

Compliance Assessment Report CAR_NRW0038762

Permit being assessed: BR9383ID.

For: Queensferry Mineral Fibre Works , held by Knauf Insulation Ltd

At: Chemistry Lane , Queensferry, DEESIDE, Flintshire, CH5 2DA.

Type of assessment carried out: Site Inspection, Reason: Routine.

On 25/08/2021 between 10:00 and 15:45.

Parts of permit assessed: Emissions and abatement, improvement conditions 1 - 5, permit variations, plant control and site familiarisation

NRW Lead Officer: Berwyn Williams, accompanied by Stuart Ross.

Report sent to: Graham Jones, Environment, Energy & Compliance Manager on 09/11/2021.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
B1 - Infrastructure - Engineering for prevention and control of emissions	Assessed (A)	
B5 - Infrastructure - Plant and equipment	Assessed (A)	
E1 - Emissions - Air	Assessed (A)	
H1 - Resource Efficiency - Efficient use of raw materials	Assessed (A)	

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

Total number of 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

This Compliance Assessment Report follows a site inspection 25/08/2021 and notifications relating to the monitoring and control of emissions.

Raw Material Management - discussions led by Craig Davies, Process Manager

Issues with regard to SO₂ emissions, multiple notifications.

Rock mineral manufacture, different raw material sources, natural stone and waste from steel industry with variable composition.

Due to variability and ELV exceedances, Knauf have switched back to original BFS source but there may be access restrictions in future that could cause issues.

Cupola raw material batch chemistry is managed from company laboratory. Raw materials testing is carried out abroad (samples collected on site) but delays at ports have been experienced. UK testing now in place, sample analysis from abroad is fortnightly and UK analysis now weekly.

Acid gas abatement dosing has changed from lime to sodium bicarbonate following a successful trial – Knauf have observed a 'step change' in SO₂ and HCL emissions, in part due to the new dosing and also the change to BFS source – ELV compliance has markedly improved. Big impact on HCL emissions, testing July 0.71mg/Nm³.

Knauf are now looking to optimise bicarbonate dosing, using modelled data to make small changes, and also looking into options to tackle spikes in emissions during production. Sodium bicarbonate widely available, milled type. Similar quantity of APC residue.

Bicarb flows better than lime, easier to handle and less blockages experienced. Knauf report that there are sensors on the blowing line and hoppers to detect blockages – reportedly operating well.

ACTION

Report to be produced by Knauf to summarise sodium bicarbonate dosing project and environmental impacts for consideration by NRW by **30/11/2021**.

A permanent switch to sodium bicarbonate may potentially be accepted as a change in operating techniques and/or incorporated into the current permit variation for the Oxygen generation plant. Will confirm with Permitting.

Binder Fume

Mixing vessels and raw material vessels vent to fume plant stack (some areas have LEV) all vented to atmosphere via small stack fan with no abatement plant. This arrangement is detailed in the original permit application. All emissions bar ammonia screened out during H1 assessment, ammonia appears to have been modelled in air dispersion modelling report for the site but odour impact appears to be an unknown.

Guidance - Due to no abatement specifically, just an "area vent" there could be a potential odour impact. There may be an opportunity to consider an improved system. Activated

carbon has been used to good effect across other parts of the chemical sector as a suggested method.

ACTION - Knauf Insulation to investigate options to optimise abatement by **31/11/2021**.

Enotex

New heat exchanger to be fitted next year during annual shutdown following approval for procurement.

Ceilcote

Pressure sensors have been installed on the 6 recirculation pumps and alarms to control room if flow stops or if there is a blockage across the filter. Flow rate 180,000 m³ hr.

Discussions were had on the Phenols breaches. NRW is unsure of the chemistry of the Water Quality/Scrubbing liquor and Knauf is also dependant on the original consultants description of the chemistry within the application.

GUIDANCE ONLY: Knauf should consider an investigation into improving knowledge of scrubber mode of operation and process control options to ensure emissions are meeting ELVs rather than increase in monitoring frequency.

Site Maintenance

5 years ago the site did not have a Planned Maintenance System (SAP).

Site measure planned maintenance performance

Every time breakdown occurs review occurs of PM carried out.

ACTION: Knauf to carry out PM checks for abatement plant as part of a regular frequency Planned maintenance programme, specifically for Emission points A, C and G, this to be enacted by **30/11/2021**.

Stack G Emissions Monitoring

Recent extractive monitoring results have passed for ammonia, particulate has been an issue. Latest results passed for particulate and ammonia.

Site have not set an ammonia set point, flows have been increased and 10m³ minimum of make up water added per day. Evaporative losses topped up incrementally during the day.

ACTION: Knauf Insulation to investigate options to optimise abatement to improve head room to ELV as currently close to limit by **30/11/2021**.

Oxygen Generator

Plant installed and awaiting NRW's determination of the current variation application. The main potential environmental impact appears to be noise but may not be significant in context with other plant operating adjacent to it. Knauf seeking approval to operate ahead

of variation determination due to NRW backlog.

ACTION: Knauf need to submit a proposal as to how the plant will be commissioned and demonstrate that it is not causing any significant adverse impact ahead of any potential agreement including mitigation processes if any adverse impacts occur, this is to be done by **30/11/2021**.

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.