Compliance Assessment Report CAR_NRW0040900

Permit being assessed: BU2349IL. For: Alyn Works, held by Synthite Limited At: Denbigh Road, Mold, Flintshire, CH7 1BT. **Type of assessment carried out:** Audit, Reason: Routine. On 29/11/2022 between 10:00 and 13:30. Parts of permit assessed: See report **NRW Lead Officer:** Lara Cubley, accompanied by Philip Harper. **Report sent to**: Jayme Mountford, Technical Manager on 11/01/2023.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
C2 - General Management - Management system and operating procedures	C2 Significant	1.1.1(a)
A1 - Specified by permit	C3 Minor	2.3.1(a)
E1 - Emissions - Air	Action only (X)	
C4 - General Management - Storage, handling labelling and Segregation	C3 Minor	3.2.3

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

Total number of non-compliances recorded	Total non-compliance score
3	39

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
C2	See Actions 1,2,3,5,6 and 7 with associated timescales.	28/02/2023
A1	See Action 4	28/02/2023
E1	See Actions 8 & 9	28/02/2023
C4	Complete outstanding review and submit to NRW without delay.	31/01/2023

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.

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

4. Details of our assessment

Introduction

This compliance assessment report details a pre-planned audit conducted by NRW on the 29/11/22. The audit covered recent emission limit breaches and related investigations to date and preventative maintenance/inspection of critical abatement plant as detailed under subsequent headings below. Follow up correspondence and provision of further information related to the audit is also summarised in the relevant sections.

Previous inspection actions were also reviewed in the final section entitled 'Other'.

Emission Limit Breaches & Investigations to date

Recent emission limit breaches were discussed. See notes below. The operator has a procedure as part of the environmental management system (EMS) for incident investigation. The Technical Manager states that investigations are discussed in meetings, but the procedure is not being followed. The QSE Incident investigation form is not completed to document the investigation into the root cause of the nonconformity. As detailed in compliance assessment report, CAR40699, the operator is also failing to provide Part B investigations in a timely manner as required by the permit. (Non-compliance already applied for this in CAR40699). The operator's QSE Incident investigation form also requires corrective actions taken to be documented.

Failure to operate in accordance your written management system, (QSE procedure for incident ELV breach investigations not followed) is considered a breach of Permit Condition 1.1.1 (C1/2 Staff Competency & Training / Management Systems – C3 minor consolidated below).

ACTION 1: The Operator should review the procedures to ensure they are robust enough to secure compliance with permit condition 4.3.2. Please provide reviewed procedure by 28/02/23.
ACTION 2: The Operator must provide NRW with a plan in writing, proposing how to ensure implementation of incident investigation/non conformance procedures by 28/02/23.

A15 Tanker off load Formaldehyde emissions – The operator is planning to re-route this emission point to A16. It is understood that the Technical Manager thinks this breach of (Emission Limit Value) ELV could be the result of increased volumes and strength.
From correspondence received on 19/12/22 it would appear that the operator is looking to make modifications in January 2023 to re-route this to emission point A16 (combustion). In the meantime, some practices have been put in place to reduce the loadings/emissions from A15.

A7 (Scrubber vent from R1 – 5 reactors and cat ox from R6 ammonium salts and formaldehyde derivatives plus venting emissions from TS resins) Formaldehyde Emissions - The Technical Manager reports that the plant manager is reviewing catox abatement settings. Following a meeting on 20/12/22, it is understood that contact is yet to be made with the catox supplier and further investigation into the ELV breach is still required.

A8 (Wet scrubber RV10, AR2, AR1 reactors - formaldehyde derivatives) TVOC emissions - The Technical Manager was unaware that this emission point was from reactors. The most recent re-test was within

30mg/m3 ELV for TVOC.

A11 (Wet scrubber – formaldehyde manufacture) Formaldehyde emissions – Production of fine powders has ceased awaiting delivery of new socks for abatement plant.

Monitoring returns compliance assessment report CAR40699 required Part B root cause investigations and preventative/corrective action into permit ELV breaches to be submitted to NRW by the 16/12/22, (apart from that for A15 by 31/12/22).

