Environmental Permit

Permit Number : EPW22/035

Manufacture of Wood particleboard

Pollution Prevention and Control Act 1999
The Environmental Permitting (England and Wales) Regulations 2016

at
Egger (UK) Limited
Anick Grange Road (Registered Office & Factory)
Hexham
Northumberland
NE46 4JS

This document consisting of 58 pages forms the permit.

Contents

This permit has been issued in accordance with the Environmental Permitting (England & Wales) Regulations 2016 (Regulation 13) and statutory guidance published by Defra: The General Guidance Manual on policy and procedures for A2 and B Installations

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/611093/General-guidance-manual-a2-and-b-installations-part1.pdf

The conditions within this permit are based upon :-

- UK Interpretation Guidance on the Best Available Techniques (BAT) Conclusions for The Production of Wood – Based Panels.

- BAT Conclusions Commission Implementing Decision (EU) 2015/2119 of 20th November 2015.

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015D2119&from=EN

- Best Available Techniques (BAT) Reference Document for the Production of Wood – based Panels. Industrial Emissions Directive 2010/75/EU (Integrated Pollution Prevention and Control). 2016. EUR27732EN.

https://eippcb.jrc.ec.europa.eu/reference/

In compiling this permit, regard has been given to :-

- Environmental permitting (England & Wales) (Exercise of Functions) (Northumberland County Council) Direction 2018 issued to Northumberland County Council under Section 33(1)(b) of the Environmental Permitting (England & Wales) Regulations 2016. Dated: 1st August 2018.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727634/northumberland-direction-egger-ltd-2018.pdf

Permit Holder (operator)	Egger UK Limited
Installation Address	Anick Grange Road Hexham Northumberland NE46 4JS
Registered Address of Operator	First Floor, Technology House 48-54 Goldsworth Road Woking Surrey United Kingdom GU21 6LE
Company Registration Number	02813369

Egger (U.K.) Limited of Anick Grange Road, Hexham, Northumberland, NE46 4JS is hereby permitted by Northumberland County Council (hereinafter called 'the Regulator') to operate a process for the manufacture of wood particleboard at the installation as described below and in accordance with the stated conditions.

Description of Permitted process

Egger (UK) Limited, Hexham (hereafter referred to as 'the Operator'), a manufacturer of wood particleboard, is subject to the Environmental Permitting (England & Wales) Regulations 2016.
The BAT conclusions concern the activities specified in Section 6.1 (c) of Annex 1 to Directive 2010/75/EU, namely "the production in an industrial installation of one or more of the following wood based panels : oriented strand board, particleboard or fibre board, with a production capacity exceeding 600m^3 per day."

The installation boundary is outlined in **red** in EPW22/035/PLAN * on Page 58.

(Note * the area of the installation to the west of the plant is operated by Campact Ltd. This is a chemical process also subject to The Environmental Permitting (England & Wales) Regulations 2016 but is regulated by the Environment Agency as a Part (A)1 process.)

The main activity of this stationary technical unit is the manufacture of wooden particleboard.

Directly associated activities include; storage of raw materials, combustion of fuels with a net rated thermal input of 50 MW, co-incineration of non-hazardous waste, abatement

of atmospheric and water based emissions, impregnation, lamination and finishing of particleboard products.

Installation Activities

The Operator manufactures chipboard from timber and resin to produce board and surfaced board materials. The process comprises the following main phases:

Wood particle preparation (wet)
The wood used at the Hexham site is brought in by lorry from various sources, including:

- Recycled wood from subsidiary company Timberpak Ltd, as well as from other local sources;
- Sawdust, shavings and chippings from local sawmills; and
- Round wood logs from nearby managed sustainable forests, such as Kielder Forest.

The wet chip preparation process is used for primary size reduction of “green” wood, which enters the process in various forms, as detailed below:

- Round wood is converted directly to flakes and is transported by conveyors to a storage silo;
- Hacked chips are converted to flakes and the flakes are transported by conveyor to one of two storage silos;
- Sawdust and shavings are screened to take out oversized material then transported by conveyor to a storage silo; and
- round wood and sawmill offcuts are reduced to hacked chips. This material is conveyed to the hacked chip distribution silo for conversion to flakes.

Sawdust is delivered and offloaded into a designated storage building from which it is transferred to a storage silo. The unloading of sawdust from the delivery trucks is carried out inside the building. The truck enters the building via interlocking, double doors, which ensure no dust is emitted from inside the building during the unloading process. Only one truck at any time can enter or leave the building. The sawdust is deposited onto a push floor and an automatic conveying system feeds the sawdust into the main sawdust silo. A discharge screw beneath the floor feeds the required amount of sawdust into the conveyer system going to the next stage of the process.

Hack chips are stored externally and due to the inherent moisture content and fresh cut condition will not present a dust source. They are transported from storage by mechanical shovel and loaded into bays in the wet chip preparation building before being mechanically transferred to one of the wet storage silos prior to drying and grading.

Round wood logs are stored externally on the designated log yard area. They are then mechanically transported by grab to either the flaking machine or the hacking machine. The material from these machines is then mechanically transported to one of the wet storage silos prior to drying and grading.

Recycled wood is stored externally in the log yard. Off cuts, reject boards and imported wood fibre are reused as a raw material and are also screened and prepared along with

the other raw materials. Contaminants from the raw materials are removed during the screening and preparation stage. In 2022, a new recycling building was commissioned.

Wood particle drying
The prepared wood material, which is made up of varying percentages of different chip sizes depending on the final product required, is transported via a series of conveyors to one of two rotary dryers. One dryer has hot air supplied from the Energy Plant. The other dryer has hot air supplied from a combustion chamber burning process dust and natural gas. In each case the hot combustion gas is firstly passed through a flash-dryer (pre-dryer), where the wet chip material is fed into the system. Then the hot gas, together with the wet chip material, enters the rotary drum, where the material is dried to its final moisture content of between 2 and 5% (based on dry weight).

In both drying lines, the wood chips are separated from the air stream via a series of closed cyclones. The dried chips are stored in a silo and are further processed in the dry chip preparation building. The drying process releases naturally occurring Volatile Organic Compounds (VOCs) and particulate matter from the wood. Gas emitted from the dryers is treated through a Wet Electrostatic Precipitator (WESP), which scrubs the gas and removes VOCs and particulates. Effluent from dryer air cleaning is disposed of by removal off site by tanker.

The main operating parameters for the dryer are an inlet temperature of (300 – 550°C) and the outlet temperature (115 – 140°C) with negative pressure in the combustion chamber (3-6mbar). The dryer inlet also has an emergency cut–off at 600°C which closes the airflow to the dryer and subsequently vents hot gases directly to atmosphere via a designated emergency stack from each drier until temperatures return to normal operating parameters.

Energy Plant
The Energy Plant comprises one boiler fuelled by waste wood, process dust or gas. This supplies hot air to one dryer (as described above) and also heat energy for other processes on site (predominantly the Conti-roll press and as required, the lamination lines and one impregnation line) in conjunction with waste heat exported from Campact Ltd.

Briquette Plant
This plant makes use of waste wood particles, collected in a silo to feed 4 hydraulic rams which compresses the dust into briquettes. The briquettes are bound together by their natural moisture and they are automatically cut to the desired size. These are conveyed directly to the Energy Plant where they are used as fuel.

Wet Electrostatic Precipitator (WESP)
The WESP collects and treats waste gases from the dryers. Waste gases are brought to dew point temperature by evaporation cooling with water, causing Phenols, Formaldehyde and other soluble organic hydrocarbons to be absorbed in the wash water. Aerosols, solid matter, and particularly the components of ‘blue haze’ are removed in the subsequent wet electrostatic precipitator stage before the scrubbed gas is released to atmosphere via a mist collector and 53 metre high chimney. The precipitation surfaces of the wet electrostatic precipitator and the mist collector are cleaned periodically during

operation. This is called a ‘field flush’. During field flush up to 50% of the waste gas is not treated by the electrostatic precipitator, although all gases are water scrubbed before discharge. Sludge precipitates in the wash water as the scrubber operates. This is drained down and the solid matter separated out by a centrifuge decanter.

Wood particle separation and grading
The dry chip preparation process is used to grade the wood chips into different sizes for subsequent use in board production and to remove dense impurities such as small stones and sand. Dried wood is extracted at a controlled rate from the fire silo using a screw conveyer and deposited onto a chain conveyer which feeds two oscillating screens via a splitter plate. Each screen is rated at 25 tonnes per hour (tph) and consists of 3 decks of different mesh sizes to produce four chip fractions - oversize, core, surface and fines. The oversize is conveyed to a distribution silo via a dense material separator to remove large stones or metal. From this silo the material can be reduced in size to core material, using a Hammer mill, or surface material, using a PSKZ mill, depending on the process needs. The core material is conveyed, at a rate of 15 tonnes per hour, to the core air grader, which uses an air stream to differentiate chip geometry by the amount of “lift” generated. Slender, flat flakes generate much more lift than short thick flakes or dense stones and sand. The “lifted” material is transferred to storage silos. The “dropped” material falls onto a fluidised bed screen which further grades the material on density. Stone, glass, and metal pass through the screen and are rejected. Large wood chips are swept from the screen surface into a collector and join the oversize material for further size reduction. The surface material from both dryers is processed by the surface air grader using the same principles. The “lifted” material is pneumatically conveyed to the surface material silo on the board production line. The larger chips, in this case, go to the PSKZ mill for conversion to surface material. Fines are pneumatically conveyed to the dust silo for use as fuel in the wood drying and briquette process.

Production and finishing

Blending
The segregated wood particles are transferred to the surface and core blenders. A wax emulsion is added to the chips to reduce the moisture absorption property of the final product and a urea formaldehyde resin is mixed with water and a catalyst before mixing with the chips in the blender. The resin is used to bond the wood particles and the catalyst to control the cure rate of the resin.

