

Compliance Assessment Report CAR_NRW0041570

Permit being assessed: BL1096IB.

For: Padeswood Cement Works , held by Castle Cement Limited

At: PADESWOOD WORKS , PADESWOOD, MOLD, MOLD, CLWYD, CH7 4HB.

Type of assessment carried out: Check Monitoring/Sampling, Reason: Incident Response (Incident number 2206786).

On 15/09/2022 - 20/09/2022 between 17:05 and 17:05.

Parts of permit assessed: F2 - Amenity (noise)

NRW Lead Officer: Lara Cubley, accompanied by Stuart Ross, Paul Challender.

Report sent to: David Quick, Plant Manager on 03/04/2023.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
F2 - Amenity - Noise	C2 Significant	3.4.1

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

Total number of non-compliances recorded	Total non-compliance score
1	31

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?

Criteria	Action needed	Complete by
F2	See Actions 1 - 4 below with associated due dates	11/04/2023

Action criteria codes are listed in the 'Important information' section below.

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.

You are non-compliant with your permit.

We are currently considering taking enforcement action against you for the non-compliance recorded above. We will contact you in due course.

4. Details of our assessment

Background

Following a number of noise complaints from a property on Bannel Lane, monitoring equipment was installed in the property to establish whether low frequency noise was causing a pollution.

Low Frequency Noise Monitoring

Noise monitoring was undertaken inside a residential property on Bannel Lane, Penymynydd, Flintshire over the period 15th – 20th September 2022. A sound level meter was installed in the conservatory at the request of the resident and was identified as a location where the noise is audible. The resident did not wish for the sound level meter to be installed in any other room within the house.

The meter was set up to record environmental noise parameters such as LA_{eq} but was also to continuously record $1/3^{rd}$ octave band data and full audio throughout the monitoring period. This would enable an assessment to the Defra NANR45 - Procedure for the assessment of low frequency noise disturbance (NANR45).

The daytime and night-time acoustic environment is impacted by low frequency industrial type noise, however during the daytime extraneous sound such as traffic noise and activity in or local to the property may have a masking effect.

The NRW officer's subjective assessments of all the noise events logged by the resident, confirmed the presence of an audible low frequency drone. Analysis of the noise events logged by the resident identified the following $1/3^{rd}$ octave bands which exceeded the NANR45 criteria - 31.5Hz, 40Hz, 63Hz, 80Hz, 100Hz, 125Hz & 160Hz. This provides an indication that low frequency environmental noise exists that could be the cause of complaints. During all logged events the 125Hz $1/3^{rd}$ octave band exceeded the criteria curve by the greatest margin or jointly exceeded with other $1/3^{rd}$ octave bands. Correlation of criteria curve exceedances with the complainant's logged events were identified during the assessment.

The assessment positively identified low frequency noise within the property attributable to a source of an industrial nature. Based on the NRW officer's experience of the locality it is considered that the source of the low frequency noise is Padeswood Cement Works.

NRW requires the operator of Padeswood Cement Works to conduct plant specific investigations to identify and remediate the potential source of the 125Hz $1/3^{rd}$ octave band tone being generated by operations within their installation boundary. The operator is also required to investigate noise sources where other $1/3^{rd}$ octave bands that exceeded the criteria curve have been identified by NRW and their consultants.

Permit Compliance

Condition 3.4.1 of the permit states:

'Emissions from the activities shall be free from noise and vibration 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 noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.'

NRW is of the opinion that the operator has breached permit condition 3.4.1 (F2 - noise - C2 significant) on an ongoing basis.

Low frequency noise (LFN) is causing pollution at a sensitive residential receptor as perceived by an authorised officer of NRW. The LFN is, offensive to human senses, and NRW has been informed that it is affecting sleep. In accordance with NRW guidance, this has been scored as a category 2, (significant impact), and has been occurring for more than 7 days during the period of this September 2022 monitoring. This coincides with NRW's visits to the receptor and analysis of the audio recordings related to conducting the noise monitoring exercise.

Previous noise assessments by NRW and the operator's consultant have identified significant tones on and off site. For example:

- 63 - 70Hz tone from the heat exchanger cooler fans (FN09 - FN11) with harmonic tones at 125 - 139Hz that sit within the 125Hz 1/3rd octave band; and
- 104/105Hz tone from the main exhaust fan (within the 100Hz 1/3rd octave band).

There are a number of other tones that have been noted: such as 35Hz coming from the under grate cooler fans, in particular, the nose ring fan.

Appropriate measures such as regular preventative maintenance programmes have not been in place. Other appropriate measures including but not limited to decoupling noise sources and potentially resonant components, sound insulation/soundproofing and silencers have not been undertaken.

NRW will be re-assessing compliance related to this ongoing noise impact and it may attract further permit breaches.

Actions

The Operator must undertake the following Actions:

Action 1 - Submit the most recent quarterly noise monitoring report to NRW by 11/04/23.

Action 2 - Determine the effect of the recent improvements on the heat exchange fans and main stack fan on the 125Hz 1/3rd octave band and other 1/3rd octave bands that have exceeded the NANR45 criteria at the sensitive receptor at Bannel Lane. Submit your report to NRW by 06/05/23 or as otherwise agreed in writing with NRW. This is in recognition that further more time consuming work may be required as part of this assessment.

Action 3 – Based on the findings of Action 2, complete an assessment to determine what further steps are required to bring operations in line with BAT and submit an improvement plan with associated timescales by 06/05/23. As with Action 2 above, the timescale for this action may be otherwise agreed in writing with NRW.

Action 4 - Continue to monitor the noise impact (including Low Frequency Noise) of the installation at noise sensitive receptors on a quarterly basis. Where pollution is identified, ensure appropriate remedial measures are implemented so that operations are in accordance with BAT.

Actions that are already currently required and associated with Noise are:

- An improved Noise Management Plan to be submitted by 31/03/23.
- Improved preventative maintenance programmes for environmentally critical plant/equipment required by a Regulation 36 Enforcement Notice by 30/06/23.

Remedial actions already undertaken by the operator since the September 2022 monitoring

The operator has since conducted an overhaul of the heat exchanger cooler fans (63 - 70Hz tone with harmonic tones at 125 - 139Hz that sit within the 125Hz 1/3rd octave band) during the recent January 2023 shutdown. Previously to this, the operator had limited the speed of these fans to within 5% of one another. Other than maintenance, the operator's consultant has also suggested other potential mitigation measures such as operating at lower speeds and better understanding of the likely noise generating mechanism of the tone to enable design solutions to eradicate the problem.

At the end of November 2022, the operator also replaced the insulation in the main stack fan modifications. This silencing modification was originally installed in June 2021. The operator's consultant also recommended an aerodynamic fan insert in 2021 to further reduce the blade pass tone. This has not been implemented.

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.

What are suspended scores?

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 and Waste action criteria (used in section 1 and 2):**A: Permitted activities**

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance 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 20 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 – 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.