily (Monday to Friday) subject to flow over the weir	Visual inspection with records kept for inspection
	Cadmium and its compounds, expressed as cadmium (Total Cd)	Surface water drainage from yard areas	2.5 µg/l	Spot sample	Monthly	BS EN ISO 15586
	Metals Total and Dissolved (Zn, Cu, Cd, Pb, Ni, Hg)	Surface water drainage from yard areas	No limit set	Spot sample	Twice a year	BS EN ISO 15586 BS EN ISO 17852 for Hg only
	Hazardous Pollutants Screen ^{Note 1}	Surface water drainage from yard areas	No limit set	Spot sample	Twice a year	GC/MS analysis to be carried out by UKAS accredited laboratory
W3 emission point to French Drain between NGR NY 0024 3123 and NY 0038 3148	No parameters set	Surface water drainage from yard areas	No limit set	-	-	-

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

Note 2: Each week period shall commence at 00:00 hours on Sunday and finish at 23.59 hours on Saturday

Note 3: The limit shall apply following completion of IP3 as specified in table S1.3 of this permit. The suitability of the limit shall be agreed in writing with the Environment Agency.

Note 4: The results of the shoreline assessment shall be used to review the limits in place.

Note 5: Weekly samples should be collected by following a randomised sampling program as far as is practicable.

Note 6: If internal rapid test methods are used, they must be cross referenced by external tests to EN or ISO standards monthly.

Note 7: Time proportional sampling can be substituted for flow proportional sampling until completion of IP7 as specified in table S1.3 of this permit.

Table S3.3 Annual limits		
Substance	Medium	Limit (including unit)
Chemical Oxygen Demand (COD)	Water <small>Note 1</small>	8.45 – 14.45 kg/t <small>Note 2</small>
Total suspended solids (TSS)	Water <small>Note 1</small>	0.35 – 0.74 kg/t <small>Note 2</small>
Total nitrogen	Water <small>Note 1</small>	0.11 – 0.16 kg/t <small>Note 2</small>
Total phosphorus	Water <small>Note 1</small>	0.0016 – 0.011 kg/t <small>Note 2</small>

Note 1: For integrated or multi product mills where the BAT AEL range has been calculated according to a mixing rule based on their share of the discharge, based on information supplied by the Operator, the Operator must notify the Environment Agency if the product/ raw material mix changes by more than 10% in any direction.

Note 2: All annual emission limits that impose BAT-AEL's for direct discharges to water apply from 01 January 2022.

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Bubbling Fluidised Bed – Combustion Chamber	Temperature	Continuous	As agreed in writing with the Agency	-
Bubbling Fluidised Bed – Combustion Chamber	Exhaust gas temperature	Continuous	As agreed in writing with the Agency	-
Bubbling Fluidised Bed – Combustion Chamber	Exhaust gas pressure	Continuous	As agreed in writing with the Agency	-
Bubbling Fluidised Bed – Combustion Chamber	Exhaust gas water content	Continuous	BS EN 15627-3	-
Bubbling Fluidised Bed – Combustion Chamber	Exhaust gas oxygen content	Continuous	BS EN 15627-3	-
Bubbling Fluidised Bed – Combustion Chamber	Exhaust gas flow rate	Continuous	BS EN 15627-3	-
Bottom Ash	Loss on Ignition (LOI) or Total Organic Carbon (TOC)	Monthly for first year of operation and quarterly thereafter	Ash sampling protocol to be agreed in writing with the Agency	-
Raw water inlet	Hazardous Pollutants screen Note 1	Twice per annum as per discharge monitoring	GCMS analysis at UKAS accredited laboratory	Spot sample

