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Consulting Engineers Limited

Chirk Particleboard Factory

Kronospan Ltd

Supporting Information

ENGINEERING CONSULTING

Document approval

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Document revision record

Revision no	Date	Details of revisions	Prepared by	Checked by
R0	27/09/2023	First issue to client	RSF	JRS
R1	08/11/2023	Updated for client comments	RSF	JRS
R2	08/12/2023	Updated for client comments	RSF	JRS
R3	21/12/2023	Updated for client comments	RSF	JRS

Contents

1 Introduction

Kronospan Limited (Kronospan) has operated a wood-based panels manufacturing facility at it's site in Chirk, North Wales (the Facility) since 1970.

Kronospan is the global leader in the production of wood-based panels with 39 sites globally. Chirk is the sole UK site, primarily focussed on supplying the domestic market with a wide range of locally manufactured raw and added value products. The site has developed so that it is able to derive the benefit of vertical integration with a range of related industrial processes ranging from raw board production to producing laminate flooring for retail sale.

The nature of the manufacturing processes is such that they are energy intensive, involving the drying of wood and wood residues in large volumes. This, coupled with the historic fragility of the local electricity grid, has led to the site aiming for self-sufficiency in terms of its energy needs. At the same time the objective has been to be energy efficient at the highest level by utilising what would otherwise be waste heat within the manufacturing processes, which require heat for direct drying.

The wood-based panels manufacturing process is operated in accordance with the consolidated Environmental Permit (EP) (EPR/BW999IG), which was issued in October 2022 to transfer the full regulation of the Facility to Natural Resources Wales (NRW). This has since been varied on two occasions; EPR/BW999IG/V009, which was an NRW initiated variation following the publication of the revised Best Available Techniques (BAT) Reference Documents, and EPR/BW999IG/V010, which was a variation to increase the NOx ELV from WESP 21 (emissions point A32) and re-ducting of the emission points A5 and A6 to be released from emissions point A28 (WESP 32).

The EP variation application to which this Supporting Information document refers, is applying to make a number of changes to the Facility as permitted. These are summarised below and included within this document in further detail.

1. Installation of an Oriented Strand Board (OSB) manufacturing process/plant.
2. Storge and use of additional chemicals associated with the OSB process.
3. Storage and use of hydrogen peroxide within WESP 21 and WESP 32 to oxidise TVOCs (if needed).
4. Minor EWC code additions.
5. Amendments to the rail unloading and biomass handling and storage arrangements.
6. Additional raw material storage areas, including the installation of hardstanding to some additional storage areas within the Log Yard.
7. A new site access point and new lorry parking facility.
8. Additional surface water run-off lagoons/wetlands, including discharge of uncontaminated surface water run-off from the lagoons/wetlands.
9. Additional land to be incorporated into the installation boundary to accommodate items 7, 8, and 9.
10. Two additional emission points to allow for the common MDF fibre cyclone dump stacks.

This document and its annexes contain the supporting information to the application for the variation to the EP. They should be read in conjunction with the application forms.

Section 1 includes an overview of the proposed Installation. Section 2 includes further information in response to specific questions in the application forms.

Throughout the application, the relevant guidance notes have been considered, in particular:

- Sector Guidance Note EPR 1.01[i];

- "Getting the Basics right" EPR1.00[ii];
- Horizontal Guidance Note EPR-H1[iii];
- Horizontal Guidance Note EPR-H2[iv];
- Monitoring Technical Guidance Notes M1[v];
- Monitoring Technical Guidance Notes M2[vi]; and
- BREF – Production of Wood Based Panels.

1.1 The Applicant

Kronospan is the UK's leading manufacturer of high-quality wood-based panels and associated products and has been operating in the UK since 1970. Kronospan is constantly seeking new ways to improve process efficiency and reduce their overall environmental impact.

The main products manufactured by Kronospan at the Facility are particleboard, medium density fibreboard (MDF) and laminate flooring. This application will also allow OSB to be produced on site.

The Kronospan Facility is a major local employer within Wrexham County Borough (WCB). It is estimated that the Facility also supports over 6,000 people nationwide, many in rural areas, in industries relating to the manufacturing and supply chains associated with the operation of the Facility.

1.2 The Site

The existing Kronospan site (the Site) extends to around 40 hectares and comprises a number of large industrial process buildings housing the main manufacturing processes, storage areas for raw materials, warehouse buildings for manufactured products, together with other facilities associated with a discrete manufacturing business.

