

Compliance Assessment Report CAR_NRW0040699

Permit being assessed: BU2349IL.

For: Alyn Works, held by Synthite Limited

At: Denbigh Road, Mold, Flintshire, CH7 1BT.

Type of assessment carried out: Report/Data Review, Reason: Routine.

On 15/11/2022.

Parts of permit assessed: See Below

NRW Lead Officer: Philip Harper.

Report sent to: Jayme Mountford, Technical Manager on 05/12/2022.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
E1 - Emissions - Air	C3 Minor	3.1.2
E1 - Emissions - Air	C3 Minor	3.1.2
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	C3 Minor	3.5.1
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	C3 Minor	4.3.2
E1 - Emissions - Air	C3 Minor	3.1.2
E1 - Emissions - Air	C3 Minor	3.1.2

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

Total number of non-compliances recorded	Total non-compliance score
6	24

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
E1	Continue to monitor and investigate any trends	29/12/2022
E1	Continue to Monitor and investigate any trends	29/12/2022
G1	Ensure future monitoring is carried out as specified by the environmental permit.	29/12/2022
G4	Submit all outstanding part B notifications for Q3	16/12/2022
E1	Continue to monitor, investigate any trends	29/12/2022
E1	Continue to monitor, investigate any trends.	29/12/2022

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.

At this time, we are issuing you with a warning for the non-compliance recorded above. Warnings may influence future enforcement response for continued or further non-compliance.

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

Quarterly Monitoring of Results- Q3 (July – September), due 30th September 2022.

Quarter 3 monitoring data for Synthite Limited, Mold Chemicals (Alyn Works), Denbigh Road, Mold, Flintshire, CH7 1BF were submitted to Natural Resources Wales in accordance with permit condition 4.2.3.

Monitoring for water emissions at W1 has been undertaken in accordance with the environmental permit. No breaches have been identified.

Air emission monitoring data has been undertaken by an MCERTS qualified provider. However, infrastructural issues prevented monitoring at emissions points, A10, A12 and A16.

Failure to undertake the monitoring in accordance with the environmental permit has resulted in a category 3 breach in contravention of permit condition 3.5.1 (G1 Monitoring of emissions & environment).

Action:

- 1) Ensure future monitoring is carried out as specified by the environmental permit.

Summary of Schedule Notifications Received During Quarter 3

Schedule 5 Notification- A15 Formaldehyde Breach 26th July 2022

On the 11th August 2022, Natural Resources Wales received a schedule 5 notification informing that the permitted formaldehyde concentration had been exceeded at emission point A15 on the 26th July 2022 with a concentration of 16.7 mg/m³ compared to the permitted limit of 5 mg/m³.

The notification gave the reason for the breach as saturated scrubber liquid.

A category 3 score has been applied against permit condition 3.1.2 “The limits given in schedule 3 shall not be exceeded.” (E1 Emissions to air).

A Part B detailing the investigations and actions following the breach was submitted to Natural Resources Wales on the 11th August 2022.

Schedule 5 Notification- A15 Formaldehyde Breach 29th September 2022

On the 17th October 2022, Natural Resources Wales received a schedule 5 notification informing that the permitted formaldehyde concentration had been exceeded at emission point A15 on the 29th September 2022 with a concentration of 72.8 mg/m³ compared to the permitted limit of 5 mg/m³.

The accompanying email describes modifications that will be put into place to prevent further breaches at A15.

"A retest for formaldehyde on A15 was carried out and failed. The stack is being diverted to A16 exit gas boiler for combustion (so the products are water and carbon dioxide). A15 stack emission point will become redundant so I will need to mention this in my response about the draft permit this week. Please let me know if you have any questions."

However, a part B notification which discusses why the breach is occurring has not yet been submitted to Natural Resources Wales.

Action:

- 2) Submit a part B to which discusses the breach at A15 by the **31st December 2022**.

The operator should also be advised that any changes to emission points will require a permit variation.

A category 3 score has been applied against permit condition 3.1.2 "The limits given in schedule 3 shall not be exceeded." (E1 Emissions to air, consolidated with breach of formaldehyde from A15 on 11/08/22).

Schedule 5 Notification- A7 Formaldehyde Breach 25th August 2022.

On the 16th September 2022, Natural Resources Wales received a schedule 5 notification informing that the permitted formaldehyde concentration had been exceeded at the catox stack which is emission point A7 on the 25th August 2022 with a concentration of 8.6 mg/m³ compared to the permitted limit of 2 mg/m³. Part B detailing the breach investigation has not been submitted to Natural Resources Wales.

A category 3 score has been applied against permit condition 3.1.2 "The limits given in schedule 3 shall not be exceeded." (E1 Emissions to air).

