Notice of request for more information
Environmental Permitting (England and Wales) Regulations 2016

Notice requiring further information

To: Mr. R M Jones
Company Secretary
Kronospan Ltd
Maesgwyn Farm
Chirk
Wrexham
LL14 5NT

Application number: EPR/BW9999IG/V008

Natural Resources Wales, in exercise of its powers under paragraph 4 of Part 1 of Schedule 5 of the above Regulations, requires you to provide the information detailed in the attached schedule. The information is required in order to determine your application for a substantial variation to your environmental permit, duly made on 27 July 2018. The information requested should be sent to the following address by **6 November 2020.**

Information should be sent to:

Anna Griffiths
Permitting Service
Natural Resources Wales
Cambria House
29 Newport Road
Cardiff
CF24 0TP

Name	Date
A. M. Griffiths	08/10/2020

Anna Griffiths, Lead Specialist Officer, Installations and RSR Permitting
Authorised on behalf of Natural Resources Wales

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Schedule

1. Site Plan 7000/282-O: Areas of Environmental Responsibility (including Installation boundary)

All existing emission points at the Chirk Particleboard Factory installation must be labelled on the Site Plan 7000/282-O "Site Plan Areas of Environmental Responsibility".

The existing air emission points are listed below. However, from Air emission point A10 onwards the points labelled on site plan 7000/282-O submitted to NRW (via email from Kronospan CAD team on 31 October 2019) do not match up with this list. Please therefore provide an updated version of Site Plan 7000/282-O with the emission point numbering matching the list below.

Air Emission Points

A1 Emission Control System Formaldehyde Plant
A2 Methanol Storage Tank (1A) Vent
A3 Methanol Storage Tank (1B) Vent
A4 Wet Scrubber on Formaldehyde Storage Tanks
A5 Nairb Wet Scrubber – Resin VITS 2, 3, & 5 Paper Impregnation Plant
A6 Nairb Wet Scrubber – Resin VITS 4 Paper Impregnation Plant
A7 Exhaust Fan for existing Urea Silo
A8 Exhaust Fan for Urea Tipping Hopper
A9 Exhaust Fan for Urea Screw Conveyor
A10 Redundant emission point *(N.B. previously Dust Filter for Melamine Hopper Feeding Reactor R210 and R220)*
A11 Exhaust fan for melamine bag station hopper
A12 Redundant emission point *(N.B. previously Dust filter for Melamine Hopper Feeding Reactor 4)*
A13 Exhaust fan for Urea Silo
A14 All pressure relief venting systems in formalin plant
A15 All pressure relief venting systems in resin plant

A16 K1 Kronoplus (Press and Space Heating)
A17 K5 Rawboard Thermal Oil to Contiroll Presses (standby gas heater)
A18 K6 Rawboard Thermal Oil to Contiroll Presses (standby gas heater)
A19 GT1 Heat to MDF1 Drier (Standby)
A20 GT2 Heat to MDF2 Drier (standby)
A21 Gas Engine 1 Steam Production for MDF 1 & 2 Process
A22 Gas Engine 2 Steam Production for MDF1 & 2 Process
A23 Gas Engine 3 Steam Production for MDF1 & 2 Process
A24 Gas Engine 4 Steam Production for MDF 1 & 2 Process
A25 Gas Engine 5 Steam Production for MDF1 & 2 Process

A26 K7 Solid Fuel Boiler Emergency Chimney (Solid Fuel Thermal Oil Boiler)
A27 K8 Biomass Plant Emergency Chimney (Solid Fuel Steam production for MDF)

A28 WESP 32 Unit Stack (Emissions from Particle board and MDF Press Abatement System)
A29 MDF 2 Drier Cyclones x 4
A30 MDF 1 Drier Cyclones x 2

A31 MDF 1 & 2 & Particle Board Contiroll / Combined Press Abatement System Emergency Stack
A32 WESP 21 Unit Stack (Drier No. 4 Exhaust from Particle Board)
A33 Drier No. 4 WESP Particle Board Emergency Stack
A34 Drier No. 3 Bab WESP Emergency Stack
A35 Drier No. 2 Bab WESP Emergency Stack

For emission points A28 – A35 listed above in particular, please check that the name of the emission point reflects current site operations. If a name change is required, please ensure this is reflected in the updated site plan 7000/282-O and provide written clarification of the reason for the change.

Please confirm if emission point A31 above is used as an Emergency Stack only. It is assumed that this is the case, given that the press abatement gases have been re-routed to be released through emission point A28 (WESP 32). If this assumption is correct, please describe the operating scenarios under which A31 will be used and the likely duration of each scenario.

Similarly, please explain which operating scenarios emission points A33 – A35 will be used in, what the release source is for each emission point and the likely duration of each scenario.

Emission points to Water and Sewer

The existing emission points to water and sewer are listed below:

W1	Discharge from surface water lagoons via Penstock A
E1	Formaldehyde plant effluent tank outlet
S1	Zone 1 – Middle Road Pit, Bab Drier No.2 and No.3 & WESP 32 area
S2	Zone 2 – Preproduction
S3	Zone 3 – New Particleboard dryer and WESP 21 area
Garage Interceptor	Vehicle Maintenance in Garage Area

For emission points S1 and S3 listed above in particular, please check that the name of the emission point reflects current site operations. If a name change is required, please ensure this is reflected in the updated site plan 7000/282-O and provide written clarification of the reason for the change.