The western perimeter of the Site is formed by the Shrewsbury to Chester railway. Improved railway siding facilities have been constructed within the Site to enable an increased volume of timber to be imported by rail and the new rail sidings are now operational. The Shropshire Union Canal is located to the west of the railway line. Water is abstracted from the canal for use in the manufacturing process. The eastern perimeter of the Site is formed by Holyhead Road (B5070). An earth bund, planted with trees, has been developed along the eastern perimeter of the Site in order to reduce the visibility of the site operations from neighbouring properties on Holyhead Road.

A sewerage pumping station and one property, owned by Maesgwyn Estate, are located to the immediate north of the Site. To the immediate south of the Site is the Mondelez factory and the Chirk recreational ground.

The main residential area of Chirk is located to the east of the Site with residential properties lining the majority of the eastern side of Holyhead Road. Chirk town centre is located approximately 500 m to the south-east of the Site.

The wider area beyond the urban settlement of Chirk is dominated by agricultural fields and woodland. Chirk Castle and its grounds are located to the west of the Site, beyond the Llangollen Canal.

A plan showing the location of the Site is presented in Annex B.

1.3 The Listed Activities and Type of Variation

The purpose of this application is to vary the EP to include a number of proposed changes, notably the addition of an OSB line and the addition of land within the Installation boundary to provide a new access route, biomass storage and lorry parking. This additional land will increase the area of the Site to approximately 52 hectares.

These changes can be carried out within the existing listed Installation Activities and Directly Associated Activities. The following additional descriptions are proposed.

Table 1: 'New' Installation and Directly Associated Activities being applied for

Activity reference	Installation Schedule 1 reference	Description of the activity
Manufacture of Oriented Strand Board	Section 6.1 Part A(2) (a)	Manufacturing of oriented strand board with a total production capacity of 550,000 m^3/year (or 2,000 m^3/day)
	Directly Associated Activity	Receipt of surface water from north access route, additional biomass storage and lorry parking, then discharged into the Afon Bradley via valve Penstock C.

Kronospan understands that, due to the extent of the proposed changes, these are considered to be a 'change in operation', as defined in NRW Guidance RGN8 titled 'Substantial changes in operation at installations, mining waste facilities and other facilities involving solvent and combustion'.

A "Substantial Change" as stated within Schedule 5, Part 1, paragraph 5(5) of the EPRs is defined as follows:

> *"substantial change" means a change in operation of an installation which in the regulator's opinion may have significant negative effects on human beings or the environment and includes:*
>
> *in relation to a Part A installation, a change in operation which in itself meets the thresholds, if any, set out in Part 2 of Schedule 1."*

As set out, this application is being submitted to apply for Section 6.1 Part A2 (a) activity as well as a number of directly associated activities. The Environmental Permitting Regulations Part 2, Schedule 1, Section 6.1 Part A2 (a) defines the threshold of installation activities for 'Paper, pulp and board manufacturing activities' as follows:

> *"Producing, in an industrial plant, one or more of the following wood-based panels with a production capacity exceeding 600 m^3 per day: oriented strand board, particleboard or fibreboard."*

Taking this into consideration, it is considered that this application will be classified as a Substantial Variation.

1.4 Operating Techniques

Through the determination process for the consolidated EP and recent variations, a number of submissions were made to NRW to further explain various aspects of the application. These have been incorporated into the Operating Techniques (Table S1.2) within the EP. As the Operating

Techniques reference a number of different documents, and the proposed variation will introduce additional amendments/changes to the Operating Techniques, a single document has been produced which contains all of the Operating Techniques as referenced within the existing EP. The Operating Techniques document is therefore intended to be a singular document inclusive of all previous changes.

The proposed changes to the Operating Techniques as a result of this EP variation application have been marked in yellow highlight to clarify the proposed changes associated with this variation application. This document is included in Annex A to the EP application.

2 Other Information for Application Form

2.1 Raw Materials

An inventory of all raw materials held on Site is maintained within the Purchasing records. This is supported by a monthly stocktake to determine the actual quantities of each material onsite at any time. All raw materials are selected and purchased in accordance with the manufacturing process specifications which are agreed with the supplier.