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

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
Oxides of nitrogen	A2	Every 3 months	1 January, 1 April, 1 July, 1 October
	A3, A4	Every 6 months	1 January, 1 July
Carbon Monoxide	A2	Every 3 months	1 January, 1 April, 1 July, 1 October
	A3, A4	Every 6 months	1 January, 1 July
Sulphur dioxide	A2	Every 3 months	1 January, 1 April, 1 July, 1 October
	A3, A4	Every 6 months	1 January, 1 July
Dust	A2	Every 3 months	1 January, 1 April, 1 July, 1 October
	A3, A4	Every 6 months	1 January, 1 July
Ammonia	A2	Every 3 months	1 January, 1 April, 1 July, 1 October
Emissions to Water Parameters as required by condition 3.5.1	W1, W2	Every 3 months	1 January, 1 April, 1 July, 1 October
		Every 6 months	1 January, 1 July
Exhaust gas temperature, pressure, water content, oxygen content and flow rate. Parameters as required by condition 3.5.1	A2	As requested by Environment Agency ^{Note 1}	1 January
Combustion chamber temperature Parameters as required by condition 3.5.1	A2	As requested by Environment Agency ^{Note 1}	1 January
Loss on Ignition Parameters as required by condition 3.5.1	Bottom Ash	Annually	1 January

Note 1: These parameters would not normally be required to be reported but would be available for inspection on site only where there is an operational need should a report be required.

Table S4.2 Annual production	
Parameter	Units
Power generated from Biomass CHP Plant	GWHrs

Table S4.3A Chapter III Performance parameters for reporting to DEFRA and other Performance parameters		
Parameter	Frequency of assessment	Units
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	tJ
Total Emissions to Air of NO _x for each LCP	Annually	T
Total Emissions to Air of SO ₂ for each LCP	Annually	T
Total Emissions to Air of dust for each LCP	Annually	T
Operating Hours for each LCP (Load Factor)	Annually	hr
Total effluent filter cake used in BFB boiler	Annually	T
Total ammonia sulphate used	Annually	T
Total bottom ash sent for disposal	Annually	T
Total bottom ash sent for recovery	Annually	T
Total APC residues sent for disposal	Annually	T
Total APC residues sent for recovery	Annually	T

Table S4.3B Performance parameters for Boardmill			
Parameter Note 1	Frequency of assessment	Units	Units
Water inputs to the Mill ^{Note 1}	Annually	Tonnes	m ³ /t
Water used in manufacturing ^{note 1}	Annually	Tonnes	m ³ /t
Other inputs of water/moisture ^{Note 1}	Annually	tonnes	m ³ /t
Water outputs ^{Note 1}	Annually	tonnes	m ³ /t
Waste/raw material inputs ^{Note 1}	Annually	tonnes	
Waste/raw material outputs ^{Note 1}	Annually	tonnes	
Net total annual production ^{Note 1}	Annually	tonnes	

Note 1: All to be monitored and reported in accordance with associated guidance note issued with the permit.

Table S4.4 Reporting forms				
Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
LCP	Form IED AR1 - AR1 – SO ₂ , NO _x and dust mass emission and energy	01/01/16	National & Area Office	31/12/15
LCP	Form IED HR1 – operating hours	01/01/16	National & Area Office	31/12/15
Air	Form IED CON 1 – continuous monitoring.	01/01/16	Area Office	31/12/15
LCP	Form IED BD1 – Cumulative annual rolling malfunction and breakdown hours	01/01/16	Area Office	31/12/15
CEMs	Form IED CEM – Invalidation Log	01/01/16	Area Office	31/12/15
Air	Form IED PM1 - discontinuous monitoring and load.	01/01/16	Area Office	31/12/15
Air	Form IED PM2 - discontinuous monitoring and load.	01/01/16	Area Office	31/12/15
Water	Form water 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	2016
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	2016
Bottom Ash	Form Ash 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15
Biomass CHP performance indicators	Form performance 2 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

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

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

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

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

(c) Notification requirements for the 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

Part C Malfunction or Breakdown of LCP abatement equipment

Permit Number	
Name of operator	
Location of Facility	
LCP Number	
Malfunction or breakdown	
Date of malfunction or breakdown	

(a) Notification requirements for any malfunction and breakdown of abatement equipment as defined by the Industrial Emission Directive*.	
To be notified within 48 hours of abatement equipment malfunction and breakdown	
Time at which malfunction or breakdown commenced	
Time at which malfunction or breakdown ceased	
Duration of the breakdown event in hours and minutes	
Reasons for malfunction or breakdown	
Where the abatement plant has failed, give the hourly average concentration of all measured pollutants.	
Cumulative breakdown operation in current year (at end of present event)	
Cumulative malfunction operation in current year (at end of present event)	
Name**	
Post	
Signature **	
Date	

* See section 3.6 and Appendix E of ESI Compliance Protocol for guidance

** authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

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

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

“APC residues” means air pollution control residues.