Spreading/Mat formation
After blending, the chips are mechanically transferred to the spreading machine which is made up of two surface heads and two core heads. The mattress is laid and transferred to a cold pre-press to firm up before entering the main press. The spreading machine and the pre-press are each vented to atmosphere via dedicated bag filters.

Hot Pressing
The main press is heated (to an operating temperature of 200 °C – 290°C) by thermal oil. The thermal oil is heated by a heat exchanger from the energy plant. As the mattress passes through the press it is subjected to pressure and this cures the resin to

produce chipboard in a continuous sheet. The speed of the board through the press is varied according to the type and thickness of the final product required.

Trimming, Calibration and Finishing
The final size of the board is achieved via a crosscut saw and edge trimming saws located at the exit of the press. Off cuts are returned to a dedicated silo for recycling in the process. Emissions from the trim saws are vented via a dedicated bag filter. The board is then air cooled via the cooling carousel. Cooled board is sanded to the desired thickness and quality. Dust from the sanding process is returned to a dedicated silo for use as a burner fuel. The sander and dust silos are each vented to atmosphere via dedicated bag filters. The final product is stored in the designated warehouse ready for dispatch by road to the customer.

The chipboard will, in some instances, be subject to a further stage in the process involving the application of an impregnated paper layer. Paper is impregnated in a resin bath and is then pressed on to the board to achieve a decorative finish. Fumes from this process are extracted to a biological scrubber before discharge to atmosphere.

Raw Materials

Timber
Materials sourced externally are supplemented by reclamation and re-use of wood waste arisings from the process. Recycled material is mechanically screened on site to remove contaminants such as plastic and metals. These are diverted to the waste stream.
Timber raw materials such as sawdust and hack-chips, are subject to stock rotation to prevent deterioration of the material and possible fires during storage (e.g. internal combustion).

Resins
Resins used by Egger are manufactured on the same site by a sister company (Campact Ltd.). The primary resins used are Urea-Formaldehyde and Melamine-Urea-Formaldehyde. The level of formaldehyde release from the product arising during manufacture is determined by the ratio of melamine or urea to formaldehyde in the resin mix. The formulation of the resin is designed to achieve the most efficient balance between curing efficiency and formaldehyde emissions. A number of resin recipes are used to achieve specific qualities in the final chipboard product. These recipes, and the combination of wood materials, are carefully controlled to maintain the desired physical and quality requirements of the product (e.g. too much fine wood dust material in the mix will increase the amount of resin required and effect the physical integrity of the final product). Careful control of the recipes ensures that resin used is minimised with the effect of reducing emissions from the process, and minimising energy used for curing.

Resins are delivered directly to the site by Campact through connecting pipework.

Impregnation and lamination
The principal raw materials for impregnation and lamination are paper and resin. Paper is procured centrally in Austria from manufacturers who use recycled material where

possible, with approximately 1.4million m^2 stored on site at any one time. Campact Ltd. also manufactures the resins used in impregnation.

Process Additives
In addition to resins, Egger also uses a variety of process additives and catalysts. These are used in varying quantities to impart specific qualities such as waterproofing in the chipboard product or to improve the efficiency of the production process, for example catalysts to increase the rate of drying, or to improve the impregnation process.

Auxilliary Materials
The main auxiliary process materials used by Egger are oils for lubrication, use in hydraulic systems and maintenance of plant and equipment. The process is largely automated, and it is therefore important that all plant and equipment is regularly maintained to manufacturer's specification to maintain process efficiency. Egger uses a variety of oils and lubricants, with very specific properties, including heat transfer fluids.

Energy

Energy is used throughout the process in the generation of heat for the drying of chipped timber, the operation of plant on the production lines, the generation of pressure and heat for the pressing and curing of the chipboard and the operation of sanding and cutting plant for the finishing of the materials. The Total thermal capacity across the site including all back up plant (gas or gas-oil) is 160MW.
Energy is used in the form of electricity for the majority of mechanical plant. Gas and wood dust (from the process) are used to power one of the wood chip drying units. The other (Core Layer dryer) is powered by the combustion of wood and wood waste in a dedicated energy plant. The Energy plant combines a furnace, mixing chamber and radiation heat exchanger in a membrane wall design burning solid fuel (wood waste, bark, shavings and process dusts) on a travelling grate. Back up fuels are oil and gas for each dryer system.

Only the following fuels are permitted:
- Natural gas;
- Virgin fuel oil;
- Wood;
- Waste wood;
- Process dust.

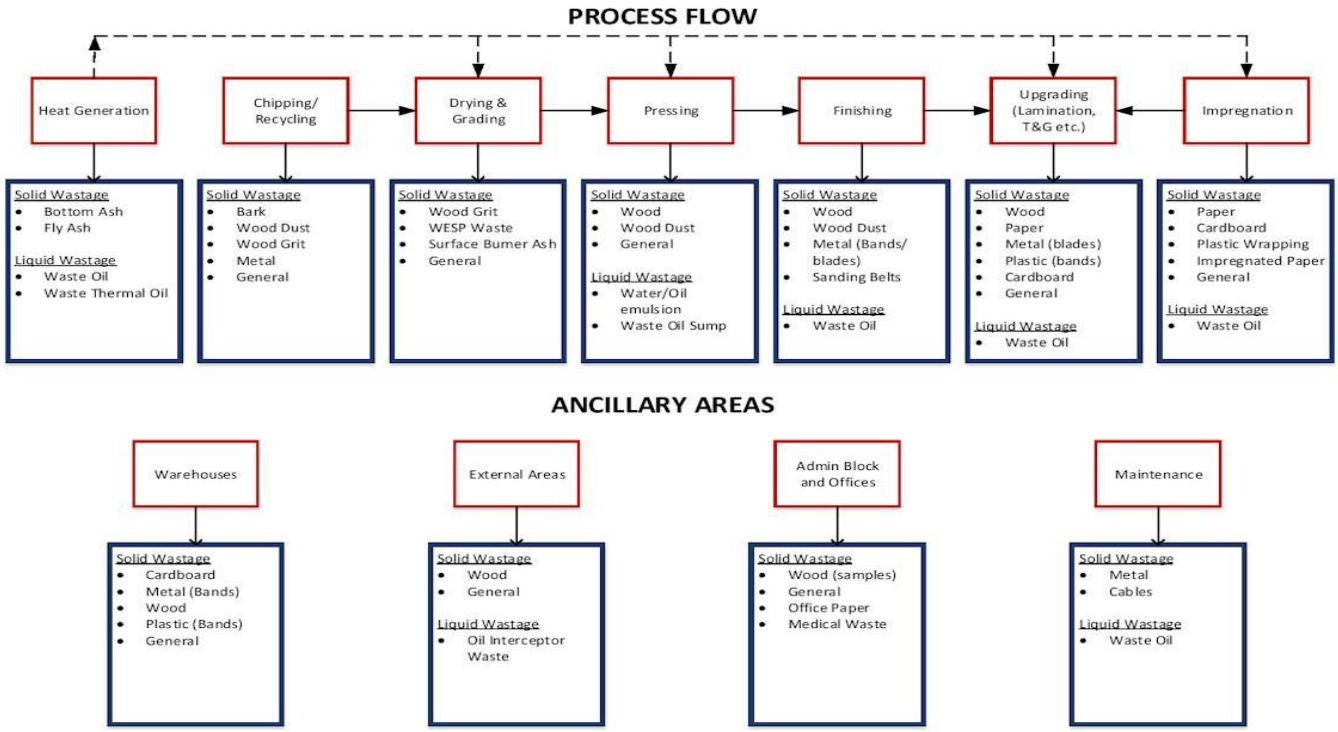
Egger participates in the Wood Panel Industries Federation Climate Change agreement. As a member of this scheme, energy use is monitored and reported.

Waste Arisings

Waste arisings are generated from all major parts of the process. The principal wastes produced include:

- Waste bark;
- Wood waste;
- Liquid wastes from the glue kitchen, production lines and the impregnation process, waste oil;
- Residues from the wet electrostatic precipitator;
- Cardboard, paper & wrapping waste;
- Packaging waste from the warehouse facility;
- Metal saw blades from the finishing process;
- Fly ash, bottom ash, surface burner ash; and
- General, office and medical waste.

Waste produced in the installation is closely monitored and disposal routes, including, re-use and recycling, are selected through a process of consideration of appropriate options.



Process Flow and Waste Arisings

Emissions to Air

Emissions to atmosphere are generated at various points in the process. Principal emissions include:

- Dust from wood storage and transportation;
- Fumes from woodchip drying and production lines;
- Emissions from gas fueled standby thermal oil heaters; and
- Fumes from the impregnation process.
- Emissions from the abatement plant (WESP)

The principal pollutants from these sources include:

- Formaldehyde;
- VOCs; and
- Particulates.

Emissions to Surface Water, Ground Water and Sewers

Emissions to surface water, groundwater and sewer can arise from various activities within the installation. The major process-related discharges are cooling water from production and impregnation.
Other discharges include laboratory sinks, kitchens and toilets, and site drainage water from roofs and external storage areas. There is a mains sewer connection for foul water from domestic sources and laboratories. All installation surfaces are

impermeable and the use of soak away systems for drainage has been discontinued. There are 3 discharges to the River Tyne.

The principal potential pollutants to water include:

- Formaldehyde;
- VOCs;
- Particulate matter;
- Ammonia; and
- Contaminants from process additives and catalysts.

The installation has consents for discharges to the River Tyne for:

- Cooling water from the impregnation line;
- Surface water and roof drainage from the lamination, warehousing and roadways (pre-2007 part of the site to the west);
- Site drainage water from the log yard collected by a swale ditch and treated via a reed bed prior to discharge (eastern part of the site constructed in 2007).

