

Compliance Assessment Report CAR_NRW0043365

Permit being assessed: BS6149IQ.

For: Pencoed Rockwool EPR/BS6149IQ, **held by:** Rockwool Ltd

At: Rockwool Ltd , Bridgend , Mid Glamorgan , CF35 6NY.

Type of assessment: Report/Data Review,

Reason: Routine.

On: 31/12/2023.

Parts of permit assessed: Emissions control, waste, monitoring, reporting and emissions.

NRW Lead Officer: Antony Leakey.

Report sent to: Samuel Brookes, Environmental Manager, on 07/02/2024.

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

| Part of permitted activity assessed (compliance criteria) | Assessment result | Permit condition |
|---|-------------------|------------------|
| IR3A - Emissions and monitoring - Emissions to water, air or land | C3 Minor | 3.1.2 |
| IR3A - Emissions and monitoring - Emissions to water, air or land | C4 No impact | 3.1.2 |
| IR3A - Emissions and monitoring - Emissions to water, air or land | C3 Minor | 3.1.2 |
| IR3B - Emissions and monitoring - Emissions of substances not controlled by emission limits | C3 Minor | 3.2.1 |
| IR1A - Management - General management | C3 Minor | 1.1.1 |
| IR3E - Emissions and monitoring - Monitoring | Assessed (A) | |
| IR3G - Emissions and monitoring - Air quality management plans | Assessed (A) | |
| WQ-B3 - Operations - Operating techniques | Assessed (A) | |

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

| Total non-compliances recorded | Total non-compliance score |
|--------------------------------|----------------------------|
| 5 | 16.1 |

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 |
|----------|--|-------------------|
| IR3A | Improve inspection regime | Already completed |
| IR3A | None required, in compliance after expected effective date. | Already completed |
| IR3A | Improve settlement tank cleaning regime and instrumentation. | Already completed |
| IR3B | Improve Management of Change process. | 31/05/2024 |
| IR1A | Improve Management of Change process. | 31/05/2024 |

Compliance 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

| Rockwool Limited Emissions and reporting review 2023 | | | |
|---|---|----------|--|
| Summary of previous CAR action status | | | |
| Permit condition | Action summary | Due date | Action status |
| 1.1.1 | Review of the ducting deep clean down regime. | 31/9/23 | Complete |
| 1.1.1 | Review management of change process | 31/9/23 | Ongoing |
| 3.1.2 | Review ammonia emissions control and abatement options. | 31/12/23 | Ongoing. First improvement condition report submitted. |
| 3.5.5 | CEMs performance against specified CIs | Ongoing | Ongoing – carried forward to OMA |
| 3.5.1 | Reporting to EN 17255 | Complete | Start up and shut down definition required. |

| | | | |
|-------|--|----------|---|
| 3.1.2 | Line 3 SO ₂ abatement – APCR disposal | Complete | Commissioning completed |
| 2.3.4 | Pit slag recovery | Ongoing | Quarterly updates to be provided |
| n/a | PSA carbon capture trial | Ongoing | Update on trial outcome required. |
| 3.1.2 | A12 abatement review | Ongoing | Follow up required on thermal oxidiser unit maintenance regime. |
| 3.1.2 | Review bag filter and combustion system inspection regime | 30/9/23 | Complete |
| 1.1.1 | Review critical valves and dampers maintenance frequency and emergency venting prevention measures | 30/9/23 | Complete |
| n/a | Bund water accumulation management procedure and training | 30/9/23 | Complete |
| n/a | Aging plant management strategy and environmentally critical plant and equipment | 30/9/23 | Complete. Follow up maintenance system audit required. |

Line 3 filter house fire investigation

Stack clean has confirmed efficacy of interim duct and filter cleaning frequency.

Actions from this investigation are now complete and system cleaning regime will be examined as part of a future maintenance system audit.

Ammonia emissions reduction

A formal survey of nutrient nitrogen impact at the nearby Brynna a Wern Tarw SSSI using the full oak twig lichen assessment methodology undertaken by NRW conservation specialists on 5/7/23 and 12/10/23. The results confirm the influence of ammonia emissions on the SSSI and have been published on the NRW public register.

The first progress report into development and implementation of ammonia emissions reductions to air in compliance with improvement condition reference IP22V was submitted on 22 December 2023.

Future reports will need to provide clearer timelines and milestones for tracking emissions reduction implementation, but NRW recognises that changes on the scale required will need careful evaluation before implementation.

In the meantime, the ongoing effort to minimise ammonia emissions should be quantified where possible, for example using mass balance calculations based upon emissions

monitoring, waste removals and total ammoniacal nitrogen inputs to the process.

Action: Rockwool to provide a comparison of ammonia to air mass emissions for 2022 and 2023 by 1 May 2024.

CEMs reporting and data invalidation

The MCERTS DAHS is fully operational and data integrity is significantly improved.

However, the reporting of invalid daily averages due to less than 43 valid half hourly averages in the 24-hour period continues to result in notifications that would otherwise normally be considered non-compliant with ELVs, unless the process is considered in start up or shut down.

