

**This form will report compliance with your permit as determined by an NRW officer**

Site	Queensferry Mineral Fibre Works	Permit Ref	BR9383ID		
Operator/Permit holder	Knauf Insulation Ltd				
Regime	Installations				
Date of assessment	07/11/2017	Time in	09:30	Out	13:00
Assessment type	Report/Data Review				
Parts of the permit assessed	1.1.1, 2.3, 2.4, 3.1, 3.2, 3.4, 3.5, 4.2, 4.3				
Lead officer's name	Voice, Elizabeth				
Accompanied by	Ross, Stuart				
Recipient's name/position	Claire Keouski/ EHS Manager	Date issued	21/12/2017		

## Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS Scores can be consolidated or suspended where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

Permit conditions and compliance summary	CCS Category	Condition(s) breached
B5 - Infrastructure - Plant and equipment	C3	1.1.1
E1 - Emissions - Air	C3	3.1.2
	C3	3.1.2
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	C4	4.3.2

**KEY:** See Section 5 for breach categories, suspended scores will be indicated as such.

**A** = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only, **O** = Ongoing non-compliance, not scored.

<b>Number of breaches recorded</b>	<b>4</b>	<b>Total compliance score</b> (see section 5 for scoring scheme)	12.1
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**If the Number of breaches recorded is greater than zero, please see Section 3 for our proposed enforcement response**

## Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- The part(s) of the permit that were assessed (eg. Maintenance, training, combustion plant, etc)
- Where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- Any non-compliances identified
- Any non-compliances with directly applicable legislation
- Details of any multiple non-compliances
- Information on the compliance score accrued inc.
- Details of advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

### Knauf Meeting November 7<sup>th</sup> 2017

A meeting was held on the 07/11/17 with Knauf to discuss the lack of progress on compliance assessment report (CAR) NRW0031911. NRW met with the Knauf Queensferry EHS Manager, Regional EHS Manager, and two Wood Group Ltd consultants.

Actions from **CAR** dated 28/07/17.

- **Calculate and model the fugitive emissions during tap out to assess impact on air quality. Deadline 30/09/17** Not met. Knauf had originally stated that modelling and monitoring could not be done; this is not an option as an assessment needs to be made whether the emissions are causing pollution. A proposal for modelling the tap out emissions was tabled by Wood Group Ltd on behalf of Knauf at the meeting. This involved assuming that the tap out fugitive emissions equated to 15% of the 12kg clay plug. NRW will forward comment on this in due course.

Action – NRW to consider the modelling proposal.

With regards to monitoring, Knauf believe that the ambient air monitors would blind, however are still investigations options for more suitable monitors.

Action – Knauf to report on options for monitoring by **31/01/18**.

- **Review options for preventing, and where not practicable, minimising the fugitive emissions from the base of the cupola furnace during tap out. Deadline 30/09/17**

No review submitted.

Action - Deadline extended to **31/01/18**.

- **Review the emissions management plan for the tap out procedure and resubmit. Deadline 30/09/17** Submitted 03/10/17. The list of 11 fugitive emissions does not include clay; this needs to be added. The tap out section states that the majority of the fume is extracted through the Ceilcote scrubbers before being released from the main stack. However, there is no mention of the minority of the fume i.e. the fugitive emission. The Fugitive Emissions Plan needs to be resubmitted to include the above. However, as the fugitive emission needs to be quantified to allow assessment this cannot be progressed until the method of modelling and/or monitoring is agreed.

Knauf had committed to installing 2 CCTV to cameras provide 360 degree view by the end of 2017, and both will be networked so they can be monitored to observe the tap out fugitive emissions. Please confirm when the cameras are installed and operational. NRW forward all complaints made to the NRW incident

line to Knauf, therefore Knauf will be able to view footage from site as part of their complaints investigation procedure.

### **Fugitive and Stack Emission Complaints**

The following is a log of recent fugitive and stack emission complaints which have been forwarded to Knauf.

<b>Date</b>	<b>Odour /smoke complaints forwarded to Knauf</b>
22/11/17	Photos of smoke affecting Factory Road sent to Knauf, odour issues.
19/10/17	Email to Knauf regarding odour and plume grounding.
11/10/17	Email regarding smoke and odour from Sandycroft School (occurred 3 times since September but no specific dates provided)
24/07/17	Email regarding smoke and odour from Sandycroft School (no specific dates)
03/04/17	Complaint light blue haze from high up in the Knauf building, from Factory Road
28/03/17	Heavy smoke pouring from upper vents in Knauf building. Complainant on Factory Road had to close doors.
19/12/16	Photos sent of smoke from fugitive emissions, from Factory Road
01/11/16	Photo of smoke from site, from Factory Road
17/10/16	EV came to site to look at fugitive emission from furnace building
15/10/16	Complaint forwarded to site regarding smoke, from Factory Road
19/09/16	Email log sent from complainant on Factory Road covering 05/09/16 to 12/09/16
12/09/16	Email to Knauf, a lot of smoke coming from site with strong smell and obscured visibility
24/08/16	Email to Knauf regarding fumes from lower level vent
26/07/16	Email to Knauf regarding smoke and odour complaint from Factory Road