Site plan 7000/282-O submitted to NRW (email from Matthew Welch on 31 October 2019) does not include the Garage Interceptor emission point to sewer. Effluent discharged to this point arises from vehicle maintenance in the garage area. However, an email from Kronospan's EHS Manager dated 27 May 2020 confirms that this emission point needs to be retained. As such, please add the Garage Interceptor emission point to site plan 7000/282-O.

2. Site Plan 7000/604-D: Particulate Filtration Points

Site plan number 7000/604-D "Site Plan Particulate Filtration Points" (received via email from Fichtner Consulting Engineers Ltd on 9 January 2020), lists 31

separate emission points associated with releases of particulate matter primarily from various items of bag filter plant. These are:

B01 MDF Finishing Line Sander
B02 MDF Finishing Line Kontra Saws
B03 MDF 2 Cross Cut Saw and Hoggers
B04 MDF 1 Cross Cut Saw and Hoggers
C05 MDF 1 Recycle Cyclone x 1 (start up and shut down only)
C06 MDF 2 Recycle Cyclone x 2 (start up and shut down only)
B07 246 Cyclone De-dusting
B08 MDF 1 & 2 Extraction
B09 Particle Board Sifter (Bab 2)
B10 Particle Board General Line Extraction (423)
B11 Hamatec Dust Cleaning
B12 Particle Board Core Layer De-Dust
B13 Particle Board Surface Layer De-Dust
B14 Particle Board Conidur De-dust
B15 Particle Board Mat Former
B16 Particle Board Sander
B17 T&G
B18 Particle Board Ferro
B19 P1 MF Press and Lath Machine
B20 P2 MF Press
B21 P3 MF Press
B22 P4 MF Press
B23 Log Yard Filter (formally Particle Board Mat Former (422))
B24 Chip Preparation Building – Line No. 1
B25 Chip Preparation Building – Line No. 2
B26 Particle Board Pre-screening Air Grader – Line No. 1 and Line No. 2
B27 Kronoplus Silo Filter
B28 Worktop Line
B29 Flooring Line No. 2 & Selco Saw
B30 Flooring Line No. 1
B31 Flooring Line No. 3

When the latest version of the Bag Filter plan 7000/604-D is compared with previous version, (Plan 7000/604-B) some changes can be observed which require further clarification:

(i) Version B of plan 7000/604 shows 2 x Particle Board Sifters, as emission points B9 and B10. Version D of plan 7000/604 shows 1 x Particle Board Sifter (Bab 2) as emission point B09, which matches the location of emission point B09 in Version B.

Please confirm if 2 x Particle Board Sifters should appear on version D of the plan and if so, whether the second Particle Board Sifter is associated with Bab 3?

(ii) Version B of plan 7000/604 shows emission points B26 Particle Board Pre-screening Air Grader – Line No. 1 and Line No. 2, and B27 and B28 as the two Chip Preparation Building Lines.

In version D of the plan, the Particleboard Pre-screening Air Grader Line No. 1 and No. 2 is still labelled as B26, but its location has moved to within the Chip Preparation Building. B23 appears to be a new emission point called “Log Yard Filter (formally Particle Board Mat Former (422)”. In addition, the location of Chip Preparation Plant Line 1 has moved to where the Particle Board Pre-screening Air Grader – Line No. 1 and No. 2 used to be, outside of the Chip Preparation Building.

Please compare the locations of emission points B26-B28 on Version B of plan 7000/604 to the locations of emission points B23 – B26 on version D of plan 7000/604 and confirm which version is correct, providing an amended plan and modelling report if necessary.

Please also confirm if the Log Yard Filter and its location is separate and distinct from B15 Particle Board Mat Former?

3. Manufacturers data sheets and modelling for the Particulate Filtration Points

Manufacturers technical data sheets and modelling of particulate releases associated with the Particulate Filtration Points (listed in Q2 above) were submitted via email from Fichtner Consulting Engineers Ltd on 9 January 2020.

Emission points C05 and C06 have not been modelled because these MDF Recycle Cyclones are only operational during start up and shut down, which is accepted. Accounting for this, 29 data sheets should have been submitted for the remaining bag filter plant. However, some inconsistencies have been identified, which need to be addressed. In summary these are:

(i) 3 x missing datasheets (emission points B01, B15 and B23);
(ii) 3 x datasheets with no clean gas performance specified (emission points B27, B29 and B31);
(iii) 5 x datasheets have been updated in ink (emission points B02, B04, B08, B16 and B28);
(iv) 5 x datasheets are written in German (emission points B19, B20, B24, B27 and B31);
(v) The datasheet for emission point B31 contains a Fabrication number of F077-03. However, Table 1 of the corresponding Fichtner modelling report refers to a fabrication number of F077-00. Please confirm that the correct datasheet has been submitted for the B31 “Flooring Line No. 3” emission point; and
(vi) The manufacturers data sheet for emission point B21 “P3 MF Press” states that the clean gas is designed to achieve 10 mg/Nm^3. Similarly, the data sheet for B28 “Worktop Line” indicates that achievable Outlet Dust Load is 5 mg/Nm^3. However, when these emission points are cross-referenced with Table 1 of the Fichtner modelling report, B21 and B28 have been modelled at a release concentration of 5 mg/Nm^{3}and 2 mg/m^3 respectively.

In view of these inconsistencies, please re-submit a full set of manufacturers data sheets for Bag Filters B01 – B31. All data sheets must be in English for public register purposes and must be the originals with no handwritten updates. They must also all specify the design clean gas / outlet dust load performance for the bag filter plant.