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

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

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

“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 or transported by the grate.

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

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

“CEN” means Comité Européen de Normalisation.

“CHP” means Combined Heat and Power.

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

“DLN” means dry, low NO_x burners.

“emissions to land” includes emissions to groundwater.

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

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

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

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

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

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

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

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

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

“low polluting fuels” means biomass or coal with an average as-received sulphur content of less than 0.4% by mass as described in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

Metals monitoring as follows: Zn (Zinc), Cu (Copper), Cd (Cadmium), Pb (Lead), Ni (Nickel), Hg (Mercury).

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

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

“MCR” means maximum continuous rating.

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

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

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

“ncv” means net calorific value.

Net production is as follows:

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

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

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

“SI” means site inspector.

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

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

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

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

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

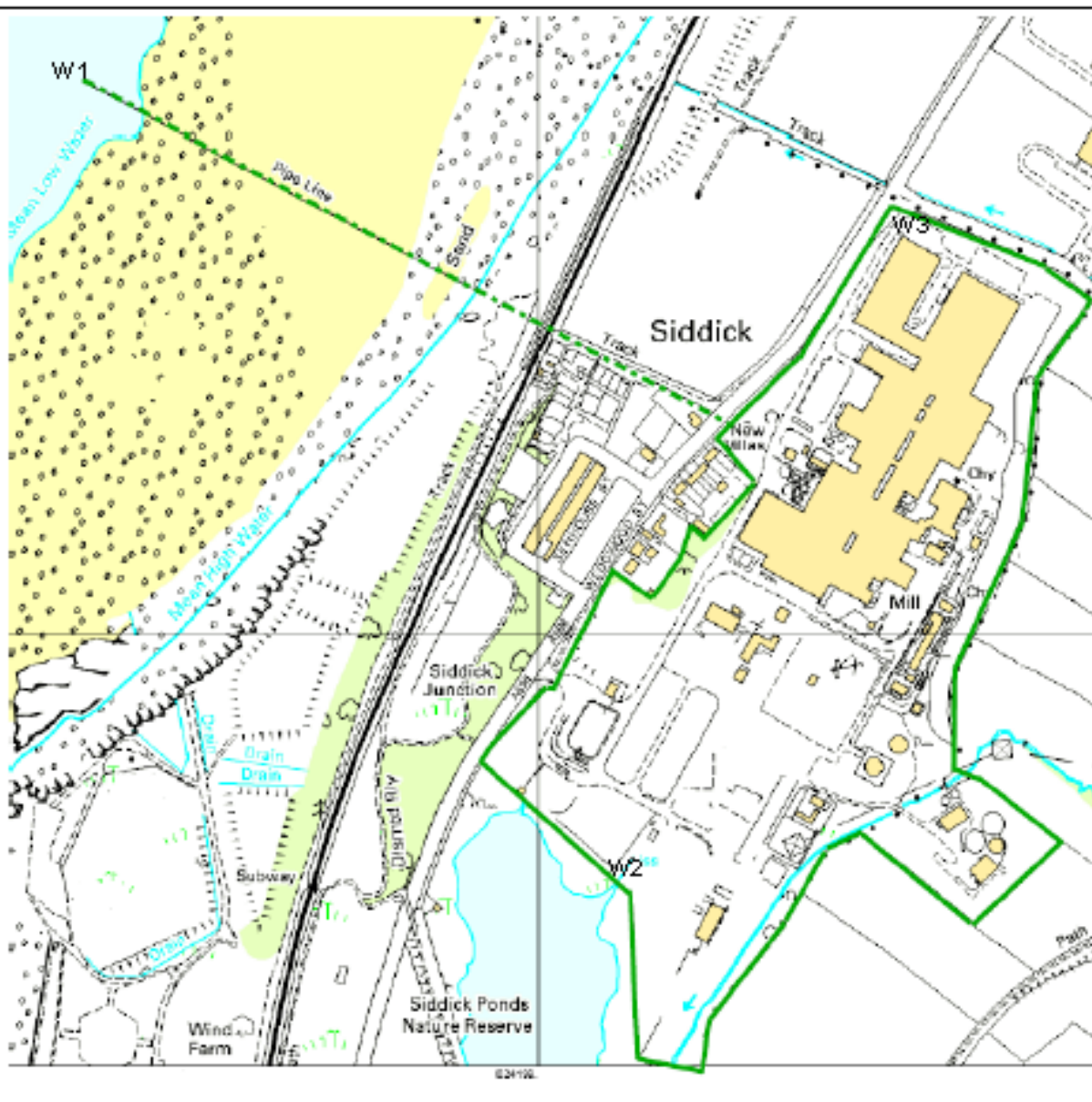
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