Emissions to Land

Potential emissions to land are from the handling, storage of raw materials and leakage from processes as follows:

- Oils, lubricants and fuels;
- Leakage from the glue kitchen and WESP;
- Dust/ particulate deposits;
- Seepage from external storage areas

Management Techniques

The Operator employs a range of management techniques to control the impacts of activities throughout the installation and has a documented, implemented and maintained Integrated Management System (IMS) based upon the requirements of ISO45001, BS EN 9001,14001and 50001 for Occupational Health and Safety, Quality, Environment and Energy Management, respectively.

Description of production plant and machinery

Combustion plant

1 No Energy Plant – Fuel: gas and waste wood and waste wood dust (rated at 50MW); Typical energy usage: approximately 25 MW.
1 No. Core Layer (CL) burners Vertical Combustion Chamber – Fuel: waste sander dust, 100% gas back up (rated at 25MW);
1 No. Surface Layer (SL) burner Vertical Combustion Chamber – Fuel: waste wood (Process) dust, gas or oil top up (3%) (rated at 40MW) typical energy use 19.9MW.
1 No. Conti Press Oil Back up burner – Fuel: gas/oil NESS boiler (rated at 10MW).
Refer to permitted fuels Table 6 for list of combustion plant.

Chipping Equipment

1No.Hombak Flaking Machine – round wood to flakes;
1 No. Klockner Chipper – slab wood and saw mill offcuts to hack chips;
4 No. PSKZ Mills – type 14/450/66 – hack chips to flakes.

Recycling Line

1 No. Pallman mill (Grizzly)

Driers

2 No. Buttner driers - maximum throughput 40,000 kg/hr

Drier Abatement Equipment

1 No. EWK Wet Electrostatic Precipitator (WESP);
Chimney stack height: 53 metres;
Drier abort stack heights: 30 metres – 2 No. (one each drier).
Scheuch dust abatement plant for internal contained emissions

Production Equipment

Siempelkamp Conti-roll – 800,000m^3 per year;
1 No. Kontra Sander;
Thermal oil heated from Energy Plant with a gas/oil fired back-up boiler.

Impregnation Lines

Vits I

Type	Vits IPA/S/II
Width Paper:	600 to 2300 mm;
Speed:	Up to 65 metres/minute;
Raw Paper Weight:	30-130g/m^2;
Heat Source:	Gas Burners

Vits II

Type	Vits IPA/S/II
Width Paper:	600 to 2300 mm;
Speed:	Up to 65 metres/minute;
Raw Paper Weight:	30-130g/m^2;
Heat Source:	Thermal oil heated predominantly by waste heat from resin process and topped up with heat from the energy plant as required.

Impregnation Abatement Equipment

TIG Wessell wet scrubber with bacterial recovery of liquor, scrubbed gasses are discharged via a single chimney stack.

Laminating Lines

Alma
Type: Siempelkamp single daylight downstroke short cycle press;
Size: 5610 x 2100 x 8-40mm;
Capacity: 140 cycles per hour.

Bridgette
Type: Wemhoner single daylight downstroke short cycle press;
Size: 5610 x 2100 x 8-44mm;
Capacity: 180 cycles per hour.

Claire
Type: Siempelkamp single daylight downstroke short cycle press;
Size 5610 x 2100 x 8-44mm;
Capacity 120 cycles per hour.

Daisy
Type: Wemhoner single daylight downstroke short cycle press;
Size: 5610 x 2100 x 8-44mm;
Capacity: 140 cycles per hour.

Elizabeth
Type : Wemhoner single daylight downstroke short cycle press
Size : 5610 x 2100 x 8-44mm
Capacity : 200 cycles per hour.

Tongue & Groove Line

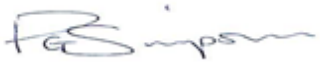
A proportion of board produced on site (approximately 200,000 m3 per year) is furthered processed to produce structural flooring panels with a tongue and groove profile, for use in the building products market. In this process, the boards are cut, profiled, stacked and packed, with some boards diverted to a foiling line for application of a foil surface.

Equipment:
2 No. Kontra Cutting Units
2 No. Schwabedissen Profiling Units
1 No. Peel Clean Surfacing Facility
Size: 2400 mm x 600 mm, 2100 mm x 600 mm, 2400 mm x 915 mm at 18, 22 or 38 mm thickness.

Briquetting

4 No. Neilson units

Quality Control	
Civica reference number	MAU000611 / EP036
Prepared by	W. Stephenson
Checked by	G. Plaice
Authorised by	P. Simpson

Signed  Date: 21st December 2023

Duly Authorised Officer of Northumberland County Council

Permit Conditions

The requirements of the conditions attached to this permit shall come into effect on the date indicated in the individual condition or if no date is indicated shall take effect forthwith.

Management Condition

1. The Operator shall implement and maintain a management system (EMS), organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

The EMS shall incorporate the following features:

- commitment of the management, including senior management;
- definition, by the management, of an environmental policy that includes the continuous improvement of the installation by the management;
- planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment;
- implementation of procedures paying particular attention to:
  - structure and responsibility
  - recruitment, training, awareness and competence
  - communication
  - employee involvement
  - documentation
  - effective process control
  - maintenance programme
  - emergency preparedness and response
  - safeguarding compliance with environmental legislation;
- checking performance and taking corrective action, particular attention shall be paid to:
  - monitoring and measurement
  - corrective and preventive action
  - maintenance of records
  - independent internal and external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained;
- review of the EMS and its continuing suitability, adequacy and effectiveness by senior management;
- following the development of cleaner technologies;
  - consideration for the environmental impacts from the eventual decommissioning of the plant at the stage of designing a new plant, and throughout its operating life;
  - application of sectoral benchmarking on a regular basis.

The following plans will form part of the EMS:

- waste management plan;
- quality control plan for recovered wood used as raw material for panels and used as a fuel;
- noise management plan;
- dust management plan.

2. The Best Available Techniques (BAT) shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation, which is not regulated by any other condition of this Permit.

Operational Changes

3. If the Operator proposes to make a change in operation of the installation, they must, at least 14 days before making the change, notify the Regulator in writing. Notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the installation; any relevant supporting assessments and drawings; and the proposed implementation date, shall be provided.

The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change.

In this condition 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

4. Any such changes, referred to in **Condition 3** above, shall not be implemented until agreed in writing by the Regulator. As from an agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change and relevant provisions in the notification shall be deemed to be amended.

5. When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Regulator written notice of the details of the proposed method(s) or techniques.

6. Any such method(s) or techniques referred to in **Condition 5** above, shall not be implemented until agreed in writing by the Regulator. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the notification (and the Site Protection and Monitoring Programme, as the case may be) shall be deemed to be amended.

Housekeeping

7. In order to minimise the environmental impact of the production process, the following good housekeeping principles using all of the techniques given below shall be implemented:

(a) Careful selection and control of chemicals and additives. A record of decisions relating to product use will be made.

(b) Application of a programme for the quality control of recovered wood used as raw material and/or as fuel[1], in particular to control pollutants such as As, Pb, Cd, Cr, Cu, Hg, Zn, chlorine, fluorine and PAH. (Also refer Condition 92 – Gatehouse Protocol)

(c) Careful handling and storage of raw materials and waste. The procedure for waste handling shall be detailed in the EMS.

(d) Regular maintenance and cleaning of equipment, transport routes and raw material storage areas. The cleaning procedure shall be detailed in the EMS.

(e) Review options for the reuse of process water and the use of secondary water sources. A report detailing all reviews of water sources shall be made.

[1] BS EN ISO 17225-1:2014 can be used for the classification of solid biofuels.

Decommissioning

8. The Operator shall draw up and maintain a Decommissioning Plan. It shall include:

a) Attention to the design of new plant or equipment;
b) Maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and
c) Evidence to demonstrate that the Installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.

9. The Operator shall carry out a full review of the Plan prior to ceasing operations and in advance of any demolition.

10. The Plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.

11. The Operator shall give at least 90 days written notice to the Regulator before implementing the Plan.

Provision of Information for the Pollutant Release and Transfer Register.

12. The Operator shall respond to any Information Notice for the purposes of complying with obligation to report pollutant releases and off-site waste transfers pursuant to the directly applicable EU or UK duty in accordance with Article 5 of EC Regulation No 166/2006 or UK equivalent, concerning the establishment of a Pollutant Release and Transfer Register. By virtue of this condition, failure to respond in accordance with such annual PRTR Information Notice will hereby constitute a breach of your permit.

Water use

13. The Operator shall use vacuuming, scraping or mopping methods to clean up spillages in preference to hosing down on site.

14. The Operator shall fit and use trigger controls on all hoses, hand lances and washing equipment on site.

Point source discharges to water

15. The Operator shall ensure that point source discharges to water are controlled so as to avoid a breach of water quality discharge standards specified in this permit.

16. The Operator shall ensure that run-off from raw material storage areas is channeled or conveyed via the Swale, to an agreed effluent treatment plant or interception system to meet the specified discharge requirements of this Permit.

17. The Operator shall ensure that interceptors are maintained quarterly; subject to at least weekly visual inspection; function continuously to ensure the removal of contamination and have an annual maintenance inspection, prior to which all contents shall be removed.

18. The Operator shall specify and be able to demonstrate that where effluent is treated off-site at a sewage treatment works, all appropriate measures have been taken to reduce effluent volume and strength prior to it leaving the site.

Water discharges

19. The Operator shall ensure that emission limit values in **Table W1** and conditions described below, prefixed with Discharge **1, 2** or **3,** are not exceeded at the points shown in **Figure 1,** Subject to compliance with **Table W2** and **condition 20 below.**

20. The emission limit values in **condition 19** above and **Table W1**, may be exceeded where in any series of samples taken in accordance with **condition 23**, no more than the maximum number specified in column 2 exceed the limit.