### **School**

NRW received a complaint from a local school regarding smoke from Knauf, and details were sent by email to the Regional and Site EHS Managers on 11/10/17. The school appears to be affected when the wind blows from the north, and this tends to be in the spring and summer months. The school will report issues on the NRW environmental incident system. There have been no specific complaints since August. Knauf requested that dates of complaints from the school be forwarded to them, however they have not kept a log of past issues. All future complaints will be logged on the NRW incident hotline, and passed on to Knauf.

### **Factory Road**

There have been several complaints from Factory Road, the majority of which were substantiated by NRW. The issues relate to fugitive emissions from the furnace building during tap out and emissions from emission point G (cooling zone).

### **Emission point G**

Knauf are investigating and monitoring the process parameters, the abatement system operation and the water recirculation system relating to stack G.

Action -report findings by 31/01/18.

### **Plume Grounding**

NRW observed the plume grounding 02/12/17 and 19/10/17, details of which were forwarded to Knauf.

### **Permit Condition 3.4 Odour**

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

Action – Knauf to provide a copy of their Odour Management Plan by 31/01/18.

Action – Knauf to demonstrate that they are using appropriate measures to prevent or where not practicable to minimise the odour from emission point G and the main stack A/C by 31/01/18.

### **Model of emissions from A, C, G and Y**

Two reports have been submitted by Knauf for emissions A and C, and for G and Y. Please submit a combined assessment report by 31/01/18.

### **Improvement Condition IC39**

IC39 was submitted 08/11/17.

EP EX 189 09/10/17 – 11/10/17 18.1, 38.6, 24.6 mg/m<sup>3</sup> against the emission limit value of 10mg/m<sup>3</sup> during trial for HCl reduction.

Knauf's mineralogist has reviewed the specification of stone, slag and coke and adjusted batch formulation to reduce the HCl in the air emission. However this resulted in no repeatable reduction on emissions of HCl.

Secondary abatement options were reviewed using hydrated lime injection system. A trial was carried out 4-5<sup>th</sup> July 2017 which resulted in a reduction of HCl emissions of 66% but caused additional blinding of the filter bags. A second trial was run on the 10<sup>th</sup> October 2017. Knauf are to further review and optimise the dosing rate of lime, with a test arranged for the end of Q4 2017. Results will be reported to NRW January 2018.

Action – submit report for HCl reduction by 31/01/18.

### **Emission Limit Value Breaches Q3 and Q4**

#### **Q3**

#### **CO Breaches emission limit value 80mg/m<sup>3</sup>**

EP EX 173 04/08/17 190 mg/m<sup>3</sup>

Mains power outage in the local area stopped large parts of the process. The furnace abatement equipment was automatically purged with air during the recovery period and subsequently restarted. This is abnormal operation therefore not a permit breach.

EP EX 176 07/09/17 174.12mg/m<sup>3</sup>

A change in the blast setting on start-up resulted in high temperature in the combustion chamber which caused the cupola abatement oxidiser burner to trip. The furnace emissions were redirected through the emergency by-pass stack for 7 minutes. The high temperature resulted in cable failure which were replaced prior to start up 07/09/17. The cupola abatement tripped again on start-up due to high

temperature and furnace emissions were redirected through the emergency by-pass stack for 7 minutes.

Action - Provide detail on why the blast setting was changed and the procedures relating to process changes to ensure environmental impact is assessed. Date 31/01/18.

Can't assess root cause as more detail is required. Will be assessed once further information provided.

EP EX 177 14/09/17 98.98 mg/m<sup>3</sup>

EP EX 178 16/09/17 114.78 mg/m<sup>3</sup>

EP EX 179 17/09/17 189.03 mg/m<sup>3</sup>

EP EX 180 18/09/17 130.26 mg/m<sup>3</sup>

EP EX 181 19/09/17 140.84 mg/m<sup>3</sup>

EP EX 182 20/09/17 211.42 mg/m<sup>3</sup>

The burner head was replaced due to its' failure. This resulted in 6 days of emission breaches while the process was optimised. Can't fully assess as more detail is required.

Action – What was the root cause of the burner head failure? Was it on a maintenance schedule? How was its failure detected? Why did it take one week to be able to run within the emission limit values? Submit information by 31/01/18.

#### **SO<sub>2</sub> Breaches emission limit value 1350mg/m<sup>3</sup>**

EP EX 174 14/08/17 1411.45 mg/m<sup>3</sup>

EP EX 175 15/08/17 1421.93 mg/m<sup>3</sup>

The O<sub>2</sub> and pressure input models and H<sub>2</sub>O output module failed because of the external electrical power outage. The corrected data resulted in an even greater emission value breach with no explanation for the breach.

