

Compliance Assessment Report CAR_NRW0043497

Permit being assessed: BW9999IG.

For: Chirk Particleboard Factory, **held by:** Kronospan Ltd

At: Chirk Particleboard Holyhead Road , Chirk, Wrexham, Clwyd, LL14 5NT.

Type of assessment: Site Inspection,

Reason: Routine.

On: 09/02/2024 between 10:00 and 15:30.

Parts of permit assessed: Odour management plan discussions and site inspection..

NRW Lead Officer: Ian Oakes, accompanied by Stuart Ross, Carter Shone.

Report sent to: Chris Emery, Director, on 23/04/2024.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR1A - Installations - Management - General Management	Assessed (A)	
IR2B - Installations - Operations - The site	Assessed (A)	
IR2C - Installations - Operations - Operating techniques	Assessed (A)	
IR3C - Installations - Emissions and monitoring - Odour	Assessed (A)	

Result types are explained in more detail in the 'Important Information' section below.

Total non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

No action required.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment**1. Site discussion to review the Odour Management Plan**

The Odour Management Plan (OMP) was the outcome of Improvement Condition IC39 *“The Operator shall update and submit the written Odour Management Plan describing the operating techniques employed. The odour management plan shall be structured in line with “How to Comply with Your Environmental Permit: H4 Odour Management” and shall also address the delivery of all relevant Production of Wood-based Panels BAT Conclusions. The written report will be incorporated into Table S1.2 of this permit as existing operating techniques.”*

The OMP is an extensive revision as resubmitted document S2376-0270-0003HKL Kronospan Odour Management Plan_R4, Dated 22/12/23 (public register) as required by CAR_NRW0042520. Approved 05/01/24 by CAR_NRW0043121 and discussed on site 09/02/24.

The overall effectiveness of the OMP will take time to determine and as considered a working document can be updated as required.

The potential odour sources (OMP Section 3.3 Table 1) include, for example: wood storage, fumes from paper impregnation, press abatement wet scrubbers (one venturi scrubber per line for MDF1, MDF2 and Particle board), board stuck in presses, wet electrostatic precipitators (WESP21 and 32) for particle dryers, steam releases with entrained materials, releases from chemical storage tanks and process plant, fires, catastrophic plant failures and short-term use of emergency stacks.

Assumed to include all permitted emission points with emission limit values as still can be odorous as dependent on dispersion after release to atmosphere (see below). These have been modelled and the emission limit values have been set to be environmentally protective.

Reference OMP Appendix E - Extractive odour monitoring results issued 31/10/22 as mean odour concentration ouE/m³ (standard units).

Emissions control system for formaldehyde plants 298 ouE/m³

K8 biomass boiler 620 ouE/m³

MDF1 at 1,783 ouE/m³

MDF2 at 4,017 ouE/m³

WESP 21 at 6,931 ouE/m³

*WESP 32 at 1,608 ouE/m³

*Following resin, impregnation, press abatement stack combination operating as a wet electrostatic precipitator tested 02/11/23 at 500 litres fresh water per hour.

Discussions around potential addition of oxidisers such as hydrogen peroxide point to both WESP 21 (highest ouE/m³) and WESP 32 (lowest velocity) as the most practical options to dose (as MDF1 and MDF2 have very high air volumes). Options to trial are being considered by Kronospan and dosing has been included in the OSB variation application.

Venturi scrubber fans are to be kept running even if press abatement is shutdown to aid plume buoyancy for WESP 32. WESP 32 emission velocity increased from 4 to 5 metre per second after stack combination but is still considered to be low.

NRW personnel have passed an olfactory acuity test with n-butanol to ensure a level of ability for odour detection, though descriptions of the odour detected can vary by individual. Kronospan are actively looking at doing the same acuity test.

Following acuity testing the effectiveness of on/off site and incident response odour assessments should be reviewed to see whether the use of odour intensity (0 – 6) and offensiveness (1 – 4) ratings and an assessment of persistence, transience and potential sources can be undertaken reliably.

It is suggested that point source odour (stack) monitoring by extractive sampling and analysis to EN 13725 by an UKAS accredited laboratory be carried out annually or after a significant change to maintain a baseline.

2. Subject to BW9999IG (as varied) permit conditions (but not exclusively).

"2.3 Operating techniques

2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.

(b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

(a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the

period specified, an odour management plan which identifies and minimises the risks of pollution from odour,

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales."

3. Subject to Best Available Techniques conclusions (BATc) Directive 2010/75/EU for Production of Wood – based Panels (but not exclusively).

"BAT 1 *In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features (listed as I – XIV, with XIII being the OMP).*

BAT 2 *In order to minimise the environmental impact of the production process, BAT is to apply good housekeeping principles using all of the techniques given below.*

Techniques listed as a – e and include e. g. careful selection of control of chemicals and additives, careful handling and storage of raw materials and waste and regular maintenance and cleaning of equipment, transport routes and raw material storage areas.