Table W1

Permit Discharge point	Acidity pH	Temp ^{0}C	Formaldehyde	Ammoniacal N	Oil & Grease	Total Sus Solids[2][3]
1 Grid Ref: NY9452 6444	5-9	<25	N/A	N/A	None	<30mg/l
2 Grid Ref: NY9446 6454	5-9	<25	10mg/l	10mg/l	None	<30mg/l
3 Grid Ref: NY9465 6430	5-9	<25	10mg/l	10mg/l	None	<30mg/l

21. Discharges 1, 2 & 3 shall not contain any poisonous, noxious or polluting matter or solid waste matter as indicated visually by discolouration or foaming.

22. Provided that the discharge is made in accordance with the Permit conditions and Table W1, such discharge shall not be taken to be in breach of **condition 21** above by reason of containing substances or having properties identified in and controlled by those conditions.

23. The Operator shall take (or procure the taking of) samples of Discharges 1, 2 & 3, at the points prescribed every week and shall analyse (or procure the analysis of) these samples for the parameters shown in **Table W1**.

24. The Operator shall report to the Regulator, as soon as they become aware of any occasion on which the parameters in **Table W1** and subject to **Table W2** are exceeded.

Table W2

Column 1	Column 2
Series of samples taken in any period of 12 consecutive months	**Maximum permitted number of samples which fail to conform**
1-7	1
8-16	2

[2] average of samples obtained during one year

[3] Methodology EN872. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.

17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25

Wastewater

25. In order to reduce the pollution load of the collected wastewater, use of both techniques given below shall be made. Any procedures related to this requirement shall be included in the EMS.

- Collect, and treat separately, surface run-off water and process wastewater
- Store any wood except roundwood and slabs[4] on a hard-surfaced area

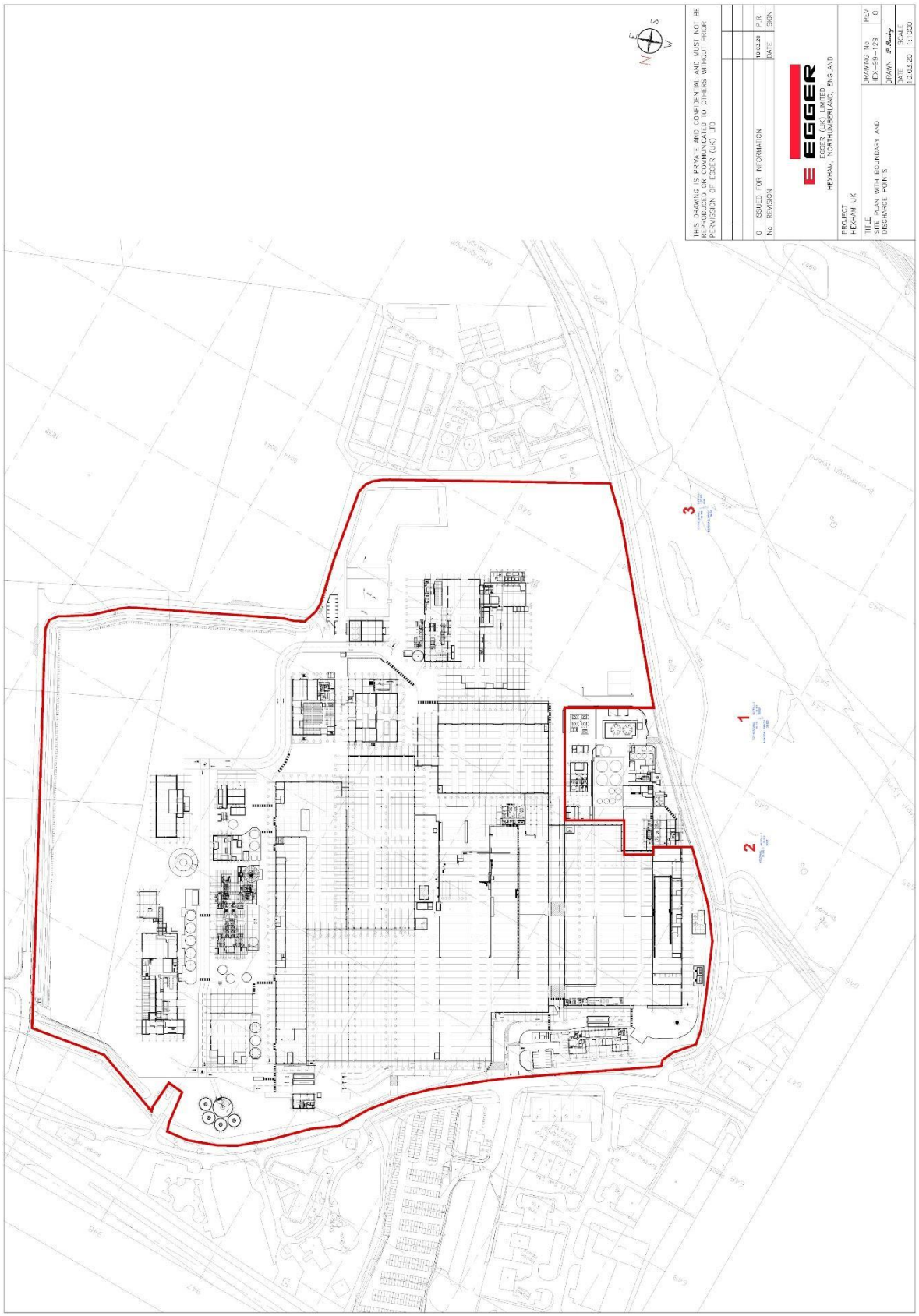
26. In order to reduce emissions to water from surface run-off water, a combination of the techniques given below shall be used. Any procedures related to this requirement shall be included in the EMS.

- Mechanical separation of coarse materials by screens and sieves as preliminary treatment (Outlets 2 & 3)

[4] An outer piece of wood, with or without the bark removed, from the first cuts in a sawing process to render the log into lumber (timber).

- Oil-water separation(Fuel InterceptorsRemoval of solids by sedimentation in retention basins or settlement tanks (Reed bed)

Figure 1: Water Discharge points to the River Tyne



27. The Operator shall comply with the following **:**

Discharge 2 (West) – Source: Impregnation cooling water(indirect), Roof run off.

a) The discharge shall be made at the place specified as:
National Grid Reference NY 9446 6454 and the sample point shall be provided and maintained, so that a representative sample of the discharge may be obtained.

b) The Operator shall ensure that all constituents of the discharge pass through the sampling point at all times and in any legal proceedings it shall be presumed, until the contrary is shown, that any sample of the discharge taken at the sample point, is a sample of what was discharging into controlled waters.

Discharge 1 (Middle point) – Source: Decommissioned 'old plant', production buildings, Surface run off from new Central plant.

a) The discharge shall be made at the place specified as: National Grid Reference NY 9452 6444 and the sample point shall be provided and maintained, so that a representative sample of the discharge may be obtained.

b) The Operator shall ensure that all constituents of the discharge pass through the said sampling point at all times and in any legal proceedings it shall be presumed, until the contrary is shown that any sample of the discharge taken at the said sample point is a sample of what was discharging into controlled waters.

Discharge 3 (East) - Source : Surface water discharge from Main Production related plant & yard drainage via swaile & reed bed settlement / treatment.

a) The discharge shall be made at the place specified as: National Grid Reference NY 9465 6430 and the sample point shall be provided and maintained, so that a representative sample of the discharge may be obtained.

b) The Operator shall ensure that all constituents of the discharge pass through the said sampling point at all times. It shall be presumed in any legal proceedings, until the contrary is shown, that any sample of the discharge taken at the said sample point is a sample of what was discharging into controlled waters.

Fugitive emissions to surface water, sewer and groundwater

28. The Operator shall implement a documented system (Doc Ref: EVHEX004-EN) for ensuring any intrusion through areas covered in impermeable hard standing are detected and adequately repaired.

29. The Operator shall ensure that Polymeric 4,4 -diphenylmethane diisocyanate (PMDI) tanks whose spillage could be harmful to the environment are fully bunded and maintained.

Monitoring and reporting emissions to water and sewer

30. The Operator shall produce an annual compliance report based on the performance of the installation's emissions to water in the preceding financial year. The report will be provided to the Regulator by the **30th April each year**. The type of monitoring and the frequency of monitoring required will be in accordance with an Emissions Monitoring Plan and EMS.

31. The Operator shall ensure that the Report required by **Condition 30** above includes:

a) Compliance confirmation;
b) in year changes;
c) areas identified for improvement and
d) future proposals

Waste

32. In order to prevent or, where that is not practicable, to reduce the quantity of waste being sent for disposal, a waste management plan (EVHEX014-EN), as part of the environmental management system (EMS) shall be adopted and implemented in- line with the waste hierarchy of prevent, reuse, recover.

33. In order to reduce the quantity of solid waste being sent for disposal, the Operator shall :

- Reuse internally collected wood residues, such as trimmings and rejected panels, as a raw material
- Use internally collected wood residues, such as wood fines and dust collected in a dust abatement system and wood sludge from wastewater filtration, as fuel (in appropriately equipped on-site combustion plants) or as a raw material
- Use bag filters etc, where appropriate.

34. The Operator shall incorporate the requirements of Condition 33 above in their reports required in Conditions 43 below.

35. The Operator shall ensure that bottom ash from the Energy Plant or mixed ash from the Surface burners*[5] (EWC10 01 16) shall be sampled quarterly in accordance LOI and the results recorded and made available to the Regulator within 8 weeks of sampling, before being removed from site.

Waste Handling

36. The Operator shall identify and record the waste streams generated, the quantity, nature (physical & chemical composition & hazard characteristics), origin and the destination, frequency of collection, mode of transport and treatment method & handling precautions of any waste which is disposed of or recovered.

37. The Operator shall ensure that waste storage areas are clearly marked and signed, and that containers are clearly labeled.