NRW received such investigations for A7, A8 and A15 on the 15/12/22. That for A11 was outstanding and further investigation was required for A7. These Part Bs did not contain sufficient information, for example the root cause was not identified and there was insufficient information provided on actions taken to prevent a recurrence.
Updated Part Bs have since been submitted to NRW and will be reviewed by NRW.

Maintenance

The Operator has a Reliability Engineer to administer the computerised maintenance management system. A list of environmentally critical plant/equipment has been requested but not been made available. During the meeting of 20/12/22, the Technical Manager confirmed there is a list of environmentally critical plant and agreed to provide it.
ACTION 3: Provide NRW with the procedure for identifying environmentally critical plant together with a list of such plant by 21/01/23.

The Reliability Engineer was not available during the audit. The Technical Manager confirmed that the there is no preventative maintenance of abatement plant within the Computerised Maintenance Management System (CMMS) overseen by the Reliability Engineer. It is understood that any inspections of abatement equipment or reactive maintenance/repair are the responsibility of the individual Plant Managers.

The **Formaldehyde Plant** Manager provided two Standard Operating Procedures (SOPs) related to filter abatement inspection/maintenance during the audit:

- SYN SOP F310 Grinders LEV Extraction System Cleaning for removal of dust from fabric filter of the grinding process.
- SYN SOP F304 Procedure for LEV Extraction System Cleaning for cleaning the bag filters for emission point A12.

The Formaldehyde plant manager is also responsible for overseeing the operation of the wet scrubber from tanker loading emission point A15. Records of draining and top up of this scrubber with water are kept. These indicate that this activity occurs at approximately weekly intervals.

The Technical Manager confirmed that there are no other SOPs related to maintenance of particulate abatement within the formaldehyde manufacturing department (A10, A11 or A12). From observations on the day the filter abatement housing at A10 was in poor condition. Some of it was very rusty in places bringing into question it’s integrity which could possibly allow ingress of rain and air.

Through follow up with the Technical Manager, two further SOPs were provided on the 19/12/22 as follows:

- SOP F359 Grinder Operation
- SOP F317 Metal detector/ Emission System Daily Check Sheet

These SOPs refer to checks on the grinders wet scrubber, Hexamine scrubber (A11), for liquid level, switching on hexamine scrubber circulation pump, setting the water flow by rotameter control valve, and obtaining 500ml scrubber liquor and sample to lab for pH test (pH must be maintained between 4 – 7 and results must be recorded on SOP F317). SOP F317 daily check sheet states, '*The Operator will complete the daily checks following details described in the Fine Powder Plant Process manual. Section 9 – Environmental Control*.'
NRW have requested a copy of the Fine Powder Plant Process manual. No SOP F317 check sheets or similar checks/records were available during the audit. See C1/2 Staff Competency & Training / Management Systems permit breach below consolidated.

Permit Condition 2.3.1(a), Operating techniques, requires operation using techniques described in table S1.2, unless otherwise agreed in writing by NRW. Information originally provided as part of the application in 2004 states that the wet scrubber (A11) for fine power manufacture was dosed with ammonia salts. This is not currently occurring. **NRW are of the opinion that this is a breach of permit condition 2.3.1(a) (A1 Specified by Permit C3 minor).**

ACTION 4: Provide change management records and information of the change together with impact on emissions to NRW in writing by 28/02/23, or prior to operating process, if sooner. Alternatively, confirm no change and operate in accordance with original plans informing NRW in writing.

The Chemicals Plant Manager showed us records of checks to the wet scrubber (A8) three times per day and informed us that the catox (A7) is checked for green light at start of manufacture and every time the reactor is charged. We requested SOPs that cover these environmental controls. The following documents were provided on 19/12/22:

- Syncide HHT50 Batch Sheet
- SOP - Chemicals Plant A8 Wet Scrubber
- Chemicals Plant Scrubber Inspection Record (CHEM028)

The SOP - Chemicals Plant A8 Wet Scrubber, indicates that the day to day operation of the wet scrubber is covered within 3 forms – CHEM026, CHEM027 and CHEM028. CHEM026 and CHEM027 have not been provided but have been requested. They relate to weekly start-up and shut-down. CHEM028 requires records of A7 catox system status, fan running speed and temperatures at 3 locations to be recorded, and A8 checks to see main fan is running, scrubber liquid re-circulation pump is running, scrubber liquid level is ok, and any adjustments needed. These records were not provided during the audit and NRW have requested these for the week commencing 17/01/22 and 21/11/22.