2.1.1 Types and Quantities of Raw Materials

The types and quantities of raw materials used at the Facility are included within Table 2. This includes the raw materials for the existing Facility, as well as additional raw materials required as part of this EP variation (i.e. for the operation of the OSB plant) these new materials are marked in **bold**. The table includes details of the maximum quantities held on Site and the predicted changes in throughput due to the operation of the OSB plant.

It should be noted that the specific resin to be used in the OSB process is subject to further design of the Facility; therefore, the quantities of the three alternatives have been provided. However, it is feasible that all three resin types could be used in the manufacture of OSB and Kronospan require the ability to change the resin type used within the OSB manufacturing process without being required to notify NRW.

The request to include hydrogen peroxide as part of this EP variation is so that this can be used for TVOC abatement on WESP 21 and /or WESP 32 if required.

Table 2: Raw materials

Raw material	Units	Potential annual throughput (approx. per annum)			Maximum quantity stored on Site	Description including any hazard code where they are available
		Existing	Proposed	Change		
Recycled fibre	Tonnes	830,000	525,000	100,000	18,000	
Sawdust	Tonnes	180,000	110,000	No change	4,500	
Chips	Tonnes	550,000	500,000	500,000	10,000	
Small roundwood	Tonnes	1,540,000	850,000	No change	45,000	
Saw logs	Tonnes	330,000	280,000	No change	20,000	
Methanol	Tonnes	65,000	73,000	8,000	500	
Urea	Tonnes	60,000	70,000	10,000	300	
Melamine	Tonnes	10,000	11,600	1,600	200	
Formalin	Tonnes	56,000	64,000	8,000	500	Formalin (100% conc.)
Resin	Tonnes	190,000	230,000	40,000	900 (PB) 600 (MDF) 500 (OSB)	
Resin	**Tonnes**	**0**	**20,000**	**20,000**	**400**	**Polymeric methylene diphenyl diisocyanate (pMDI)**
Resin	**Tonnes**	**0**	**10,000**	**10,000**	**200**	**PF (phenol formaldehyde)**
Hardener	Tonnes	2,100	2,100	No change	75 (CB only)	Ammonium nitrate solution
Hardener	Tonnes	500	500	No change	28 (MDF) 75 (CB)	Ammonium sulphate
Wax emulsion	Tonnes	9,602	10,402	800	66 (MDF) 90 (CB) 100 (OSB)	Wax emulsion

Raw material	Units	Potential annual throughput (approx. per annum)			Maximum quantity stored on Site	Description including any hazard code where they are available
		Existing	Proposed	Change		
Release agent	Tonnes	200	550	350	4 (MDF) 15 (CB) 30 (OSB)	Chemical release agent solution
Green dye	Tonnes	150	150	No change	8 (MDF) 12 (CB)	Board green eco – 1 (R10, R22, R35, R51/2/3, R63)
Anti-foam	Tonnes	15	15	No change	4	
Water treatment chemicals	Tonnes	40-70	40-77	No change	10	Coagulant, chlorine inhibiter, membrane cleaners
Urea solution (40% conc) Received as dry powder	Tonnes	5,000	5,000	No change	65	
Paper	m^2	70,000,000	70,000,000	No change	2,000,000	Impregnated paper
Paint	Litres	29,000	29,000	No change	6,000	Laquer (water based)
Glue (flooring)	kg	1,000	1,000	No change	1,320	Hot melt glue
Ingrament	kg	20	20	No change	21.5	Anti-static fluid
Hardener	Litres	13,000	13,000	No change	2,200	Prefere 5313
Glue (worktops)	Litres	117,000	117,000	No change	6,600	Glue 4111m
PVA glue	kg	19,000	19,000	No change	2,160	Racall express CAS: 9003-20-7
Moisture seal	kg	15,600	15,600	No change	2,100	Swift therm moisture seal
Lime (K8)	Tonnes	150	150	No change	20	CAS: 1305-62-0
Hydrogen peroxide	Tonnes	-	1,000	1,000	40	CAS: 7722-84-1
Phenolic	Tonnes	-	10,000	10,000	200	CAS: 108-95-2
Melted paraffin wax	Tonnes	-	7,500	7,500	400	CAS: 8002-74-2

2.1.2 Raw Material, Chemical Selection and Storage

The main chemical use at the Facility is in two chemical plants (the Formalin Plant and the Resin Plant) which are operated under the COMAH Regulations. These are already regulated by NRW within the existing EP.