38. The Operator shall ensure that appropriate storage facilities are provided for substances that are flammable, sensitive to heat or light and so on and that incompatible waste types are kept separate.

39. The Operator shall ensure that containers are stored with lids, caps and valves secured and in place (this also applies to emptied containers).

40. The Operator shall ensure that procedures are in place to deal with damaged or leaking containers

41. The Operator shall segregate waste prior to disposal.

[5] Refer also to Condition 82

42. The Operator shall maintain and keep up to date the Waste Disposal Handbook which identify the disposal route for all waste generated on site.

Monitoring and reporting of waste

43. The Operator shall produce an annual compliance report based on the performance of the installation's waste in the preceding financial year. The report will be provided to the Regulator by the **30th April each year**.

44. The Operator shall :

- Continuously review options for off-site and on-site reuse of bottom ash and slag.
- Ensure an efficient combustion process which lowers the residual carbon content is maintained
- Ensure safe handling and transport of bottom ash, slag and fly ash in closed conveyers and containers / skips, or by humidification.[6]
- Ensure safe storage of bottom ash, slag and fly ash in a designated impermeable area with leachate collection.

45. The Operator shall incorporate the requirements of **Condition 44** above in the reports required in **Conditions 43** above and in the EMS.

[6] Humidification is only necessary when bottom ash and slag are wetted for safety reasons.

Site Condition

46. The Operator shall implement and comply with an agreed Site Protection and Monitoring Programme (SPMP) which shall ensure that the condition of the **land** and **groundwater** within the installation shall not deteriorate and at the time of site decommissioning shall be returned to at least the standard at time of the original site condition report.

47. The SPMP shall be reviewed when any new or temporary development within the site which could impact on land or groundwater is identified. Where new developments are planned for the site, additional sampling will be carried out when the foundations or earthworks are commenced, to inform the SPMP.

48. The management of emissions to soil & groundwater shall be incorporated into the EMS and compliance review & report required by **Condition 49** below.

Monitoring and reporting of emissions to land

49. Following implementation of this permit, the Operator shall monitor for emissions to soil at least every 10 years and at least every 5 years for groundwater, unless a Stage 1-3 assessment of baseline data for hazardous substances recommends a more frequent assessment – Ref: ECG2014/C136/03.

49.The Operator shall, where sampling has been carried out, supply to the Regulator within 8 weeks, a compliance report.

Air

50. In order to reduce emissions to air, all waste treatment systems shall be operated at all times with high availability and at optimal capacity during normal operating conditions.
Where reduced availability and capacity occur, the Regulator shall be notified on the first available working day.

51. The Operator shall with respect to:

- the WESP;
- impregnation line stack;
- energy plant;
- conti-press backup burner stack and
- bag filter discharges,

ensure that emissions to air are contained and adequately extracted (via suitable abatement plant) to meet the specified emission limit values shown in **Tables 1**, **2**, **3** and **4**.

52. When the plant is not operating normally, such as during start-up, shut down, malfunction, leaks, temporary stoppages, changes of fuel or combustion load and any other special circumstances which could affect the proper functioning of the abatement plant, such as cleaning (including field flushing) and maintenance (scheduled and nonscheduled), the Operator shall keep records which demonstrate and verify that emissions to air have been minimized. The Regulator shall be notified on the first available working day.

53. The records relating to **Condition 52** shall contain clearly documented instructions and procedures documenting 'other than normal operating conditions' and 'other special circumstances' and will set out operational controls during these times to ensure air quality impacts are minimized. These records shall be made available to the Regulator on request and will form part of the EMS.

54. The Operator shall ensure that liquid entrainment in the duct of wet abatement equipment that may lead to droplet fallout does not occur as a result of the linear flow rate within the duct exceeding 9 m/s.

55. The Operator shall implement a routine maintenance programme to ensure that flues and ductwork are cleaned to prevent accumulation of materials. A copy of the programme shall be made available annually to the Regulator.

56. The Operator shall ensure that, even during field flush activities, at least 50% of the flow discharging via the WESP is actively treated (i.e. field flushes of both streams exhausting via the WESP shall not coincide).

57. The Operator shall ensure that the inlet and outlet temperatures of wood dryers are as low as practicable, whilst achieving the necessary final moisture content of the wood, in order to minimise the emission of organic compounds and meet the emission limits in **Table 2**.

58. The Operator shall ensure that the wood and wood waste combustion equipment serving both dryers (the Surface layer burner and Energy Plant) maintains combustion conditions for each device when burning any form of waste wood, so as to give a temperature at the exit of the combustion chamber of at least **850°C** which shall be maintained for at **least 2 seconds** duration, before cooling the resultant gasses prior to entry into the wood driers.

59. The Operator shall measure combustion gas temperatures near to the inner wall of the combustion chamber or an alternative position agreed with the Regulator. The point of measurement shall be located after the last injection of combustion air, including any secondary air or re-circulated flue gasses.

60. The Operator shall demonstrate that the temperature of the combustion gasses is raised in a controlled and homogeneous fashion by demonstration that cold spots in the chamber or channeling in the gas flow have been avoided.

61. The Operator shall ensure that each waste wood burning appliance shall have a waste feed interlock to prevent waste wood from being fed into the combustion appliance unless the required temperature conditions specified in **condition 58** above are met, either at start up or during operation.

62. The Operator shall ensure that the waste wood feed shall be stopped in the event of failure of the WESP abatement system.

63. The Operator shall ensure that the temperatures required in **condition 58** above, shall be maintained on shut down of the combustion appliance until all waste wood in the combustion chamber has been burnt.

64. In accordance with Section 1.4.1 of the UK Interpretation Guidance on the Best Available Techniques (BAT) for The Production of Wood Based Panels, the Operator shall use and maintain, where necessary, the following abatement techniques for reduction of air emissions:

- Wet electrostatic precipitator[7] - Dust, volatile organic compounds
- Wet scrubber - Dust, volatile organic compounds
- Bioscrubber[8] - Dust, volatile organic compounds
- Chemical degradation or capture of formaldehyde with chemicals in combination with a wet scrubbing system[9] – Formaldehyde

65. The Operator shall ensure the efficient operation of the combustion process using air and fuel-staged combustion, while applying pulverised combustion, fluidised bed boilers

[7] Applicability may be limited by high dust concentrations and high temperatures in the waste gas from the dryer

[8] Applicability may be limited by high dust concentrations and high temperatures in the waste gas from the dryer

[9] Generally applicable in wet abatement systems

or moving grate firing to minimise NOX emissions to air from directly heated dryers.

66. For all new parameters included in this permit, the operator shall review the monitoring results and techniques specified and will report back to the Regulator with a recommendation for achieving compliance with the ELV's where these ar not already met, within 6 months of this Permit reissue date.

67. In order to reduce dust emissions to air from upstream and downstream wood processing, conveying of wood materials and mat forming, either a bag filter or a cyclone filter shall be used.

68. All channeled dust emissions to air from upstream and downstream wood processing, conveying of wood materials and mat forming shall comply with **Table 1**

69. In order to reduce emissions of volatile organic compounds (VOC's) to air from the drying ovens for the impregnation of paper, techniques a. and b shall be used and a combination of c.& d., as the site allows.

a) Select and use resins with a low formaldehyde content
b) Controlled operation of ovens with balanced temperature and speed
c) Post-combustion or incineration of waste gas in a combustion plant
d) Wet scrubbing of waste gas followed by treatment in a biofilter

70. All emissions to air for TVOC and formaldehyde from drying oven for Impregnation of paper shall comply with **Table 3.**

71. In order to prevent or, where that is not practicable, to reduce diffuse emissions to air from along **the press** line, off-gas collection shall be captured and channeled for treatment. **All emissions shall comply with Table 2**.

Table 1: General site emissions – Limit Value for contained emissions to air (Scheuch)

Determinant	Source	Limit	Type of Monitoring	Frequency of Monitoring
Dust	Channeled emissions	10 mg/Nm^3	Periodic bench marking to static dust sampling across the site. EN13284-1	Annual

Table 2: WESP emissions (combined treated emissions from dryer and press) – Limit Values for contained emissions to air (measured at point of emission to the atmosphere)

Determinant	Limit [10]	Type of Monitoring	Frequency of Monitoring
Particulate matter	15 mg/Nm^3	Periodic [11] EN13284-1	Every 6 months
TVOC[12]	100mg/Nm^3	Periodic EN12619	Every 6 months
Formaldehyde	[13]10 mg/Nm^3	Periodic[14]	Every 6 months
HCl[15]	3.2mg/Nm^3 *	Periodic EN1911	Every 6 months
HF[16]	0.3mg/Nm^3	Periodic ISO15713	Every 6 months
NO_X	250mg/Nm^3	Periodic: EN14792	Every 6 months

[10] **Corrected to 18% oxygen (dry)**unless otherwise stated.

[11] Where continuous monitoring is shown by the Operator to be impractical, compliance with the emission limits should be demonstrated by selection of abatement equipment which is capable of meeting the specified emission limits and by continuous monitoring of the abatement equipment performance, for example by the installation of optical cross duct detectors on fabric filters or cyclones.

[12] Methane monitored according to EN ISO 25140 or ENISO25139 is subtracted from the result when using natural gas, LPG, etc. as a fuel.

[13] When using almost exclusively recovered wood, the upper end of the range may be up to 15 mg/Nm^3. In UK this would be >85% of feedstock to be recovered wood.

[14] In the absence of an EN standard, the preferred approach is isokinetic sampling in an impinging solution with a heated probe and filter box and without probe washing, e.g. based on the US EPA M316 method.

[15] Relevant if contaminated recovered wood is used as fuel.