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END OF PERMIT

Annex to conditions – Derogation under Industrial Emissions Directive

Derogation under Article 15(4) of Industrial Emissions Directive

DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

Operating Techniques

We have considered the Operator's proposed techniques and its comparison against other relevant techniques as described in the BAT Conclusions in the Commission Implementing Decision 2014/687/EU for the Paper and Pulp sector, published 30 September 2014. Our full reasoning is given in our decision document that accompanies the permit determination.

The time limited derogation to 31/12/21 from BAT Conclusions 40 and 50 is based on the technical characteristics of the site and covers the relevant BAT AEL's for Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS).

Although the time limited derogation request will mean that the discharge of primary treated effluent will continue for longer than originally envisaged, we are satisfied that it will not result in any significant pollution, largely due to the dilution afforded by the coastal discharge location.

The basis for the derogation request is that the mill is unique and not represented in the dataset used to compile the BAT AEL's within the BAT Conclusions for the production of Pulp, Paper & Board. That is because it is rare to find mechanical pulping being used to produce such high brightness pulp without an element of pre-treatment and that they currently only have primary effluent treatment installed (due largely to their geographical location) making them unique within the comparable chemi-mechanical pulp process (CTMP) mills across Europe. Such mills would normally already have secondary (biological) effluent treatment plants installed in order to meet the BAT AEL's and so significant alterations to the process and reconfiguration across much of the site are required in order to install the most appropriate secondary (biological) treatment that will meet the relevant BAT AEL's.

The current on site effluent treatment plant (ETP) provides only coarse screening and primary (settlement) treatment prior to discharge via a short sea outfall at emission point W1 as specified in table S3.2 of this permit.

The Operator acknowledges that significant investment is required in order to meet the relevant BAT AEL's, but propose a detailed work plan in order to reconfigure the mill, reduce loadings of both COD and TSS, prior to installing a suitably sized ETP. We have reviewed the work plan and agree with both the timings and sequence in order to achieve the best environmental outcome.

The Operator makes a clear case that the preferred option will be the most cost effective option for the site and that all other options would be disproportionately costly compared to the environmental benefits gained.

We are satisfied that the Operator has demonstrated that the cost of complying with the BAT AEL's is disproportionate to the value of damage to the environment caused by delaying compliance until 31 December 2021.

We have therefore set the following requirements:

1. That all work to comply with the applicable BAT AEL's for the site are completed by the 31 December 2021 deadline. We have set an improvement condition in table S1.3 of this permit to provide progress reports in meeting these requirements.
2. The current permit limit of 280 tonnes for weekly load of COD discharged at W1 will remain in force and is specified in table S3.2 of this permit.
3. The current concentration limit of 2,250mg/l for COD limits (no BAT AEL for COD concentration) will be suspended until the 31 December 2021 deadline and is specified in table S3.2 of this permit. This is due to the programme of improvement works, already underway, that will lead to periods of higher concentrations of COD as various improvements are completed, such as reducing the amount of water the site uses and hence discharges. This will however be offset by the reduction in water usage and hence the load should remain fairly constant. To supplement this change table S3.2 of this permit requires shoreline studies to be conducted, at a frequency to be agreed by the Environment Agency, to monitor any localised impacts. If any are found we will review the limits in place at the time.
4. TSS levels will remain controlled by the existing permit limits in table S3.2 of this permit.