The Formalin Plant stores large quantities of methanol and formalin. The formalin produced is transferred to the Resin Plant where it is processed with urea and / or melamine to produce the various resins required for the manufacture of MDF, Particleboard, OSB and Impregnation processes. All chemicals and additives used within these areas are stored ensuring at least secondary containment systems, and in most cases tertiary containment, are in place.

The main focus of the production process is wood-related products; chemicals and additives to these processes are selected, stored and managed in accordance with industry good practice, guidance (e.g. MSDS) and in compliance with any conditions or requirements of the EP. Each chemical is assessed and has an associated COSHH assessment (where applicable) for use in the workplace.

2.1.3 Chemicals and Reagent Storage Facilities

Chemicals and reagents are stored in accordance with the recommendations and guidance contained within the relevant safety data sheets and site specific COSHH assessments. The primary, secondary and tertiary containment systems associated with the storage of the additional materials applied for associated within this EP variation application are presented in the Table 3.

Table 3: New chemical and fuel containment details

Substance	Number of storage facilities	Primary containment	Secondary containment	Tertiary containment
Polymeric Diphenyl methane Disocyanate (PMDI)	3	Silo	Adjacent OSB	Road way
New storage for Resin	1	Silo	Middle Road	None
Hydrogen peroxide	10	IBC	Middle Road	Plastic portable bund sized to 110% of the IBC capacity.

2.1.4 Biomass

The following types of biomass are received at the Facility:

- Logs (referred to as Roundwood);
- Wood Chip; and
- Recycled Cellulose Fibre (RCF).

In addition to the biomass feedstocks, the following materials are either used as fuels within the biomass boiler or are residues/reject materials from the manufacturing process:

- Fines from grading of RCF;

- Dusts from dust extraction systems;
- Off-cuts from the Saw Mill;
- Bark from the Saw Mill;
- Sawdust from the Saw Mill:
- Reject material from manufacturing; and
- Solid residues from skimming of surface water run-off from internal roadways.

The only change to the types of biomass feedstocks to be received at the Facility is the addition of two EWC codes which will be used as feedstock for the OSB plant:

Table 4: Additional EWC codes proposed

EWC Code	Description
15	**Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified.**
15 01	**Packaging (including separately collected municipal packaging waste)**
15 01 03	Wooden packaging
17	**Construction and demolition wastes (including excavated soil from contaminated sites.**
17 02	**Wood, glass and plastic**
17 02 01	Wood

The primary use of these additional materials if for production of feedstock for the OSB plant. However, any fines from the grading process in the existing infrastructure may be combusted in the K8 biomass plant.

2.1.4.1 Residue Biomass Handling

The biomass feedstocks, which are classified as waste when received at the Facility, will continue to be handled in accordance with Indicative BAT requirements of the waste treatment Sector Guidance Note, including:

- Maintaining a high standard of housekeeping in all areas and provide and maintaining suitable equipment to clean up spilled materials.
- Loading and unloading of vehicles in designated areas provided with impermeable hard standing.
- Fire fighting measures will be designed by consultation with the Local Fire Officers, with particular attention paid to the fuel reception and storage buildings.
- Delivery and reception of wood residues and RCF will be controlled by a management system which will identify all risks associated with the reception of waste and shall comply with all legislative requirements, including statutory documentation.
- As part of this EP application it is proposed that all roundwood would be offloaded directly onto a log deck or into stock holdings via a diesel log grab or electric crane unloading facility. Stock movements would be by diesel log grabs.
- Design of equipment, buildings and handling procedures will ensure there is insignificant dispersal of dust.
- Inspection procedures will be employed to ensure that wood residues which would prevent the plant from operating in compliance with the permit are segregated and placed in a designated storage area pending removal.

2.2 Water Use

Kronospan hold abstraction licences to extract water from the Llangollen Canal (Ref: 24/67/5/0081) and two boreholes (Ref: WA/067/0005/015/V001 and WA/067/006/006/R002). The abstracted water is used to supply process water and/or evaporative cooling water to the Facility.

The operation of the OSB is predicted to increase the water consumption of the Facility by ~5%. This additional water will be sourced from a mixture of the Llangollen Canal, borehole and towns water and within the capacities of the existing abstraction licences. Therefore, it will not be necessary to vary any of the existing abstraction licences.