Please also supply a written explanation for the points noted in items (v) and (vi) above, updating the modelling input data in Table 1 of the corresponding Fichtner modelling report and associated modelling files if necessary.

If any item of bag filter plant cannot achieve the BAT-AEL set in the wood panels BREF of 5 mg/Nm3, please describe what action will be taken to address this and provide associated timescales.

If the list of Particulate Filtration Points in Q2 above is missing any emission points, please amend plan 7000/604 and submit the manufacturers technical data sheet and updated modelling for Particulate Matter as necessary.

4. Air Quality modelling

We have reviewed Kronospan's response to our fourth Schedule 5 Notice requesting further information (received in full on 12 April 2020). Following our assessment of the air quality modelling, there are several points which require clarification:

(i) Emission rate for K1 boiler

The response to Question 1 of the Schedule 5 Notice states that:

> "The dispersion modelling assessment has been updated to reflect the assumed operation of the K1 boiler with a NOx ELV of 200 mg/Nm3 (3% reference oxygen content), which equates to a release rate of 0.208 g/s".

However, the newly supplied modelling files indicate emission rates for NOx from K1 of 0.1567 g/s & 0.0438 g/s.

As no additional information has been supplied regarding peripheral measurements (i.e. stack oxygen, moisture concentration etc.), our check modelling has used the stack emission parameters for K1 set out in "Appendix B – Dispersion Model Inputs" of the air quality modelling assessment submitted as part of the original variation application (Report reference S2376-0030-0001RSF, dated 25 May 2018), with the exception of Temperature, which in the newly supplied files, has been reduced from 168^{o}C to 160^{o}C. Assuming stack conditions for K1 are as per these previously submitted parameters, our check modelling results in an emission rate for NOx of 0.105 g/s. One possible explanation for this discrepancy is that the NOx emission rate of 0.208 g/s has been calculated using the volumetric flow rate at actual conditions in conjunction with the emission limit value (ELV) at reference conditions which would result in an overestimation of the NOx emission rate.

Please confirm the correct emission rate for K1 and how it has been calculated.

(ii) Model Input Files for K8 Biomass Boiler – half hourly averages

The Model Input Files are listed in the Excel File called “Model Descriptors.xlsx” submitted by Fichtner Consulting Engineers Ltd (on 12 April 2020) in the ST ELV Models worksheet. The worksheet indicates that the standard operations scenario for the K8 biomass plant at half-hourly ELVs venting to atmosphere via the MDF 1 cyclone stack was modelled using ADMS input files “**R6_EP_N_13_ST_revA.APL**” to “**R6_EP_N_17_ST_revA.APL**”. However, the actual modelling files provided were labelled “**R6_EP_N_13_C_ST_revA.APL**” to “**R6_EP_N_17_C_ST_revA.APL**”.

Please confirm if the modelling files provided are correct for the scenarios specified in the submitted report, specifically: K8 emitting at half-hourly ELVs via its own dedicated stack, K8 emitting at half-hourly ELVs via MDF1 Cyclone (including the contribution from K7 when MDF 2 Cyclone is offline) and K8 emitting at half-hourly ELVs when MDF1 Cyclone is offline (i.e. via MDF2 Cyclone, including contribution from K7).

If the supplied modelling files are different from those stated in the “Model Descriptors” file, please confirm whether they remain applicable for the specified scenarios. Please update and resubmit the modelling files, where they are not applicable for the specified scenarios.

(iii) Use of 5 years Meteorological Data

Our check modelling for hydrogen chloride (HCl) emissions from the K8 dedicated stack (see Table 3 of “Kronospan Ltd Schedule 5 Response #4” report by Fichtner Consulting Engineers Ltd dated 9 April 2020) resulted in a higher maximum prediction when considering all modelled years (i.e. 2013 to 2017 inclusive). However, when looking at the results excluding modelled years 2014 & 2015, our maximum prediction of hourly mean HCl broadly agreed with Kronospan’s. However, without access to the modelling output files and meteorological data, we are unable to establish the cause of this discrepancy observed in the modelling results for these meteorological data years or its significance.

On this basis, please provide the modelling output files and meteorological data for 2013 to 2017 inclusive, for verification.

(iv) Human Health Risk Assessment (HHRA) Modelling File

The compressed IRAP modelling files folder submitted with the Schedule 5 response on 12 April 2020 appears to be password protected. As such we are unable to extract or open them directly with our modelling software. Please can you resend the IRAP modelling files without password protection.

5. Air Quality follow up questions from third S5 Notice Response

(i) Q1.1 Dispersion of Press Abatement releases from WESP 32 Unit Stack

Table 2.1 of the original Fichtner Dispersion Modelling Assessment submitted as Appendix C of the variation application, confirmed that driers Bab 2 and 3 vent to atmosphere via original WESP (WESP 32), or a dedicated stack. It is our understanding that under the current operating scenario, releases to air from Particleboard (PB) manufacturing are emitted via WESP 21 and that the only remaining release to air through WESP 32 is press abatement gases from MDF1 & 2 and the PB press.

On this basis, please confirm if driers Bab 2 and 3 have been decommissioned.

In addition, it was confirmed via email from Fichtner Consulting Engineers Ltd on 22 November 2019 that the above scenario in which WESP 32 is releasing emissions from the press abatement system only, was not specifically modelled for the permit variation application. However, this scenario was considered in the planning application for the Oriented Strand Board (OSB) plant. The air quality assessment for the OSB application was attached to the email as it is a document in the public domain.