The Technical Manager has confirmed there are no other SOPs or preventative maintenance inspections of the chemicals wet scrubber (A8) or catox abatement (A7). However, documentation can be made available pertaining to the recent catalyst change of the catox, if required.

Environmentally critical abatement plant does not form part of an appropriate preventative maintenance and inspection regime with the potential for a significant impact on the environment. Where there are limited procedures for preventative inspection these are not followed, and records are not maintained and/or readily available.
NRW is of the opinion that the operator is failing to operate the activities in accordance with a written management system that identifies and minimises risks of pollution as required by Permit Condition 1.1.1 (a) (C1/C2/B5 Staff Competency & Training / Management Systems / Plant & equipment – C2 significant).

ACTION 5: Where procedures/SOPs are present ensure these are followed as soon as practicable and

before 31/01/23.
ACTION 6: Review preventative maintenance/inspection of environmentally critical plant to ensure all abatement plant is included and covers an appropriate scope and frequency to ensure fault free operation. Provide a summary of the review together with a planned maintenance/inspection regime to NRW in writing by 28/02/23 and implement as soon as practicable.

ACTION 7: Provide the following information to NRW by 21/01/23:
- **Forms CHEM026 and CHEM027 and any related procedures not already provided.**
- **Confirm whether form CHEM028 is completed and if so provide for the entire week commencing 17/01/22 and 21/11/22.**

Other

IC31 and magnehelic gauges
During the site audit it was noted that a new magnehelic pressure gauge has been installed to monitor the pressure going into the filter at A10 and A12 in response to Improvement Condition (IC) 31. These are understood to be monitoring the inlet pressure and not the pressure differential across the filter, which is recognised as best available techniques. A magnehelic gauge appears to already exist for A11 within the grinders booth. However, confirmation of the monitoring configuration and that it's in good working are required.
ACTION 8: Provide pressure differential process monitoring across filters or reasoning for alternative in writing to NRW for approval by 28/02/23.

The incident involving a breach of ELV via A11 stated that a sock had come off the fabric filter. It would appear that this was not detected via the regular checks of magnehelic pressure gauges.
ACTION 9: Review procedures for monitoring of pressure drop of the fabric filters at A10, A11 and A12 to ensure issues with abatement are swiftly identified and acted upon by 28/02/23 and provide these procedures to NRW in writing by 28/02/23.

Previous CAR Actions
CAR 40147 Action 4 – IBC storage out of secondary containment was noted again during the audit.
NRW are of the opinion that the above IBC storage breach Condition 3.2.3 of the Permit as secondary containment is not provided (C4 - Storage, handling, labelling & segregation - C3).
Further work is required to meet this incomplete action. A review of IBC storage has not been undertaken and should be completed and provided to NRW without delay.

CAR 40147 Action 5 – Area of hardstanding between silver plant & non-flammable storage is still to be repair.

CAR 40147 Action 6 – Cooling tower leak has now reportedly been repaired. During the audit of the 29/11/22 No. 5 cooling tower was being cleaned out resulting in black sludge and water running over the yard. This will enter the on-site lagoon system. However, it was causing localised flooding by the TS Resin phenol tanker off-loading bund and inaccessibility to emergency shower. The Technical Manager later confirmed that this was investigated and found to be due to a drain blockage which was unblocked.

ADVICE & GUIDANCE: Disposal of effluent from cleaning operations should be carefully planned so that flow across yard surfaces is avoided.
A regular maintenance and inspection regime for drainage should be instigated.
Surface water pooling requires monitoring to ensure safety, access to emergency showers, and that the phenol bund capacity is not impacted.

Future Plans
The new Perstorp plant is planned for in 2-3 years and will require a substantial variation to the permit in good time due to permitting queues. It is now proposed that the aging silver plant will also remain in operation.

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.