2.2.1 New Surface Water Lagoons

A new discharge point to the Afron Bradley (W2) is proposed within this EP variation application. The discharge point will take surface water run-off from the new wetland/ surface water from the north access route, additional biomass storage and lorry parking. The new wetlands areas 1 and 2 will allow for the attenuation/storage of up to 4,304 m^3 of surface water.

The lorry and staff car parking areas will be constructed as permeable paving with a geomembrane and sub-base. Surface water run-off from the lorry and car parks as well as the access road on the raised development platform will all be routed into the permeable paving above the geomembrane. Runoff will be allowed to infiltrate down through the permeable sub-base entering a smaller area of geo-cellular crates which will underlie an area beneath the lorry parking spaces. All other areas of hardstanding located on the raised development platform will route runoff into the crates or permeable paving sub-base including the roundwood storage area.

The crates will discharge to wetlands located in the north of the Site, one either side of the existing farm access track. The roundabout area will also discharge into the northern wetland area.

Therefore, the water discharged will be un-contaminated surface water run-off, and not any effluent from the process. The water will then be discharged at a controlled rate into the River Bradley in the north west of the Site at emissions point W2.

2.3 Emissions

2.3.1 Point Source Emissions to Air

There are a number of different operating scenarios associated with the release of emissions to air from the Facility. Under 'Normal Operations' emissions from the Facility will be as follows:

1. MDF 1 cyclone - K8 biomass plant and up to two gas engines.
2. MDF 2 cyclone - K7 biomass plant and up to three gas engines.
3. WESP 32 – including emissions from the direct heat driers OSB 2 and OSB 3, emissions from the Resin 3,4 and 5 paper impregnation plant previously from emission points A5 and A6. In addition, the emissions from the Press Abatement Systems (MDF Presses 1 and 2, Particleboard Press, and OSB Press) will vent to atmosphere via WESP 32 as a secondary abatement.
4. Particleboard WESP (WESP 21) – direct heat from the Chip Dryer.
5. K7 boiler – MDF cyclone 2.
6. K8 boiler – MDF cyclone 1.

In the event that MDF 2 cyclone is offline, K7 will exhaust from MDF 1 cyclone. In the event that MDF 1 cyclone is offline, K8 will exhaust from MDF 2 cyclone. In the event that MDF 1 and 2 cyclones

are offline for short periods, emissions from K7 and K8 biomass plants would vent to atmosphere via their dedicated stacks and there would be no emissions from the MDF 1 or MDF 2 cyclones.

As part of this EP variation application Kronospan are seeking to introduce the following emission limits on emissions from the WESP 32 for the OSB driers. These are more stringent than those set out in the wood panel Best Available Techniques (BAT) Reference (BREF) document for this type of source. It is proposed that this limit will be imposed only on the emissions from the OSB driers. As such it is proposed that when monitoring for compliance the Resin 3,4 and 5 paper impregnation plants will be switched off, and the presses will vent to atmosphere via emission point A31 as currently allowed for the in the EP for short periods.

Table 5: Proposed ELVs from WESP 32 – when OSB driers only operating

Pollutant	**ELV (mg/Nm^3)**
Oxides of nitrogen (NO and NO_2 expressed as NO_2)	200
Particulate matter	20
Total volatile organic compounds	400
Formaldehyde	20
Notes: *Emission concentrations expressed as dry air, 273K, 101.3kPA, 18% reference oxygen content.*	

2.3.2 Fugitive Emissions to Air

The Facility is operated in accordance with a Dust Management Plan (DMP), which identifies the main potential sources of dust on-site as well as the prevention and measures to mitigate emissions of dusts from the Facility. The DMP is reviewed and updated periodically, on an annual basis as a minimum. The DMP for the Facility as currently permitted is currently under review by NRW. The latest submission has been updated to include for the changes proposed as part of this EP variation and is presented in Annex G of the EP application.

2.3.3 Dust, Noise and Odour

The Facility is operated in accordance with a DMP as detailed above, an Odour Management Plan (OMP) and Noise Management Plan (NMP). The OMP and NMP identify the main potential sources of odour and noise respectively as well as the prevention and mitigation measures. The OMP and NMP are reviewed and updated periodically, on an annual basis as a minimum. These management plans for the Facility as currently permitted has been reviewed by NRW with actions to complete modifications by March 2024. The latest submissions have been updated to include for the changes proposed as part of this EP variation and are presented in Annex G of the EP application.