Action – submit procedures to ensure CEMS is fully operational after power failure. How were corrected values calculated? Provide an explanation about why the emission limit values were exceeded. Action 31/01/18.

Non-conformance scores for Q3 consolidated to **CCS3 – E1** emission to air

#### **Q4**

#### **CO Breaches emission limit value 80mg/m<sup>3</sup>**

EP EX 187 23/10/17 82.06 mg/m<sup>3</sup>

The coke within the batch was not mixed correctly due to a problem with one of the oscillators which drives the vibrating pan. The oscillator was replaced and the camera position adjusted so that hot end personnel are able to view the area. Further information required to assess.

Action – was the oscillator on a maintenance schedule? What was the root cause of the failure? Submission date 31/01/18.

#### **SO<sub>2</sub> Breaches emission limit value 1350mg/m<sup>3</sup>**

EP EX 183 01/10/17 1458.24 mg/m<sup>3</sup>

EP EX 184 02/10/17 1565.28 mg/m<sup>3</sup>

EP EX 185 03/10/17 1501.49 mg/m<sup>3</sup>

Upon investigation by the CEMS specialist, the oxygen probe was failing to span check and was replaced. However there is no explanation of why the SO<sub>2</sub> emission limit values were exceeded therefore cannot

fully assess.

Action - Provide an explanation about why the emission limit values were exceeded, including root cause.  
Action 31/01/18.

EP EX 186 21/10/17

The emergency bypass was operated 3 times over an 11 hour period due to low pressure in the compressed air system. This was due to a leaking seal on the tap out arm cylinder which caused a low network pressure, which was detected by a low-pressure switch. The Engineering Department have set up a planned maintenance routine to check the pneumatic systems for the tap out arm cylinder.

#### **Emission Point G**

EP EX 188 26/09/17

Particulate matter emission limit value 10mg/m<sup>3</sup> breach 11.2mg/m<sup>3</sup>, 11.9 mg/m<sup>3</sup>

Ammonia emission limit value 10mg/m<sup>3</sup> 19.8, 20.6, 22.3 mg/m<sup>3</sup>

Periodic monitoring carried out on 26/09/17 for emission point G demonstrated breach of emission limit value for particulate matter and ammonia. Further monitoring carried out 04/12/17 resulted in particulate matter and ammonia within the emission limit value. The Part B does not explain why the results in September were above the elv.

Action – Provide reason why the emission limit values were breached in September 2017 and how site will ensure ongoing compliance. Action 31/01/18.

Breaches to air for Q4 consolidated to **CCS3 – E1** emissions to air.

Breaches for Q4 for 'B5 plant and equipment maintenance' consolidated to one CCS3 score.

#### **Schedule 6 Part B Reporting**

Part B should be submitted as soon as practicable. Part B's for EX EP 173 – 182 were not submitted until 29/11/17, and EX EP 183 – 189 submitted 04/12/17. In some cases the Part B's had insufficient detail to demonstrate the root cause, and the measures taken, or intended to be taken, to prevent a recurrence of the incident.

**CCS 4** - G4 reporting and notifications to NRW.

#### **Noise**

Knauf are to review the noise management plan and submit by 31/01/18.

## EPR Compliance Assessment Report

**Report ID:  
CAR\_NRW0032636**

**This form will report compliance with your permit as determined by an NRW officer**

Site	Queensferry Mineral Fibre Works	Permit Ref	BR9383ID
Operator/Permit holder	Knauf Insulation Ltd	Date	07/11/2017

### Section 3 – Enforcement Response

You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

### Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

Criteria Ref.	CCS Category	Action required/advised	Due Date
See Section 1 above			
E1	C3	See report for details	31/01/2018
E1	C3	See report for details.	31/01/2018
B5	C3	See report for details	31/01/2018
G4	C4	See report for details	31/01/2018

## Section 5 – Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- Advise on corrective actions verbally or in writing
- Require you to take specific actions verbally or in writing
- Issue a notice
- Require you to review your procedures or management system
- Change some of the conditions of your permit
- Decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and/or suspension or revocation of the permit.

**See our Enforcement and Civil Sanctions guidance for further information**

This report does not relieve the site operator of the responsibility to

- Ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- Ensure you comply with other legislative provisions which may apply

### Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance that could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

**Operational Risk Appraisal (Opra)** - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

## Section 6 – General information

### Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- Offering/providing you with its literature/services relating to environmental matters
- Consulting with the public, public bodies and other organisations (eg. 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 its service
- Freedom of Information Act/Environmental Regulations request

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

### Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within fifteen working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

### Customer charter

#### What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with officer's line managers using the informal appeals procedure. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00 – 18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

#### Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.