The email also explains that:

> "to ensure adequate dispersion additional air is fed to the WESP to supplement the flow from the press abatement system. Sufficient air is provided to ensure that the velocity is 15 m/s".

It is also noted that this additional air is clean in that it doesn't include any combustion products. In order for us to verify the predicted concentrations associated with releases from WESP 32 in this scenario, please submit the electronic modelling files which underpin the OSB planning application air quality assessment, specifically "Kronospan Chirk Air Quality Assessment for OSB" by Fichtner Consulting Engineers Ltd report ref. S1928-0130-0002RSF, dated 25 March 2018.

(ii) Q1.3 on K8 Ammonia Modelling

Kronospan's response states that:

> "In line with similar processes it has been assumed that emissions of ammonia from the K8 biomass plant would be no greater than 15 mg/Nm^3 (expressed at 6% reference oxygen content)".

Please can you provide written clarification of which "similar processes" have been used as the source for the 15 mg/Nm^3 NH_3 release concentration and any associated evidence such as monitoring reports which demonstrate that this release concentration is achieved by these similar processes? (This information has previously been requested by email on 25 October 2019 and again on 13 November 2019 but has not been provided).

6. In-Combination assessment for European Habitats Sites

The following Natura 2000 sites are located within 10km of the screening point at the Chirk Particleboard Factory Installation (national grid reference (NGR): SJ 28487 38348):

- Berwyn a Mynyddoedd de Clwyd / Berwyn and South Clwyd Mountains (SAC) (UK0012926)
- Berwyn (SPA) (UK9013111)
- Johnstown Newt Sites (SAC) (UK0030173)
- River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (Wales) (England) (SAC) (UK0030252)

For the interest features of these sites, potential mechanisms for effect, whilst not always likely to have a significant effect on the Natura 2000 site when considered alone, may give rise to the possibility of significant effects in combination with other plans and projects, which need to be considered. Therefore, please provide an in-combination assessment for aerial releases from the installation with planned developments with air emissions where there may be overlapping emissions at one of the above European Sites. We need this information to assess the effect of the installation on protected habitats within the 10 km screening point.

Background information for the interest features of the Natura 2000 sites within the 10km screening distance is available from the APIS website (www.apis.ac.uk). The scope of the assessment shall include relevant applications, plans and projects from 1st January 2018, as these will not be captured in the APIS background data.

The following list gives examples of the types of application that would need to be considered for an in-combination assessment:

- Applications that are submitted but not yet determined
- Applications authorised but not started
- Applications started but not yet completed
- Projects and Plans that started operating after the most recent updates of background levels

Information about applications, projects and plans can be obtained by checking the planning register of the local authorities located within 10km of the installation screening point, specifically: Wrexham, Denbighshire, Shropshire and Powys. Please provide justification for those developments that are relevant and not relevant.

Our initial assessment against the relevant interest features of each Natura 2000 site, shows potential mechanisms for effect via toxic contamination, nutrient enrichment and acidification. (The one exception to this is potential for toxic contamination in the Riverine Habitats and Running Waters of River Dee and Bala Lake SAC). The in-combination assessment shall therefore consider these mechanisms of effect for the following interest features of the Natura 2000 Sites listed below.

Berwyn and South Clwyd Mountains (SAC)

5.6 km to north west of search point at nearest edge of the SAC

1.2 Bogs and Wet Habitats (Blanket Bog, Transition Mires and Quaking Bogs)
1.7 Dry Grassland (Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)
1.8 Dry Heathland habitats (European Dry Heaths)
1.9 Upland (Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*), Calcareous rocky slopes with chasmophytic vegetation).

Berwyn (SPA)

8.8 km to the west of the search point at nearest edge of the SPA

3.1 Birds of uplands (Hen harrier, Merlin, Peregrine, Red Kite)

Johnstown Newt Sites (SAC)

6.7 km to the north east of the search point at the nearest edge of the SAC

2.10 Amphibia (Great Crested Newt)

River Dee and Bala Lake (Wales) (England) (SAC)

1.23 km to the south east of the search point at the closest part of the SAC

1.3 Riverine Habitats and Running Waters (Rivers with floating vegetation often dominated by water-crowfoot)

The in-combination assessment shall consider the following pollutants for which Critical Levels are set:

Ammonia (NH_3)
Sulphur dioxide (SO_2)
Oxides of nitrogen (NO and NO_2 expressed as NOx)
Hydrogen Fluoride (HF)

The assessment shall also consider those pollutants that contribute towards nutrient nitrogen deposition and acid deposition, for which Critical Loads are set in APIS.

The response shall also provide further assessment of the potential impact of pollutants, where process contribution and/or predicted environmental concentration + other “in combination sources” exceeds the relevant screening threshold.

7. Fire Prevention and Mitigation Plan

A Fire Prevention Plan was submitted as Appendix H of the variation application on 29 May 2018. The Introduction to the plan refers to the NRW Fire Prevention and Mitigation Plan Guidance – Waste Management" of August 2017 and acknowledges that it is relevant to the Chirk Particleboard Factory Installation. However, the Introduction then continues to state that:

> "This document and the measures to mitigate the risk and impact of fires within the facility have been (and will continue to be) developed in accordance with the requirements of:
>
> (1) Environment Agency guidance "Fire prevention plans: environmental permits" dated November 2016…."

There are several differences between the Environment Agency and NRW guidance. As such, please update and resubmit the Fire Management and Mitigation Plan (FPMP) in accordance with the NRW guidance.

The FPMP must reflect current site operations and any changes that have occurred that have been implemented. For example, the current version of the plan talks about forthcoming modifications (e.g. to the Log Yard). However, the FPMP must be clear in the existing arrangements rather than state there are ongoing proposals.