[16] Relevant if contaminated recovered wood is used as fuel

Determinant	Limit [17]	Type of Monitoring	Frequency of Monitoring
SO_2	50 mg/Nm^3	Periodic EN14791	Every 12 months
CO	75 mg/Nm^3	Periodic: EN15058	Every 6 months
[18]**Cadmium** and its compounds expressed as cadmium (Cd) plus; **Thallium** and its compounds expressed as Thallium (Tl)	[19]Total 0.05 mg/Nm^3	Periodic EN14385	Every 12 months
[19]**Mercury** and its compounds expressed as mercury (Hg)	[20]0.05 mg/Nm^3	EN13211(For Hg)	
[19]**Antimony** and its compounds expressed as antimony (Sb); **Arsenic** and its compounds expressed as arsenic (As); **Lead** and its compounds expressed as lead (Pb); **Chromium** and its compounds expressed as chromium (Cr); **Cobalt** and its compounds expressed as cobalt (Co); **Copper** and its compounds expressed as copper (Cu); **Manganese** and its compounds expressed as manganese (Mn); **Nickel** and its compounds expressed as nickel (Ni); **Vanadium** and its compounds expressed as vanadium (V);	[20]Total 0.5 mg/Nm^3		

[17] **Corrected to 18% oxygen** unless otherwise stated.

[18] As the UK sites use recovered wood as a fuel annual monitoring of these parameters is necessary. The gatehouse protocol is a management technique which provides a level of confidence that materials which enter the site are able to match the requirements of the exemptions from WID in that recovered wood should not be coated or treated with heavy metals or halogenated organic compounds. It is possible that metals could be within the emission from other sources. Elevated levels of metals reported within the emission may indicate that the gatehouse protocol is not being managed appropriately.

[19] **Corrected to 6% oxygen**

Determinant	Limit [20]	Type of Monitoring	Frequency of Monitoring
PCDD/F[19] Dioxins	[20]0.1 ng/m^3 TEQ	Periodic EN1948Parts1, 2 and 3	Every 12 months
Hydrogen Cyanide (HCN)[12]	1.5 mg/Nm^3	Periodic USEPAOTM29	Every 6 months
Polycyclic Aromatic Hydrocarbons (PAH):	1 mg/Nm^3	Periodic US EPA 16 suite	Every 6 months
Operational conditions : Stack flow >9m/s Efflux velocity >15m/s	n/a	Periodic (surrogate indicative measure)	Every 6 months
Blue haze	Not visible	Observation	Daily
Water vapour	No droplet fall out	Observation	Daily
Visible emissions	Combustion plant	Ringelmann shade 1 - British Standard BS 2742:1969.	Daily

[20] **Corrected to 18% oxygen** unless otherwise stated.

Table 3 : Impregnation Plant – Limit Values for contained emissions to air (from impregnation dryer / oven) (including combustion products where applicable)

Determinant	Limit	Type of Monitoring	Frequency of Monitoring
TVOC	[21]30mg/Nm^3	Quantitative EN12619	Every 6 months
Formaldehyde	10 mg/Nm^3 (measured as formaldehyde)[22]	Quantitative	Quarterly
Visible emissions	Combustion plant	Ringelmann shade 1 - British Standard BS 2742:1969.	Daily
Water vapour	No droplet fall out	Observation	Daily

[21] Calculated as carbon and measured in accordance with the general accepted method /footnote 13

[22] In the absence of an EN standard, the preferred approach is isokinetic sampling in an impinging solution with a heated probe and filter box and without probe washing, e.g. based on the US EPA M316 method.

Table 4: Press thermal oil backup boiler (gas/Oil) – Limit Values for contained emissions to air

Determinant	Limit[23]	Type of Monitoring	Frequency of Monitoring[24]
Visible emissions	Ringelmann shade 1 - British Standard BS 2742:1969.	Operator observations	Daily when in operation
Carbon monoxide (CO),	75mg/Nm^3	Periodic	Whenever it is in continuous use for a period of 2 months or longer
SO_2	40mg/Nm^3	Periodic	Whenever it is in continuous use for a period of 2 months or longer
NOx	200mg/Nm^3	Periodic	Whenever it is in continuous use for a period of 2 months or longer

[23] **Corrected to 3% oxygen (MCPD)**.

[24] The plant should not be operated for the sole purpose of fulfilling monitoring requirements and monitoring is not required when the plant is being operated for testing purposes only.

Fugitive Emissions to Air

72. The Operator shall ensure that operations are at all times controlled to minimise fugitive emissions to air.

73. In order to reduce diffuse dust emissions to air from the transport, handling, and storage of wood materials, a **Dust Management Plan,** as part of the environmental management system (EMS) shall be implemented and shall include one or a combination of the techniques given below:

- Regularly clean transport routes, storage areas and vehicles
- Unload sawdust using covered drive-through unloading areas
- Store sawdust dust-prone material in silos, containers, roofed piles, etc. or enclosed bulk storage areas
- Suppress dust emissions by water sprinkling

74. Based on the Dust Management Plan required by **Condition 73**, the Operator shall within 12 months of the issue date of this permit, identify and report back to the Regulator with a documented Procedure to ensure that sawdust deliveries and storage are controlled in accordance with this Permit and EMS.

75. The Operator shall ensure that only round wood logs, wood chips (hack chips) and recycled wood shall be stored externally.

76. The Operator shall review the Dust Management Plan, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall be agreed in writing by the Regulator. A summary report on this review shall be sent to the Council by the **30th April each year.**

Odour

77. Emissions from the installation shall be free from odour at levels likely to cause offence outside the site, as perceived by an Authorised Officer of the Local Authority. The Operator shall, if notified by the Regulator, that site activities are giving rise to offensive odour outside the site :

a) submit to the Regulator for approval within an agreed period, an odour management plan (OMP) which identifies and minimizes the risks of pollution from odour;
b) implement the approved OMP, from the date of approval.

78. In order to prevent and reduce odour, waste gas from the driers, wood combustion appliances and the Conti press, shall be treated by passing through the WESP (Wet Electrostatic Precipitator) and will comply with ELV's in **Table 2**, unless otherwise agreed with the Regulator.

79. In order to prevent and reduce odour, waste gas from the impregnation process shall be passed through the abatement plant and wet scrubber and will comply with ELV's in **Table 3**, unless otherwise agreed with the Regulator.

Process and production parameters

80. The Operator shall ensure that all tests for compliance of the emissions from each specified item of production equipment are conducted at normal production flows and capacity. In no circumstances will results of monitoring be submitted for compliance purposes unless the production flow rate is greater than 80% of the declared nominal rating of the plant.

81. The Operator shall ensure that all monitoring reports state the production activities and throughputs applicable during the periods of each measurement.

82. The Operator shall operate and maintain the Energy Plant and dust fueled drier combustion appliances to ensure the Loss on Ignition (LOI) content of the bottom ash or Mixed ash (slag) is not higher than 5%.

83. The Operator shall ensure that emissions from a drier or the WESP unit must be determined prior to or in the absence of dilution air unless reasons to the contrary are advanced by the Operator and accepted by the Regulator in writing.

Provision of Sampling and monitoring facilities

84. The Operator shall ensure that adequate and safe facilities for sampling and monitoring are provided on all vents, ducts and stacks used for the discharge of exhaust gases to atmosphere.

85. The Operator shall ensure that cross duct full velocity profiles are provided with monitoring results.

86. The Operator shall ensure that any departures from uniform flow conditions, arising as a result of difficulties in locating sample ports with appropriate clearances of 5 stack diameters downstream of any disturbance or change in geometry and 2 stack diameters upstream of similar disturbances or the exit plane of any stack, vent or duct, shall be submitted to the Regulator, for approval with a justification explaining the reasons why non-ideal sampling conditions should be accepted.

87. The Operator shall ensure that sampling points on any new items of plant comply with the British or equivalent standards.

88. The Operator shall ensure that where monitoring is not in accordance with the main procedural requirements of the relevant standard, deviations should be reported as well as an estimation of any error invoked. To vary the main monitoring procedure, written permission of the Regulator must first be obtained.

89. The Operator shall ensure that facilities be granted to any duly authorised officer or their approved contractors and representatives, to take samples as and when required. In these respects, the Operator will owe a duty of care to any such officer, contractor or representative.

90. The Operator shall ensure that the introduction of dilution air to achieve emission concentration limits shall not be permitted.

Controls on Fuels

91. The Operator shall ensure that only permitted fuels for combustion processes are those stated in **Table 6**.

92. A Gatehouse Protocol, as devised by the UK Link Authority and applied to UK sites to ensure that recovered wood entering site is not identified as 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, shall be implemented.

This protocol will form part of the audited EMS.

93. The Operator shall ensure that none conforming material will not be used in the energy plant. Bottom ash (EWC 10 01 14) slag and boiler dust (EWC 10 01 16) shall be removed from site as often as necessary in a closed skip for disposal.

94. The Operator shall ensure that the types and quantities of all fuels used shall be recorded and reported annually. The report period will be the year to **31st March each year.**

Table 6: Combustion Process Permitted Fuels

Combustion process	**Permitted fuel**	**EC Waste catalogue reference**
Energy Plant - serving Core Dryer & providing process heat	Process derived dust + recycled wood	02 01 07 – forestry waste 03 01 01 – waste bark 03 01 05 – sawdust, shavings, cuttings, wood particleboard and veneer other than those containing dangerous substances
	Natural gas	Not a waste
Core Layer Dryer –	Process derived dust (surface sanding and surface layer chip screening only)	03 01 05 – sawdust, shavings, cuttings, wood particleboard and veneer other than those containing dangerous substances
	Natural Gas	Not a waste
Surface layer Dryer	Process derived dust	03 01 05 – sawdust, shavings, cuttings, wood particleboard and veneer other than those containing dangerous substances
	Natural gas	Not a waste
	Gas oil	Not a waste
NESS press oil standby boiler	Natural gas	Not a waste
	Gas oil	Not a waste

Monitoring and Reporting of Emissions to Air

95. The Operator shall submit a 6 monthly report on the compliance of the installation with the Permit conditions relating to emissions to air. The type of monitoring and the frequency of monitoring required will be in accordance with the Emissions Monitoring plan and EMS.

