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 **5 March 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	05/02/2020

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

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Schedule

1. Emission point to air "K1" - Kronoplus

The emission limit value (ELV) for oxides of nitrogen (NO and NO_2 expressed as NO_2) (NO_x) from K1 boiler is set at 90 mg/Nm^3, as proposed in the last variation application (EPR/BW9999IG/V007). This emission limit has been used as part of the model input data for K1 in the Air Dispersion Modelling assessment for the site which forms Appendix C of the current variation application (EPR/BW9999IG/V008).

However, on 31 January 2019, Kronospan notified NRW of an abnormal release from K1 boiler, in which the 90 mg/Nm^3 was exceeded (Kronospan notification of abnormal emissions form KC/PARTAB/NRW/06). Kronospan explained that the original proposed limit of 90 mg/Nm^3 was unrealistic because the proposed value was actually 90 parts per million (ppm) and had inadvertently not been converted to mg/Nm^3 as part of the variation application (EPR/BW9999IG/V007).

K1 boiler has a thermal rated input of 2.25 MWth and is classed as a medium combustion plant (MCP), under the Medium Combustion Plant Directive which came into force through the Environmental Permitting Regulations (England and Wales) 2016 on 29 January 2018. As such, K1 will be required meet a NO_x emission limit of 250 mg/Nm^3 from 1 January 2030. However, as this is the minimum standard applied, a tighter ELV will be applied where the evidence suggests that this can be met.

The evidence supplied in Kronospan notification of abnormal emissions form KC/PARTAB/NRW/06 proposes that a NOx ELV of 200 mg/Nm^3 would be appropriate, which is supported by monitoring data also supplied as part of the same notification.

On this basis, please amend the air quality dispersion modelling assessment for the overall site, so that it reflects a modelled value of 200 mg/Nm^3 NO_x for K1. More specifically, the process contribution associated with the proposed value of 200 mg/Nm^3 shall be added to predicted releases of annual and short-term NO_x from all other sources on site and the site's overall impact on human health and habitats (critical levels and loads) shall be reassessed. The re-assessment shall consider both current site operations and proposed operation scenarios.

2. MDF 2 Cyclones / K7 Solid Fuel Boiler

The Wrexham County Borough Council (WCBC) permit WCBC/IPPC/03/KR(V3) sets ELVs in table 6.8.1 "Emission limits to air – MDF 2 Cyclones" for hydrogen chloride (HCl) and hydrogen fluoride (HF). It is our understanding that the exhaust gas from K7 Solid Fuel Boiler is also released through the MDF2 Cyclones.

These parameters have not been modelled as releases from K7 Solid Fuel Boiler / MDF2 Cyclones, despite being regulated by emission limits in the WCBC permit. It is our understanding that HCl and HF are likely to originate from the

combustion of biomass in K7 Solid Fuel Boiler, rather than the MDF manufacturing process. (This assumption is based on a comparison of BAT-AELS set for biomass combustion plants in the Large Combustion Plant (LCP) Bat Conclusions (BATC), against the BAT-AELs for channelled releases to air in the production of wood panels BATC.

Please confirm the source of these pollutants and update the air quality modelling assessment to include the predicted emissions of HCl and HF from the appropriate source(s) being released at the WCBC permit ELVs. The process contribution associated with the HCl and HF releases shall be added to predicted releases from all other sources of the same pollutants (i.e. K8 Biomass Plant) to ensure that the updated assessment considers the site's overall impact on human health and habitats. The updated assessment shall consider both current site operations and proposed operation scenarios.

In addition, Kronospan has submitted the results of formaldehyde monitoring from K7 Solid Fuel Boiler (via email dated 22/11/19). These results show that formaldehyde can be emitted in low concentrations from K7. In view of this, please update the air quality modelling assessment to include the predicted emission of formaldehyde from K7. The process contribution associated with formaldehyde releases from K7 shall be added to predicted releases from all other sources of the same pollutant (i.e. MDF 1 Cyclones, MDF 2 Cyclones, New and Existing WESP, Units A1, A5 and A6) to ensure that the updated assessment considers the site's overall impact on human health. The updated assessment shall consider both site operations and proposed operation scenarios.

When submitting the updated modelling assessments, please ensure that the terminology for emission points and scenarios used in the modelling files and reports match to aid interpretation.

3. K8 Biomass Plant

a) Air Quality Modelling of Half Hourly Averages

The WCBC permit WCBC/IPPC/03/KR(V3) sets half-hourly and daily average ELVs in table 6.5.1 for the K8 Biomass plant. Kronospan have previously confirmed via email (dated 29 October 2019) that they wish to retain half-hourly averages for the plant under an NRW permit.

Whilst the daily average ELVs have been modelled as part of the Appendix C Air Quality Assessments in variation application EPR/BW9999IG/V008, the half-hourly average ELVS set for K8 pollutant parameters have not been modelled. This information is required if the half-hourly averages and abnormal operation allowance for K8 are to be retained in an NRW permit, as emissions at the half-hourly average ELVs contribute towards the likely worst-case emissions.

Therefore, please amend the air quality dispersion modelling assessment for the overall site, so that it reflects not only the daily average ELVs for K8, but the half-hourly average ELVs compared against the hourly environmental quality standards as well. For clarity, half-hourly average ELVs are set for the following K8 pollutant parameters: particulate matter (PM), Total Organic Carbon (TOC), HCl, carbon monoxide (CO), sulphur dioxide (SO_2) and NO_x.

b) Abnormal Operations Impact Assessment

Kronospan have previously confirmed via email (dated 29 October 2019) that they wish to continue with the abnormal operation allowance for K8 under an NRW permit. However, an abnormal emissions impact assessment has not been provided.