The FPMP shall address sections 5 – 24 of the NRW guidance inclusive, as listed in the guidance contents page. The guidance itself can be found at this link: https://naturalresources.wales/media/684379/guidance-note-16-fire-prevention-mitigation-plan-english.pdf

We have assessed the current version of the plan against our guidance. Some information is either missing, unclear or does not meet the guidance requirements. Our observations are summarised below and are categorised by the numbered section of the NRW guidance.

Section 5 Fire Prevention and Mitigation Plan Contents

Please ensure that the revised FPMP and associated site plans clearly addresses each of the required bullet points listed in section 5 of our NRW guidance to the required standard described in the body of the guidance.

Section 6 Common Causes of Fires and Preventative Measures

The current version of the FPMP does not include consideration of all the common causes of fires listed in bold text in section 6 of our NRW guidance. Please revise the FPMP to ensure that all causes are addressed. If a particular cause is not relevant to the installation, please state this in the FPMP to show that it has been considered.

For example, section 3.10 on page 10 of the current FPMP is called “Ignition Sources and Hot Works”. However, this section only describes the hot work procedure and does not list potential ignition sources on site or the measures in place to ensure the required 6 metres of separation between the ignition source and combustible materials such as biomass and waste raw material.

In terms of discarded smoking materials, consideration shall be given to the location of staff smoking areas and the distance these are located from combustible materials, such as biomass and waste raw material.

For industrial heaters, please describe the procedures in place that cover use of the heaters and ensure that regular maintenance is carried out.

For plant and hot exhausts, section 3.2 of the current FPMP states that

> “Monitoring is undertaken to detect signs of fires from dusts settling on hot exhausts. Regular cleaning of manufacturing areas will prevent the build-up of dust on hot surfaces. Periodic high-level cleaning will remove any build-up of dust at a higher level than can be reached from the ground”.

Please ensure that this common cause of fires is reviewed against our guidance with regard to specifying the intervals at which dust settlement checks are carried out and how regular these checks are. High level dust settlement shall include consideration of on-site conveyors.

Section 3.9 of the current FPMP explains that “electrical equipment is periodically checked and maintained as part of the planned maintenance regime as required in the detailed operating manuals for process equipment within the Facility”.

Please ensure that this section also addresses damaged or exposed electrical cables as potential causes of fire and describes the measures in place to identify these and the action taken if any are identified. Are staff trained to report damaged or exposed electrical cables if one is discovered outside of regular inspection and maintenance?

It is noted that hot loads are not anticipated to be deposited on site. However, please demonstrate that the site waste acceptance procedures include measures which are suitable for identifying hot loads in the unlikely event that any occur. These procedures shall also allow for any hot loads to be removed to a suitable quarantine area.

Section 7 Storage Times and Self-Combustion Factors

Please ensure that the revised FPMP clearly addresses all the requirements of section 7 of our NRW guidance to the required standard. The revised plan shall also demonstrate that the guidance table on Maximum Storage Times has been considered for each type of biomass and waste raw material stored. This analysis must be presented by each material and fraction stored in log yard and silos and the amount of time that each fraction is stored in each location. The current

version of the FPMP (page 9) states that “retention times within the site will typically only be a few days”. This statement is too generalised and vague.

Sections 8 & 9 Managing waste material stacks and separation distances

Please ensure that the revised FPMP clearly addresses all the requirements of section 8 and 9 of our NRW guidance to the required standard. The revised FPMP shall demonstrate use of the tables and graphs in section 8 for working out the required separation distances for each type of biomass and waste raw material stored and consider the examples given in section 9. The separation distances in the guidance must be complied with as the log walls are themselves a flammable material. In addition, the length, width and height of all stockpiles by biomass and or waste raw material type must be given.

Section 4.3 on Page 13 of the current FPMP states that:

> “Stockpiles of woodchip, RCF, sawdust and boiler fuel will be maintained with a minimum separation distance of 2.8m this is the length of the roundwood which forms the length of the compound walls”.

Please explain what this means in practice, using diagrams if necessary, as it is currently unclear. Also, what is the width of the stockpile compounds?

The assessment of separation distances shall include consideration of existing operations and chemical infrastructure (e.g. formaldehyde plant).

Section 10 Baled waste storage

Please confirm if any baled biomass and / or waste raw material is stored on site, as this has not been addressed within the current FPMP. If baled material is stored, please ensure that the revised FPMP clearly addresses all the requirements of section 10 of our NRW guidance to the required standard.

Section 11 Enclosing stacks using bays and walls

Although relevant, this section has not been adequately addressed in the current FPMP. Please ensure that the revised FPMP clearly addresses all the requirements of section 11 of our NRW guidance to the required standard.

It is noted that some of the storage bay compounds are comprised of log walls. Please confirm if this is the case for all relevant storage bays on site where biomass and waste raw materials are stored. If not, please describe the materials that the other relevant storage bays are constructed from.

For all walls (log and other construction materials if relevant), enclosing stacks of biomass and waste raw materials, please describe how they offer a thermal barrier and enable cooling, such that there is a sufficient fire break between

stacks to prevent fire spreading. Please also describe how a 'freeboard' space at the top and sides of the walls will be physically retained at all times in accordance with our NRW guidance.

In addition, please describe how stacks of biomass and waste raw materials are accessed and the frequency and method used for turning the piles to prevent self-heating. The installation must also have a dedicated quarantine area, in which to move burnt or unburnt waste to. This area must be large enough to accommodate 50% of the largest stack.