96. The Operator shall ensure that for air sampling the methods in **Tables 1-4** are used unless otherwise agreed with the Regulator.

Noise

97.The Operator shall ensure that noise from the installation shall not cause the ambient noise levels stated below to be exceeded at the nearest boundary to the plant of the following residential properties[25]:

The Timbers, Anick Road, Hexham NE46 1JT
12 Denelands, Hexham NE46 1HL
11 Eastwoods Grange Court, Hexham NE46 1TL
1-10 Tyneview Terrace, Hexham NE46 1RE
Oaklands, Anick Road, Hexham NE46 4JR
Fairfield, Oakwood, Hexham NE46 2LF
1-15 Woodlands Terrace, Corbridge Road, Hexham NE46 1HT
Sunningdale House Care Centre, Corbridge Road, Hexham NE46 1HW

Noise level (free field):
$L_{Aeq\ 16\ hours\ (0700\ to\ 2300\ hours)}$ 50 dB
$L_{Aeq\ 8\ hours\ (2300\ to\ 0700\ hours)}$ 42 dB
$L_{Amax\ fast\ (2300\ to\ 0700\ hours)}$ 60 dB[26]

98. The Operator shall ensure that the $L_{A\ max\ fast}$ 60dB is applied to prevent sleep disturbance.

99. The Operator shall ensure that no discernable tonal character or impulse character shall be detectable in the noise from the installation when assessed at the noise sensitive dwellings.

100. The Operator shall maintain a documented Noise Control Management Plan[27]. The Noise Control Management Plan shall include the measures detailed in **Condition 102** below

[25] Conditions in the noise section of the permit will be assessed at the noise sensitive dwellings near the installation as identified in the permit application. Assessment shall only be made from measurement positions outside buildings and which give results that are representative of the levels at the buildings where people are likely to be affected. The stated measurement positions may be changed by the regulator following discussion with the operator. Points where reliable compliance has been demonstrated by the operator will not need to be monitored as often as other positions. The regulator intends to add one or more measurement position(s) representative of properties in the Oakwood and Anick area, which are subject to noise emission from the eastern part of the site. The exact position of the additional point or points will be determined by a survey undertaken by the regulator.

[26] The $L_{A\ max\ fast}$ 60dB is applied to prevent sleep disturbance. This standard shall also apply by day and night to hospitals and similar premises.

[27] In assessing the measures required to control noise from the installation regard shall be had to Environment Agency guidance note H3, *Horizontal Guidance for Noise (Parts 1 and 2)*. In assessing BAT for these controls the following shall be achieved:

101. The Noise Management plan will be incorporated into the EMS.

102. The Noise Management plan shall prevent, or where that is not practical, shall reduce noise and vibrations using one or a combination of the following techniques:

- Strategic planning of the plant layout in order to accommodate the noisiest operations, e.g. so that on-site buildings act as insulation.
- Applying a noise reduction programme which includes noise source mapping, determination of off-site receptors, modelling of noise propagation and evaluation of the most cost-effective measures and their implementation.
- Performing regular noise surveys with monitoring of noise levels outside the site boundaries during both normal and 'special circumstances'.
- Enclosing noisy equipment in housing or by encapsulation and by soundproofing buildings.
- Decoupling individual equipment to pre-empt and limit propagation of vibrations and resonance noise.
- Point source insulation using silencer, damping, attenuators on noise sources, e.g. fans, acoustic vents, mufflers, and acoustic enclosures of filters.
- Keeping gates and doors closed at all times when not in use. Minimising the fall height when unloading roundwood.
- Reducing noise from traffic by limiting the speed of internal traffic and for trucks entering the site.
- Reducing noise from traffic by limiting the speed of internal traffic and for trucks entering the site
- Reducing noise from traffic by limiting the speed of internal traffic and for trucks entering the site.
- Limiting outdoor activities during the night.
- Regular maintenance of all equipment.
- Using noise protection walls, natural barriers or embankments to screen noise sources.

Monitoring and Reporting of Noise

103. The Operator shall produce an annual noise compliance report based on the performance of the installation in the preceding year to the 31st March. The report will be provided to the regulator by the **30th April** each year. The format of the report shall be agreed with the Regulator and it shall identify compliance, in year changes, areas

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- The underpinning of good practice for controlling noise, including adequate maintenance of any parts of plant or equipment whose deterioration, may cause increases in noise. For example, this would include bearings, air handling plant, and the building fabric as well as specific noise attenuation measures associated with plant, equipment or machinery;
- Noise levels shall not be loud enough to give reasonable cause for annoyance to persons in the vicinity;
- The prevention of creeping ambient noise level (often referred to as creeping background), which is the gradual increase in ambient sound levels as industry expands and areas develop.

identified for improvement and future proposals. The report will include information required by **condition 102**.

103a. Noise monitoring to ensure compliance with **conditions 97-99** shall take place every 3 years, unless either a) new noise sources are introduced on to site (e.g. installation of new fixed, permanent plant , buildings or equipment) or b) in response to serious and persistent noise complaints being received.

Energy Management and Energy Efficiency

104. In order to reduce energy consumption, the Operator will maintain an Energy Management Manual (Ref: VRTM006-RL-EN), which includes all of the techniques given below, shall be implemented :

a) use a system to track energy usage and costs;
b) carry out energy efficiency audits of major operations;
c) use a systematic approach to continuously upgrade equipment in order to increase energy efficiency, including lighting;
d) upgrade controls of energy usage;
e) apply in-house energy management training for operators.

105. The Operator will maintain accreditation under BSISO50001:2018.

106. In order to increase the energy efficiency, the operation of the combustion plant shall be optimised by monitoring and controlling key combustion parameters (e.g. O2, CO, NOx) and applying one or a combination of the techniques given below:

	Technique	**Applicability**
a.	Recover heat from hot waste gases in wet abatement systems using a heat exchanger(Energy plant & WESP)	Applicable to plants with a wet abatement system and when the recovered energy can be used
b.	Recirculate hot waste gases from different processes to the combustion plant or to preheat hot gases for the dryer	Fully applicable as directly heated dryers. The plant configuration allows controlled air addition.

Monitoring and Reporting of Energy Use

107. The Operator shall produce a report annually, based on the preceding year to the 31st March, on the energy consumption of the installation. The report will include information required by **Conditions 104-106** and shall be provided to the Regulator by the **30th April** each year.

Environmental Accidents (incidents or non-conformance leading to or having potential for environmental pollution).

108. The Operator shall maintain and review documented procedures for identifying & investigating environmental accidents, incidents and near misses, including identifying suitable corrective action and follow-up.

109. The Operator shall ensure that suitable equipment shall be readily available to handle spillages or adequate provision should be made for containment of the spillage.

Reporting of Environmental Accidents

110. The Operator shall in the case of abnormal emissions arising from an accident, incident or near miss with potential to have environmental consequences, take the following action:

a) Investigate immediately and undertake remedial action as soon as practicable;
b) Promptly record the events and actions taken;
c) Ensure the Regulator is provided with a full incident report within 4 weeks of the occurrence.

111. The Operator shall notify Regulator without delay, of any incident or accident significantly affecting the environment.

Records for verification of compliance with permit conditions

112. The Operator shall monitor and keep records of audits, inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments of emissions where this is specified in the topic related conditions within this Permit.

113. In order to ensure the stability and efficiency of techniques used to prevent and reduce emissions, appropriate surrogate parameters[28], shall be monitored both during normal and special circumstances.

114. Where surrogate parameters are suggested for emission monitoring, the Operator shall provide, in agreement with the Regulator, a full optioneering assessment that includes all justifications necessary for the use of the identified surrogate. The relationship between the emission and the surrogate must be fully identified and limits agreed.

115. The Operator shall ensure that monitoring contractors and inhouse monitoring laboratories are able to demonstrate that tests have been conducted by suitably qualified and experienced personnel.

116. The Operator shall ensure that monitoring laboratories used to analyse samples are certified to the appropriate standard for the work being undertaken.

117. The Operator shall ensure that, in respect of **condition 112** above, current records should be kept on site and be made available for the Regulator to examine.

118. The Operator shall retain specified records and other records for a minimum period of 6 years from the date when the records were made.

119. The Operator shall make available for inspection by the Regulator, at any reasonable time:

a) Specified Records;
b) Any other records made by the Operator in relation to the operation of the Permitted Installation (“Other Records”) including Environmental Accidents.

120. The Operator shall ensure that Specified Records and other records are:

a) legible;
b) made as soon as reasonably practicable; and
c) indicate any amendments which have been made and shall include the original record wherever possible.

121. The Operator shall ensure that the results of non-continuous emission testing are forwarded to the Regulator within 8 weeks of the completion of the sampling.

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[28] The surrogate parameters monitored may include: waste gas airflow; waste gas temperature; visual appearance of emissions; water flow and water temperature for scrubbers; voltage drop for electrostatic precipitators; fan speed and pressure drop across bag filters. The selection of surrogate parameters depends on the techniques implemented for the prevention and reduction of emissions.

122. The Operator shall ensure that adverse results from any monitoring activity (both continuous and non-continuous) shall be investigated immediately.

123. The Operator shall ensure that in respect of **condition 122** above:

a) The cause has been identified and corrective action taken;
b) As much detail as possible is recorded regarding the cause and extent of the problem and the action taken to rectify the situation;
c) Re-testing to demonstrate compliance is carried out as soon as possible; and
d) The Regulator is notified as soon as the adverse results are obtained.

124. The Operator shall in the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions:

a) Investigation and remedial action shall be undertaken immediately;
b) Adjust the process or activity to minimise those emissions; and promptly record the events and actions taken;
c) Suspend the activity immediately, in the case of non-compliance causing immediate danger to human health;
d) Record all such occurrences in a site logbook.