2.3.4 Emissions to Water (other than sewer)

Emissions to water are currently regulated within the existing EP. In accordance with the EP, emissions to waters are managed on a batch-discharge basis through holding lagoons. Discharge from the lagoons is only allowed if it complies with the emission limits within the discharge consents.

As part of this EP variation application and addition emission point to water is being applied for (W2) as detailed in Section 2.2.1. Discharge would only be permitted if it complies with the emission

limits within the discharge consents. Noting that this discharge will consist of un-contaminated surface water run-off, and not any effluent from the process.

2.3.5 Emissions to Sewer

All process effluent generated by the Facility is discharged to sewer in accordance with the existing Trade Effluent Consents which was granted by Dwyr Cymru (Welsh Water).

There will not be any changes to the Trade Effluent Consents associated with the proposed EP variation application.

2.4 Monitoring Methods

2.4.1 Emissions Monitoring

2.4.1.1 Monitoring Emissions to Air

All periodic and continuous monitoring will be undertaken in accordance with the Environment Agency Technical Guidance Notes M1 and M2, as currently. The methods and standards used for emissions monitoring will be in accordance with the relevant Environment Agency guidance notes, the Industrial Emissions Directive (IED) and BREF guidance notes.

All periodic monitoring will be undertaken by MCERTS accredited stack monitoring organisations.

The monitoring will remain as permitted by the extant EP. However, the operation of the OSB plant will require additional monitoring of the OSB dryers; OSB 1 and OSB 2; and the WESP 32. It is proposed that when monitoring of the emissions from the OSB plant is to be carried out, the emissions from the press abatement system will be directed to the short stack and the Resin 3,4 and 5 paper impregnation plant will be switched off.

The following parameters will be monitored on a periodic basis from the WESP 32:

- Water vapour content;
- Temperature;
- Pressure;
- Oxygen;
- Particulate matter;
- Volatile organic compounds;
- Formaldehyde;
- Nitrogen oxides; and
- Carbon monoxide.

2.4.1.2 Monitoring Emissions to Land

There will not be any emissions to land within the Installation boundary.

2.5 Requirements of the BREF for the Production of Wood-based Panels

The IED, which was adopted on 7th January 2013, is the key European Directive which covers almost all regulation of industrial processes in the EU. Within the IED, the requirements of the relevant sector BREF become binding as BAT guidance, as follows.

1. Article 15, paragraph 2, of the IED requires that emission limit values are based on best available techniques, referred to as BAT.
2. Article 13 of the IED, requires that 'the Commission' develops BAT guidance documents (referred to as BREFs).
3. Article 21, paragraph 3, of the IED, requires that when updated BAT conclusions are published, the Competent Authority (in England this is the EA) has up to four years to revise permits for facilities covered by that activity to comply with the requirements of the sector specific BREF.

The '*Best Available Techniques (BAT) conclusions for the Production of wood-based panels*' (Reference: L 306/31) was published on the 21 November 2015, and the '*BREF for the Production of Wood-based Panels*' (Reference: EUR 27732 EN) was finalised in 2016.

The existing activities will continue to operate as permitted, in compliance with the BAT conclusions as demonstrated in previous EP applications.

This is also the BREF relevant to the proposed changes. Therefore, an updated review of the BAT requirements has been carried out for the changes proposed as part of this EP variation application. This is presented in Annex F.

2.6 Environmental Impact Assessment

The proposed EP variation includes a number of aspects which have been granted planning permission under separate planning applications. For example the north-east warehouse and the engineering stores. These planning applications were not required to be supported by an Environmental Impact Assessment (EIA). The only aspect of this proposal which has been subjected to an EIA is the north access road. This is currently going through the determination and as such neither a copy of the planning permission or the committee report is available. However, a copy of the EIA is provided within Annex K.

2.7 Energy Efficiency

The Facility is a member of the Wood Panel Industries Federation and Kronospan is a signatory to the 'Underlying Climate Change Agreement for the Wood Panels Sector' agreement, dated 7 February 2014 (Ref: WPIF/T00001 v2). In accordance with the agreement, on a monthly basis Kronospan is required to report the energy consumption for the Facility. This agreement is contained in Annex J.

The energy consumption from all major energy consumers is collated and analysed daily. This data is used to make decisions on when to renew or upgrade equipment.