Section 12 Waste stored within a building

Section 4.6 on page 14 of the current FPMP states that "…. there will not be any storage of biomass feedstock within buildings unless it is being processed within the board manufacturing process".

For the biomass material brought inside to be processed for board manufacturing, please explain how the material is stored prior to processing, where it is stored in the building and the dimensions of the storage area and method of storage (e.g. walled compound, silo) and also the maximum quantity that would be stored in this location at any time.

Storage in a silo is not classed as storage in a building. However, if this section is relevant, because biomass is being stored inside by a different method, then please ensure that the revised FPMP clearly addresses all the requirements of section 12 of our NRW guidance to the required standard.

In addition, drawing C7, Appendix C of the current FPMP showing the location of fire walls on site is unclear. Please confirm if the drawing provided represents the whole site or just a proportion of the site. If the latter, please provide a plan showing the location of all fire walls on site. Also is the plan a final version, as the title incorporates the words "under construction"? Please provide a final version of the plan if not.

Section 13 Waste stored in containers

This section has not been included in the current FPMP. Please ensure that the revised FPMP clearly addresses all the requirements of section 13 of our NRW guidance to the required standard.

The new biomass storage silos shall be considered as part of this section. This consideration shall include:

- Confirmation of maximum biomass storage times in each of the 6 silos
- A description of how the silos are monitored for hot spots and internal fires
- A written assessment of the suitability of the separation distances between the silos and the Log yard

- Consideration of the potential for a fire in any of the silos and the measures in place to prevent fire spreading to another silo, or the Log Yard itself.

Section 14 Layout of waste stacks on your site

Please ensure that the revised FPMP considers all the bullet points listed in section 14 of the NRW guidance, stating where any are not applicable and why.

Section 15 Seasonality and waste stack management

Please demonstrate that your biomass and waste raw material stack management is viable and that you are able to prove the suitability of materials, the resilience of the supply chain and end users. Where these materials on your site are subject to seasonal variation in demand and/or supply you should demonstrate how you intend to manage these variations. You should be able to demonstrate how you will follow the principle of "first in, first out" so that biomass and waste raw materials are stored for no longer periods than indicated in Table 1. All these issues and the contingencies you employ to manage them should be in your management system.

Page 9 of the current FPMP contains the following statement:

> "However, it is not anticipated that the changing moisture content of the biomass will result in any additional fire risk"

Please be aware that a change in moisture levels can generate heat which can increase the risk of self-combustion. The revised FPMP shall consider this and measures should be in place to monitor moisture as well as well as temperature.

Section 16 Monitoring and turning of stacks

The requirement for staff training to detect and manage hotspots in stacked biomass / biomass in silos must be addressed.

Please also confirm how often the visual inspections of biomass stockpiles within the Log Yard (referenced on page 9 of the current FPMP) are undertaken and explain what action is taken if any indication of self-heating / fire is detected. For example, where will the material be moved to? What is the "designated nearby area" referred to in section 4.7.3.7 on page 18 of the current FPMP? Please be more specific about how often stockpiles and biomass are turned to prevent formation of hotspots – page 9 of the current FPMP just states "regularly".

Please confirm and describe if there is any technical monitoring of temperature in log piles and stacks / silos containing smaller biomass material (e.g. use of temperature probe for measurement, rather than visual inspection alone)? The equipment you use to detect temperature and moisture content should be

capable of operating at any depth throughout the pile. Therefore, if you are proposing to have a stack 4m deep, your thermal monitoring equipment should be capable of operating through the depth of the proposed stack.

You should explain what indicators you will use in relation to temperature and moisture content and the escalation of actions in relation to these indicators.

Please include any new plant and infrastructure used for biomass storage on site in your assessment that has been commissioned since the current FPMP was submitted (e.g. new biomass storage silos).

Section 17 Fire detection

Section 4.7.2 of the current FPMP notes that the board manufacturing areas have not been considered because this material is not considered to be waste. This position is assumed to have been taken because the NRW FPMP guidance note 16 is primarily intended to apply to the waste management industry and specifically the controls associated with combustible waste materials. However, as explained on page 5 of the NRW guidance that the "guidance contains useful information that can apply to operators in any of these sectors…" – the paper and pulp industry being one such sector. The Kronospan installation has many parallels to the paper and pulp industry in terms of the large amount of non-waste and waste combustibles stored on site and some of the production processes employed. Also, board manufacturing is a regulated activity grouped under Schedule 1, Part 2, section 6.1 "Paper, Pulp and Board Manufacturing Activities" of the Environmental Permitting (England and Wales) Regulations 2016, which reflects this.

As such, the updated FPMP shall include consideration of all areas where biomass and waste raw materials, (along with production residues intended for use as raw materials) are stored.

In terms of fire detection, the specific type of automated detection system used in each area shall be specified and approval by an appropriate UKAS accredited third party certification scheme shall be demonstrated.

Sections 4.7.2.6 and 4.7.2.7 on Page 16 of the existing FPMP describe the flame detection systems in place for the K7 and K8 combustion plants. Please explain what is meant by the term "two-line coincidence" in these sections. Please also clarify if the flame detection systems are supported by CCTV monitoring systems.

Additionally, section 4.7.2.7 "K8 Boiler" states that:

> "The Compressor and Thermal Oil Pump rooms for the K7 boiler includes flame and smoke detectors which are in a two-line coincidence to enable early detection of a fire within these areas".