125. The Operator shall inform the Regulator immediately by telephone (at any time Tel. 0345 600 6400):

a) If there is an emission that is likely to have an effect on the local community (including the business community);
b) In the event of the failure of key abatement plant, for example, bag filtration plant, scrubber units or WESP;
c) If continuous monitoring shows an emission concentration exceeding the limit value by 25%.

126. All new continuous monitoring equipment shall be designed for less than 5% downtime over any 3-month period.

Operations and maintenance

127. The Operator shall ensure that effective operational and maintenance systems are employed on all aspects of the installation whose failure could impact on the environment, in particular there shall be:

a) Documented operational control procedures;
b) A documented preventative maintenance schedule, covering all plant whose failure could lead to impact on the environment, including major 'non productive' items such as tanks, pipework, retaining walls, bunds, ducts and filters; this should be reviewed and updated annually;
c) Documented procedures for monitoring emissions;
d) A clear internal reporting, recording and decision making mechanism identifying personnel, their roles and their responsibilities for the controls included within the permit conditions.

128. The Operator shall ensure that equipment & process warning systems shall be maintained and checked to ensure continued correct operation, in accordance with the manufacturer's recommendations.

129. The Operator shall ensure that essential spares and consumables are held on site or be available at short notice from suppliers, so that plant breakdown can be rectified rapidly.

130. The Operator shall nominate a competent person to liaise with the Regulator and the public with regard to complaints. The Regulator shall be informed of the designated individual.

131. The Operator shall maintain a contact system allowing members of the public or others to report complaints about the installation to the Operator at any time of the day or night. Any complaints received shall be documented and an appropriate response at the time.

132. The Operator shall make a record of any complaints concerning the Installation's effect or alleged effect on the environment. The record shall give:

a) the date of complaint,
b) time of complaint,
c) a summary of any investigation and the results of such investigation,
d) be made in a log kept for this purpose.

133. The Operator shall make available to the Regulator a copy of the complaints action log upon request.

Competence and training

134. The Operator shall have in place a documented training system for all plant staff, covering the following items:

a) Awareness of the regulatory implications of the permit;
b) Awareness of all potential environmental impacts under normal and abnormal circumstances;
c) Awareness of the procedures for dealing with a breach of the permit conditions;
d) Prevention of accidental emissions and action to be taken when accidental emissions occur;
e) Awareness of all EMS operating procedures.

135. The Operator shall document the skills and competencies necessary for key environmental posts (which may include contractors and those purchasing equipment and materials) and keep maintain records of training needs and training received for these posts.

136. The Operator shall assess the potential environmental risks posed by the work of contractors and, provide instructions to contractors about environmental protection while working on site.

137. The Operator shall comply fully with industry standards or codes of practice for training, including certification of individuals as required.

Table 9: Compliance Annual Reports

Condition	Report required	Period to be reported	Report provided to regulator by:
30	Water monitoring & emissions	1st April to 31st March	30th April
43	Waste	1st April to 31st March	30th April
49	Land contamination & SPMP monitoring	1st January to 31st December	31st January 2022
76	Dust management Plan including fugitive emissions & site cleaning programme	1st April to 31st March	30th April
94	Types and Quantities of Fuels used	1st April to 31st March	30th April
103	Noise compliance	1st April to 31st March	30th April
107	Energy consumption	1st April to 31st March	30th April

Condition	Review required	Date/Time	Report provided to regulator by:
35	Bottom ash sampling	Quarterly sampling	Within 8 weeks
95	Air emissions	At least every 6 months	Within 8 weeks

Contact Details

Where a condition of this permit requires information to be reported to the Regulator, the following contact details shall be used:

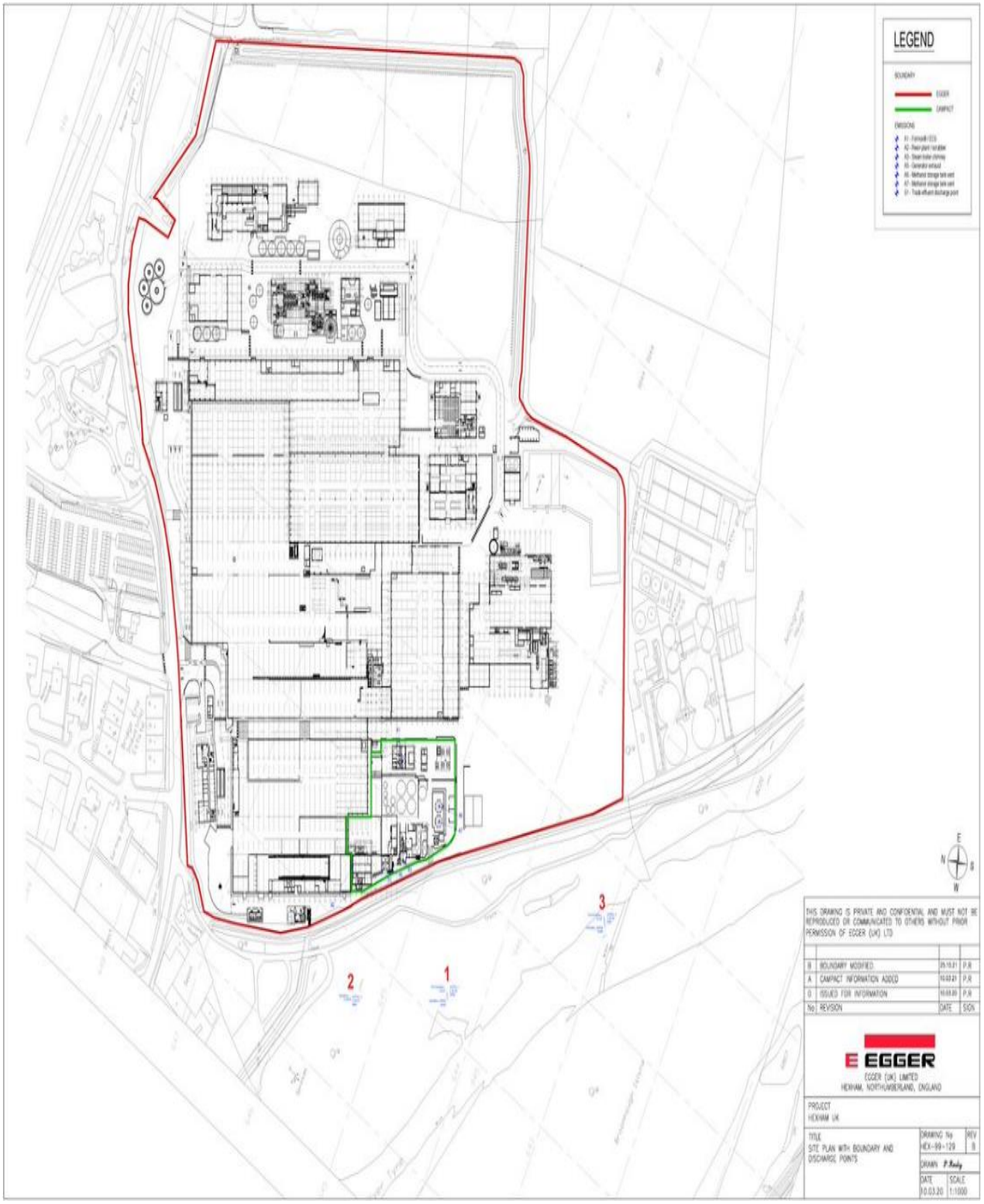
Northumberland County Council
Housing & Public Protection Service
Public Protection (Environmental Protection Team)
West Hartford Business Park
Cramlington
Northumberland
NE23 3JP

E-mail: Public.Protection@northumberland.gov.uk
Tel: +44(0)345 600 6400
Web: www.northumberland.gov.uk

Permit History	Comment	Date
Application received	Duly Made. Supersedes LAPC Authorisation SAE1.	30th June 2003
Permit TYIPPC001/1 issued	Consolidated Permit	2nd December 2003
Variation made by Regulator Permit TYIPPC001/2 issued	Consolidated Permit	20th December 2005
Application for Variation made by Operator – new manufacturing plant	Application (with supplementary information) duly made	20th December 2006
Schedule 4 notice served by Regulator for further information	More information required to determine the application	9th March 2007
Additional information supplied by Operator	Information accepted	8th May 2007
Draft determination issued for public consultation	Consultation under the Public Participation Directive	9th January 2008
Environmental Permit TYIPPC001/3 issued	Revision following representations received. Amendment to adapt to EP Regulations 2007 which came into force on 6th April 2008	16th April 2008
Environmental Permit EPW14/035	Implementation of Industrial Emissions Directive & general technical updating	30th November 2013
Secretary of State's Direction	Environmental permitting (England & Wales) (Exercise of Functions) (Northumberland County Council) Direction 2018	1st August 2018
Implementation of Published BREF and UK BAT C interpretation	IED 2010/75/EU - EUR27732 and UK Interpretation Guidance on BAT Conclusions for the production of woodbased panels	2016 November 2018
Permit Review		November 2019
Environmental Permit EPW20/035	Implemention of BREF and BAT C requirements	March 2020
Permit Review	Review of BAT C and BREF requirements and upgrading	18th February 2022

Environmental Permit EPW22/035	Implementation of review of BAT C and BREF requirements and upgrading	22nd December 2022
Variation Application	Provide for replacement of existing burner supplying heat to the Core (CL) dryer with a dust fired burner (Vertical Combustion Chamber) burning process residues from board surface finishing. And full gas back up	23rd October 2023
Environmental Permit EPW 23/ 035	Consolidation of permit review amendments	21st December 2023

EPW22/035/PLAN



Explanatory Notes

Appeals Procedure

Details of the current Appeals Procedure can be found at :

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831106/EP_appeal_guide_September_2019.pdf

Appeal forms can be found at :

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/792727/EP_Appeal_Form_-_March_2019.pdf