O&M manuals have been developed for the different manufacturing process equipment. The O&M manuals identify the requirements for the following:

- Good maintenance and housekeeping techniques and regimes across the Facility;

- Plant condition monitoring will be carried out on a regular basis. This will ensure, amongst other things, that equipment is operating efficiently; is not damaged; and that there is nothing which is reducing the efficient operation of equipment; and
- Staff are trained in energy awareness and are encouraged to identify opportunities for energy efficiency improvements.

A review of the BAT requirements in accordance with the requirements of the 'BREF for the production of wood-based panels' has been undertaken, for the additional processes proposed as part of this EP variation, refer to Annex F. The review has identified that the following techniques are utilised to reduce energy consumption:

1. There is a system to track energy usage and costs;
2. Undertaking of energy efficiency audits of major operations;
3. Employing a systematic approach to continuously upgrade equipment in order to increase energy efficiency;
4. Upgrading controls of energy usage;
5. In-house energy management training is provided to operators.

In addition, the energy consumption from all major energy consumers is collated and analysed daily. This data is used to make decisions on when to renew or upgrade equipment.

Energy management training is provided to all operators of energy intensive plant with a focus on saving energy whenever possible. For example, shutting down plant during periods of downtime.

Every four years a third-party energy auditor assesses the sites energy producing and consuming plant. The auditor analyses trends in the consumption data and outlines improvement opportunities. This audit provides compliance with the Energy Saving Opportunities Scheme (ESOS).

In accordance with the requirements of the BREF for Board Manufacture, the following measures have been incorporated into the design of the Facility to minimise the consumption of energy from the manufacture of board:

- Heat from boilers and combustion plant is recovered within the dryers prior to release to atmosphere;
- All biomass residues generated from the OSB manufacturing process will be combusted as fuels within the biomass boilers (K7 and K8 boilers) to provide sources of heat for the manufacturing process; and
- The boilers have combustion control systems to optimise the combustion of fuels within the boilers.

2.8 Waste Recovery and Disposal

There are no changes to the waste residues streams arising from the operation of the Facility with this proposed variation.

2.9 Management

Kronospan is an experienced operator of large-scale industrial processes. Kronospan's commitment to their socio-environmental responsibilities is demonstrated by operating their existing facilities to the highest environmental, health and safety and professional standards. This is reflected in the combustion plant by using the most up-to-date international and national regulations, standards and guidance that govern the good design construction, and operation of such combustion plants.

Kronospan operates the Facility in accordance with a documented Environmental Management System (EMS) which has been accredited to ISO:14001. The management system defines the management structure for the Site, as well as setting out the roles and responsibilities for all staff. The EMS will be extended to include the operation of the OSB plant.

2.10 Closure

At the end of the economic life of the Facility, the Site and buildings may be converted to other uses or form part of an appropriate landscape restoration plan. The responsibility for this may well rest with other parties if the Facility is sold. However, Kronospan recognise the need to ensure that the design, the operation and the maintenance procedures facilitate decommissioning in a safe manner without risk of pollution, contamination or excessive disturbance to noise, dust, odour, ground and water courses.

A site closure plan is in place for the existing Facility and has previously been agreed with NRW this will be extended to include the changes proposed as part of this EP variation application.

2.11 Installation boundary

As explained and presented in the layout and Installation boundary drawings provided in Annex B, Kronospan is seeking permission to include additional land within the EP Installation boundary. The Site Condition Report for the whole Installation is provided in Annex H.

Annexes

A Operating Techniques

B Plans and Drawings

C Environmental Risk Assessment

D Air Quality Assessment

E Noise Assessment

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F BAT Conclusions Review

G Dust, Noise & Odour Management Plans

The existing Noise Dust and Odour Management Plans have been updated to include the changes proposed as part of this EP variation application. It is noted that these are currently under review by NRW. However, these are provided in Annex G of the application for completeness.

H Site Condition Report

I Fire Prevention Plan

The existing Fire Prevention Plan has been submitted with this EP variation application within Annex I of the EP application pack. Noting that this is currently under review by NRW including a number of conditions on the existing EP relating to fire risk on the log yard which Kronospan are responding to NRW. It is agreed that once the Fire Prevention Plan has been agreed this will be updated to allow for the changes proposed as part of this EP variation application.

J Climate Change Agreement

K North Access Road EIA Submission