Please submit a written abnormal emissions impact assessment for K8 and supply the electronic modelling files supporting this. In making the assessment of abnormal operations, please consider the range of different abnormal operating conditions that could lead to abnormal emission levels of pollutants being released and use plausible abnormal emission levels. The following pollutant parameters shall be considered with regard to the impact of emissions from abnormal operation on human health short term environmental quality standards (EQS):

Dioxin and Furan, Mercury, NO_x, PM, metal emissions other than mercury, SO_2, HCl, dioxin-like PCBs, CO and TOC.

This requirement is important because abnormal operation of K8 contributes towards worst-case emissions from the site. As such, the assessment of the impact of abnormal operations is required to verify that the Chapter IV Industrial Emissions Directive (IED) periods for abnormal operation of no more than a period of 4 hours continuous operation and no more than 60-hour aggregated operation in any calendar year are appropriate.

The abnormal emissions impact assessment and associated modelling files should consider abnormal emissions in the context of K8 and IED requirements, as well as adding predicted abnormal emissions to releases of the same pollutants from the rest of the site, to demonstrate the predicted impact on human health and ecological receptors when K8 is running in abnormal operation at the same time as operations across the rest of the site. The updated air quality assessment shall consider both site operations and proposed operations scenarios.

Please note that item 3a) above (Air Quality Modelling of Half-hourly averages) will not be required if the plausible abnormal emission levels used in the Abnormal Operations Impact Assessment are more conservative than the half-hourly ELVs set for K8.

c) Human Health Risk Assessment (HHRA)

The HHRA does not consider the consumption of locally caught fish as a potential pathway of concern. The Chirk Fishery (fly fishery and hatchery) is approximately 1.4 km to the south west of the facility and fish originating from here may be for human consumption. The fish pathway (via ingestion of locally caught fish) is an important pathway for bioaccumulation of some pollutants such as some dioxins and furans and dioxin-like PCBs and some metals (mercury and thallium). Please consider the risk of exposure from the consumption of fish originating from the Fishery in the HHRA for dioxins, dioxin-like PCBs, mercury and thallium intake.

In view of the above, please re-run the IRAP-h model and resubmit the HHRA. Please also supply electronic copies of the revised modelling files, which should include the .IRP file.

d) Auxiliary Fuel for K8

Page 25 of the Fichtner "Human Health Risk Assessment" which forms part of Appendix C of the variation application states:

"Start-up of the K8 Biomass Plant from cold will be conducted with clean support fuel (low sulphur light fuel oil)".

This will also be used as a supplementary fuel when required to maintain the temperature of the combustion chamber at the required 850ºC for 2 seconds.

Please provide a copy of the Material Safety Data Sheet for the light fuel oil, so that the sulphur content can be verified.

4. Background Noise monitoring

We have assessed Kronospan's 2016 "Baseline noise survey at nearest receptors", submitted on 5 June 2019, and consider that the 2016 survey data may not be representative of the background noise at the nearest sensitive receptors.

The reference time intervals for noise measurement in BS4142:2014 are: 1 hour during the day from 07:00 hrs to 23:00 hrs and 15 minutes at night from 23:00 hrs to 07:00 hrs. However, Kronospan's 2016 Baseline noise survey contains only 3 x 5-minute sequential measurements being taken at each receptor during the day and night. Also, the noise measurements were conducted during a single 24-hour period, specifically Thursday 8 to Friday 9 September 2016. As such the measurement time may be too short to be representative of typical background noise levels at sensitive receptors and to pick up variations in noise levels. Furthermore, the survey report did not provide any further information whether the measurements were representative of the noise level during the daytime and night-time.

In order to increase confidence in the representativeness of background noise measurements at the 9 sensitive receptors identified in the 2016 report (expressed as $L_{A90,T}$), please repeat the monitoring of $L_{A90,T}$ using the reference time intervals from BS4142:2014+A1:2019. Measurements can be contiguous or disaggregated but shall capture the range of background sound levels for the period being assessed, taking care to consider diurnal variation and variation during weekday and weekend periods.

The results of this measurement exercise shall be submitted in the form of a written monitoring report, including as a minimum the information detailed in Section 12 of BS4142:2014+A1:2019 pertaining to the background survey. This shall include the weather conditions at the time of monitoring, (e.g. wind speed and direction). The report shall also include the $L_{A90\ (t\ min)}$ measurements used to determine the final background values for day and night time periods (including background values determined for different daytime / night time periods where significant diurnal or weekday / weekend variation has been identified). Please also provide the single octave bands associated with the background measurement as this can provide information regarding the “character” of the sound and helps to inform whether the specific sound is likely to be incongruous.

Measurements in the absence of train deliveries during night time periods shall be included in the final determination of the $L_{A90(15\ min)}$.

Please also submit the electronic file of time series noise recording data for verification of the LA_{90} with the monitoring report. The report shall also include a statistical analysis histogram graph showing the range of background sound levels recorded and demonstrating which is the most representative background level and why (i.e. the background sound level occurring for most of the time as per section 8 of BS4142: 2014 + A1:2019).

End of Schedule.