BAT 9 *In order to prevent, or where that is not practicable, to reduce odour from the installation, BAT is to set up, implement and regularly review an odour management plan, as part of the EMS (see BAT 10), that includes all of the following elements:*

- I. A protocol containing actions and timelines;*
- II. A protocol for conducting odour monitoring;*
- III. A protocol for response to identified odour events;*
- IV. An odour prevention and reduction programme designed to identify the source(s); to measure/estimate odour exposure; to characterise the contributions of the sources; and to implement and/or reduction measures.*

Applicability: The applicability is restricted to cases where odour nuisance in residential or other sensitive areas (e. g. recreational areas) can be expected and/or has been reported.

BAT 10 *In order to prevent and reduce odour, BAT is to treat waste gas from the dryer and the press according to BAT17 and BAT 19.*

BAT 17 *In order to prevent or reduce emissions to air from the dryer, BAT is to achieve and manage a balanced operation of the drying process and to use one or a combination of the techniques given below:*

Techniques listed as a – h and include e. g. bag filter, wet scrubber / electrostatic precipitator and chemical degradation or capture of formaldehyde with chemicals in combination with a wet scrubbing system.

BAT19 *In order to prevent or reduce emissions to air from the press, BAT is to use in-duct quenching of collected press waste gas and an appropriate combination of the techniques given below:*

Techniques listed as a – f and include e. g. select resins with low formaldehyde content, wet scrubbing of collected press waste gases using Venturi scrubbers or hydrocyclones, wet electrostatic precipitator and post – combustion as the last treatment step after application

of a wet scrubber.

4. Site inspection to review the Odour Management Plan

Main points:

- Odour amenity reports to NRW in Feb 24 were received on 2nd, 3rd, 11th (three) and 14th with none around the time of the site visit on 09/02/24.
- WESP 21 'scrubber' water replacement rate is determined by conductivity to ensure that arcing does not take place (would damage the WESP). The implications of introducing oxidising agents to reduce odour would have to be factored into this requirement,
- Uncovered piles of recovered wet waste wood for K7 are not ideal operationally for handling, feeding and combustion and has the potential to add odour to MDF emissions,
- The log yard had mild wood odour as expected,
- Paper impregnation had a sweet smell not noticed externally,
- Press Halls had quite a strong odour and all efforts should be made to enclose, extract and scrub as much as possible noting the difficulty in using plastic strip curtains on conveyors,
- The extraction ducting and hoods should be checked periodically for holing and blockages to ensure they are functioning correctly,
- Operator exposure to formaldehyde is monitored as required by the Control of Substances Hazardous to Health Regulations,
- The Venturi scrubbers did not appear to have a water replacement regime in place. Kronospan are to follow this up and NRW will review on next visit. Any further reduction in odour here will reduce odour from WESP 32,
- The site had a low woody odour background at ground level and in general. However, this excluded any impact from plumes, which are known to contribute to off site amenity reports.

Action: The elevated collector to the rear of the press halls (B06 MDF2 Forming Extraction) produced a formaldehyde like odour at ground level. Please provide evidence to justify this as the BAT abatement technique for this process emission by 30 June 2024.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

If your assessment result in Section 1 is suspended, what does this mean?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry compliance criteria (used in section 1 and 2):

1. Management

- IR1A – General management
- IR1B – Finance (only applicable to Landfill)
- IR1C – Energy efficiency
- IR1D - Efficient use of raw materials
- IR1E - Avoidance, recovery and disposal of wastes produced by the activities
- IR1F - Multiple operator installations

2. Operations

- IR2A – Permitted activities
- IR2B – The site
- IR2C – Operating techniques
- IR2D – Technical requirements
- IR2E – Improvement programme
- IR2F – Pre-operational conditions
- IR2G – Landfill engineering (only applicable to Landfill)
- IR2H – Waste acceptance (only applicable to Landfill)
- IR2I – Leachate levels (only applicable to Landfill)
- IR2J – Closure and aftercare (only applicable to Landfill)
- IR2K – Landfill gas management (only applicable to Landfill)

3. Emission and Monitoring

- IR3A – Emissions to water, air or land
- IR3B – Emissions of substances not controlled by emission limits
- IR3C – Odour
- IR3D – Noise and vibration
- IR3E – Monitoring
- IR3F – Pests
- IR3G – Air quality management plans
- IR3H – Monitoring for the purposes of the Industrial Emissions Directive (this heading includes Large Combustion Plants)
- IR3I – Fire

4. Information

- IR4A – Records
- IR4B – Reporting
- IR4C – Notification

Enforcement response

Any non-compliance with a permit condition is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or

suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within twenty working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 to 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.