This is identical to the corresponding sentence in section 4.7.2.6 "K7 Boiler". Please confirm if the arrangements are the same for both K7 and K8, or if there is

any difference. It is assumed that the reference to K7 in section 4.7.2.7 is a typographical error?

Section 18 Fire suppression systems

As per the first paragraph of **section 17 "Fire Detection"** above, the updated FPMP shall include consideration of all areas where biomass, production residues and waste raw materials are stored.

For any areas where there is no fire suppression system, please state what measures are in place instead. Also please confirm what the suppression nozzles are installed on the 6 biomass silos – for example, do these nozzles for a sprinkler system, manual deluge system or something else?

Please confirm which areas of the installation the deluge system for K7 can be initiated from. Please also confirm if the K8 gas burners have a deluge system. In addition, for K8 please explain what fire suppression technique is in place for the fuel feed system and thermal oil pumps area.

Section 19 Firefighting strategy

Please ensure that the current FPMP is revised to consider all areas of site where biomass and waste raw materials are stored.

Please confirm if the Foam Fire Appliance referred to in section 4.7 on page 14 of the existing FPMP can also carry water. Table 2 on page 20 of the existing FPMP implies that it can, unless this table is referring to a separate appliance?

Section 20 Water supplies

Section 4.7.4 of the existing FPMP describes the provision of firewater. K8 boiler does not appear to have been included in this section. Please update this section to describe where water for fighting a fire in K8 would come from and the available quantity.

Section 4.7.4.7 of the existing FPMP states that:

> "Fire water within the Log Yard will be provided by three dedicated fire water tanks within the Log Yard which will supply the fire hydrant system and also water abstracted directly from the Canal or water collected within the lagoons".

Please identify these three tanks by reference to the tank numbering in Table 2 and on the Site Sprinkler Plan. Please clarify if the above statement means that water in these three tanks will be filled from the fire hydrant system, and / or water from the canal or lagoons, or does it mean that water from the three tanks will be used to supplement water supplies sourced from the fire hydrants, canal

and lagoons. If it is used as supplementary water, please confirm the source of water for these three tanks.

Please describe the procedures in place to ensure that all dedicated firewater tanks across the site remain full. Has evaporation from the tanks over time been considered? Are the tank water levels regularly checked? Are the tanks subject to regular maintenance? What measures are in place to ensure that the water in the tanks does not become contaminated over time?

Section 4.7.4.8 of the existing FPMP states that there is >7800 m^3 of firewater provision at the installation. Please use the rule of thumb in section 20 of our NRW guidance to demonstrate that this quantity is enough to manage a worst-case scenario incident (e.g. one (your largest biomass or waste raw material stack) or more stacks on site are on fire). Please confirm what dimensions and quantities have been used for the “largest stack”. (This many require consideration of how many storage bays there are in the Log Yard and the size of the largest bay).

Please confirm if lagoons 1, 2 and 3 are intended to be used as an available water for firefighting and explain how each will be used in the event of a fire. For example, will certain lagoons be used for different purposes, whereby one or more provide available fire-fighting water and the third is used for containment of fire water run-off?

It is noted that the adjacent canal is named as a source of available water for firefighting. Please confirm if abstraction of water for firefighting is from the same two points named in Abstraction Licence 24/67/5/0081. These are at NGR SJ 28530 39000 and SJ 28490 38900.

A plan showing site wide provisions of water for firefighting is presented in Appendix C of the current FPMP as “Site Sprinkler Plan”. Table 2 on page 20 of the FPMP shows the water source for different areas of the facility, together with Firewater tank capacities and process areas. Table 2 does not appear to list an “Area 2”. Please confirm if there is an Area 2 which needs to be included. Similarly, Areas 1 & 2 do not appear to be shown on the Site Sprinkler Plan. Please update the plan so that it shows all process areas relating to Table 2.

Section 21 Managing water run-off

Your FPMP must assess the potential effect of fire water on:

- the local groundwater and surface water bodies
- any well, spring or borehole within 50 metres used for the supply of water for human consumption, including private water supplies

and must also set out how you will prevent fire water affecting these receptors, where applicable.

Other considerations include:

- How will fire run-off water from K5, K6, K7 and K8 combustion plants be isolated in the middle road in practice?
- How will fire run-off water from GT1 & 2 and Gas Engine 1 -5 combustion plants be isolated on the Log Yard in practice? Please confirm that the surfacing in Log Yard is impermeable.
- Section 4.7.8.1 “K1” on page 21 of the existing FPMP states that run off from a fire at K1 boiler would be isolated in the loading bay area, “with all attempts made to prevent the fire water from entering the storm water system”. Please explain how run-off would be isolated in this area and clarify what “all attempts” means in practice.
- The existing FPMP explains that if fire water effluent is not suitable for discharge from the lagoons to the Afon Bradley, it will be transferred off site to a suitably licenced waste management facility via road tanker. Please explain how quickly this would happen to prevent the lagoons exceeding their capacity in the event of a large quantity of fire water being generated.

For all references to removal of fire water by road tanker, please additionally confirm where the tanker would come from, where the likely destination site for disposal is (i.e. worst case distance and travel time), what equipment is on-site to facilitate fire water removal from the lagoons by the tanker, and is there sufficient scope for enough tanker journeys (given the necessary journey times), to ensure that lagoon capacities are not exceeded?