Schedule 5 Notification- A7 Formaldehyde breach 16th September 2022.

On the 4th October 2022, Natural Resources Wales received a schedule 5 notification informing that the permitted formaldehyde concentration had been exceeded at catox stack which is emission point A7 on the 16th September 2022 with a concentration of 18.2 mg/m³ at 11:25 to 11:55 and 11.3 mg/m³ at 12:06 to 12:36 compared to the permitted limit of 2 mg/m³.

A category 3 score has been applied against permit condition 3.1.2 “The limits given in schedule 3 shall not be exceeded.” (E1 Emissions to air, consolidated with breach of formaldehyde from A7 on 25/08/22).

On the 6th of October Natural Resources Wales received the following information from the operator regarding the emissions breach:

“A notification was sent to inform you of a formaldehyde emissions to air (8.6 mg/m³) of our formaldehyde limit (2 mg/m³) on A7 chemicals catalytic oxidiser stack. The emission point was retested and the results were 18.2 mg/m³ and 11.3 mg/m³. The catox’s catalyst had been renewed before the 3 tests for optimum performance. Prior to the installation of the catox there was a wet scrubber. Tests were performed over a day upstream of the wet scrubber to monitor the pollutant loadings and the catox design was based on this data. Our MCertS stack testing company reported that the catox’s stack had a very low velocity / flow rate (3 m/s), so the actual level of formaldehyde being emitted is really low, however, our limit is in mg/m³, and not in g/hr, so we are being judged on the concentration (mass per volume), and not on the mass emission (g/hour). Most stacks Atesta test have a velocity closer to 15 m/s, so it is unusual to see around 3 m/s. The air intake valve to allow a flow through the catox has been designed to ensure that the plume is outside the explosive atmosphere range and as such the flow through the stack (3 m/s) is atypical. ‘Normal’ stack velocities would be 15 m/s. We are not allowed to introduce dilution air, just for the sake of it, or to meet an emission limit value. Even so, if we were to increase the reactor air intake to aid dispersion, the atmosphere would move into the explosive atmosphere range. As such, we are not able to make adjustments to the system. It may be that our emission limit values have been incorrectly based on the BAT conclusions relating to formaldehyde production by the silver process and the metal oxide process in the LVOC BREF, because the BREF applicable to organic chemicals batch manufacturer is still a working draft. In the LVOC BREF the BAT-AEL for emissions of formaldehyde to air from formaldehyde production is 2–5 mg/Nm³. If you consider a 1 in 5 dilution based on a theoretical dilution with fresh air was increased to increase the flow rate of 3 m/s to 15 m/s, then after dispersion the results of 8.6, 18.2, and 11.3 would reduce to 1.72 mg/m³, 3.64 mg/m³, and 2.26 mg/m³ respectively. “

Natural Resources Wales does not consider this a completed Part B investigation. The incident first breach at A7 occurred over three months previously to the date of this compliance assessment report, investigations which involve breaches of emissions limits which may pose a hazard to wider public health and the environment should be completed within a shorter time scale.

In relation to investigations for breaches at A7 a category 3 score has been applied against permit condition 4.3.2 “Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified, (as soon as practicable), in that schedule.”

Schedule 5 Notification 17 October 2022- A8

On the 17th October 2022, Natural Resources Wales received a schedule 5 notification informing that the permitted TVOC concentration had been exceeded at the chemicals wet scrubber stack which is emission point A8 on the 28th September 2022 with a concentration of 494 mg/m³ compared to the permitted limit of

30 mg/m³. The associated Part B detailing the investigation for the breach has not been submitted to Natural Resources Wales.

A category 3 score has been applied against permit condition 3.1.2 "The limits given in schedule 3 shall not be exceeded." (E1 Emissions to air)

Schedule 5 Notification 17 October 2022- A11

On the 17th October 2022, Natural Resources Wales received a schedule 5 notification informing that the permitted formaldehyde concentration had been exceeded at the grinders wet scrubber stack which is emission point A11 on the 28th September 2022 with a concentration of 205 mg/m³ compared to the permitted limit of 5 mg/m³. The part A notification indicated that a sock was off and that production would be ceased until a new sock and liner had been installed. The associated Part B detailing the investigation for the breach has not been submitted to Natural Resources Wales.

A category 3 score has been applied against permit condition 3.1.2 "The limits given in schedule 3 shall not be exceeded." (E1 Emissions to air)

Action:

3. Continue to monitor at emissions points A7 and A15 and investigate any trends.
- 4) In accordance with condition 4.3.2 provide all outstanding part B notifications for part A submissions that correspond to Q3 (July to September) by the **16th December 2022**.

Kind Regards

Phil Harper

Industry and Waste Regulation Officer NW

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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.