It is understood that lagoons 1, 2 and 3 on site can be used to contain fire-fighting water. Please demonstrate that the capacity of the site drainage system and lagoons is suitable for containing firewater from a worst-case incident scenario and if other containment provision or control measures are in place to ensure that the lagoon capacity is not exceeded. This may require consideration of the potential volume of fire water run-off from the Log Yard. Please also demonstrate that the lagoons have enough containment capacity under all weather and production conditions.

Please ensure that the location of “Penstock A” is clearly identified on the site drainage plan forming part of the FPMP. Please also ensure that all emission points to water and sewer are clearly identified on the same plan.

Please provide written evidence to demonstrate that Dŵr Cymru Welsh Water will accept fire-fighting water run-off into the public sewer originating from the Middle Road drains.

Section 22 Designated quarantine area

This has not been addressed sufficiently in the current version of the FPMP. The updated FPMP shall address this to the required standard described in our NRW guidance.

Section 4.7.3.7, on page 18 of the current FPMP explains that if any smouldering was detected in the Log Yard, a bucket loader is used to remove the surrounding stockpile to prevent any spread of the fire. A designated nearby area is also mentioned where small sections of the smouldering stockpile would be removed to. Please confirm if this is a designated quarantine area and explain how the area is made clear, so that it is available for use.

Section 23 During and after an incident

Your FPMP must have contingency measures in place for dealing with issues during and after a fire. For example, these could include:

- diverting incoming waste raw materials / biomass to alternative sites during a fire
- having a plan for how you will notify those who may be affected by a fire, such as nearby residents and businesses.
- contractors that might be used to assist with additional plant for firefighting techniques, removal of waste material, containment and removal of excess water run-off.

You also need to set out in your FPMP:

- how you will clear and decontaminate the site
- the steps you must take before the site can become operational again

All combustion products and emissions (to air, land and water) from the fire and the emergency response (including the impact on people, critical infrastructure and the environment) and how they will be minimised also needs to be addressed and the pollution impact of smoke and fire water and impact on environment and people needs to be considered. These considerations shall include:

- How emissions to the local community are minimised
- How and when Kronospan inform the local community of a fire
- How will smoke impact nearby infrastructure, such as the railway line and main roads?

To protect sensitive receptors, the plan shall include measures that will be used to raise the alarm and to inform residents, e.g. local school, nursing home etc. These measures will be site specific and emergency planning procedures may need to be checked with the Local Authority.

Section 24 Reviewing and monitoring your Fire Prevention & Mitigation Plan

Page 23 of the current FPMP states that:

> “The effectiveness of the emergency response procedures will be reviewed following any emergency incidents on-site.”

Please consider and identify any other circumstances that would trigger a review of the FPMP – some examples are listed in section 24 of our NRW guidance.

8. Noise assessment for new Chip Dryer

An updated Noise Impact Assessment by Noise and Vibration Consultants (NVC) Ltd (report number R17.0506/3/DRK, dated 24 May 2019) was submitted in response to question 2 of the second schedule 5 notice. Paragraph 5.4.18 of this report states that:

> "The Wood Chip Preparation, WESP Chip Dryer and the replacement Wood Chipper / Flaker facility development is effectively a replacement of existing plant and as such will provide an improvement in noise levels and therefore we have not included this in the cumulative assessment as it has a positive impact on cumulative levels".

However, tables 5.12 and 5.13 of the NVC Ltd report (24 May 2019) are reproduced in the response to question 3.2 of the third Schedule 5 response (Fichtner report no. S2376-0240-0003JRS, 30 September 2019) and it is noted that Table 5.12 has been updated to include the Wood Chip Prep and Dryer plant, Chipper refurbishment and train offloading which was included but not listed in the title of the NVC report. The response to question 3(vii) also confirms that:

> "The noise model has been updated to reflect the addition of the Wood Chip Prep and Dryer plant, Chipper refurbishment and the offloading of the train as reflected in the response to Q3 (ii). The updated electronic CadnaA files are provided with this submission".

Of the noise modelling files submitted, there is a file named "All sources biomass CHP engines New Eng RCF ChipWash MF Press OSB Flaker WoodChip_NRW.cna". Please provide written clarification on if this file is intended to underpin the results in Table 5.12 or Table 5.13 or both.

In addition, Table 5.13 contains two columns giving predicted noise contributions for "Existing Facilities" and "New Facilities" respectively. As only one obvious modelling file has been submitted corresponding to cumulative impact (see above), it is unclear which scenario it represents, if it does underpin the results in Table 5.13. Please confirm if which scenario the modelling file represents (i.e. existing or new) and submit modelling files for both these cumulative scenarios. Please also provide a written description specifically describing the scenario shown by each modelling file to aid our understanding.

Wrexham County Borough Council (WCBC) Planning Committee report of the Head of Environment and Planning dated 31 July 2017 (report number: HEP/47/17) considers the planning application for the replacement of the original wood chip preparation facility on pages 90 – 100. The proposed development included the construction of a chip preparation building, chip storage silos and associated air filtration equipment, construction of a wood chip dryer, sifters, air grader and associated silo. Also, construction of a chip transfer blowline and associated hurricyclone.

The planning report explains that a comprehensive noise assessment accompanied the planning application and acknowledges that:

> “Noise from the operation of the existing wood chip preparation plant is relatively noisy and considered to be a main contributor to existing noise levels west of the site”.

The planning report then concludes that:

> “Contributory noise levels of the existing wood chip preparation and the proposed development indicate that the proposed development would result in a general reduction in noise contributory levels in sensitive directions (i.e. reduction of 1dB to 4dB)”.

Please provide written evidence and any associated modelling files to demonstrate how this expected noise reduction was calculated.

End of Schedule.