Invalid half hourly averages are defined as such due to malfunction or maintenance of the CEM, not because the process emissions are not reportable because the process is not operational.

Capture of valid emissions data needs to be based upon agreed start up and shut down criteria ideally implemented automatically through the DAHS.

Action: Rockwool to provide start up and shut down criteria proposals at next compliance meeting.

Pre-operational measures for future development - waste acceptance criteria

The proposed analysis suite was submitted by email on 8 January 2024 in response to the PO1 requirements for waste acceptance criteria for the Rockfon material approved for recycling through the melt process.

The proposed leachable suite may be appropriate, depending on the proposed storage arrangements, however the analytes should be justified based upon knowledge of potential composition of the waste stream and leachability and how this might affect environmental impact if surface water releases could become contaminated and permit compliance with existing ELVs.

Also, leachability testing may not be the only consideration for acceptability. Total analysis may also be relevant if analytes potentially present in the waste stream might affect environmental impact if flue gas/dust extraction releases could become contaminated and affect permit compliance with existing ELVs.

As well as chemical composition testing, it may also be necessary to include other quantitative or qualitative acceptance requirements, for example incidental contamination with undesirable construction waste materials such as plastics, metals, plaster/gypsum-based material, dustiness, and biodegradable material.

Some of these aspects may have already been covered in the original variation application, but the WAC justification should reference this when setting out the proposed testing and compliance requirements for processing suitability.

SO₂ emissions abatement

Abatement is now operational following replacement of filter bags during the shutdown from 23-29 August 2023. The lower emission limit came into force on 21 July 2023 when the variation notice allowing operation of the abatement was granted, but the abatement could not operate until the bag filter replacement was undertaken, resulting in a period of operation above the new ELV, but well below the original ELV. The variation notice should have specified that the new ELV would take effect after the shutdown from 1 September. This minor non-compliance with permit condition 3.1.2 is administrative and at category 4 level.

Rockwool provided a data summary of ambient annual mean sulphur dioxide concentrations. Shorter term statistics are required for demonstrating compliance with the air quality standards.

Action: Rockwool to provide short-term summary statistics for the sulphur dioxide ambient air monitoring programme for comparison with the relevant Air Quality Standards and Objectives by 1 May 2024.

The data confirm that continued monitoring of ambient air concentrations of sulphur dioxide around the installation needs to be reviewed and consideration given to an alternative ambient air monitoring programme that will provide useful data that will provide reassurance and drive continuous improvement.

Monitoring of ammonia concentrations at Brynna a Wern Tarw SSSI has been considered (see above) to enable tracking of emissions reduction, but this is unlikely to provide better data than is already available from the ecological surveys and modelling. Low-cost particulate matter (PM_{2.5}, PM₁₀ and TPM) ambient air monitoring equipment is available that could provide useful information on air quality and nuisance dust levels in the area and should be considered as an alternative to the current continuous and diffusion tube sulphur dioxide ambient air monitoring programme.

Action: Rockwool to make proposals for changes to the ambient air monitoring programme by 1 May 2024.

Complaints and incident review

| Date | Release point | Pollutant | Cause/action required | Permit non-compliance |
|-----------------|---------------|--|---|-----------------------|
| 23 June 2023 | n/a | Incident ref 2304829 logistics area fire | Incident and investigation details required – not in permit | n/a |
| 2 July 2023 | A19 | CO | Heat exchanger failure – improve inspection regime | 3.1.2, cat. 3 |
| 21-31 July 2023 | A19 | SO ₂ | Administrative – incorrect effective date for new ELV | 3.1.2, cat. 4 |
| 22 July 2023 | W1 | Ammoniacal | Storm overflow to | 3.1.2, cat. 3 |

| | | | | |
|------------------|----------|-----------------------------|--|---------------|
| | | nitrogen & suspended solids | water course due to blockage – improve settlement tank cleaning regime and instrumentation | |
| 10 November 2023 | Fugitive | Smoke | Line 3 Cupola salt syphon trial – improve MoC process | 3.2.1, cat. 3 |
| As above | As above | As above | Management system improvements detailed above | 1.1.1, cat. 3 |

In order to assess the impact of the storm overflow in July Rockwool commissioned an ecological survey based upon previous routine annual surveys undertaken when discharges to the Nant Ton-y-Groes were routine before the permanent diversion of contaminated surface water to sewer.

Average Score per Taxon (ASPT) downstream is 6.19 and upstream is 5.59, indicating that the downstream sites are likely to be in a similar condition to the upstream sites. This suggests a minor impact, if any, on the water course because of the overflow event.

A few points to note if any future surveys are undertaken for the purpose of assessing overall ecological quality of the Nant Ton-y-Groes:

- River Invertebrate Classification Tool (RICT) references are not used so it is difficult to determine site condition.
- No consideration was given to species abundance. Whalley Hawkes Paisley Trigg Method (WHPT) abundance weighting could be used.
- Consideration of relative proportion of pollution sensitive/tolerant species would provide additional reassurance.
- No habitat scoring was undertaken.
- T-test or analysis of variance (ANOVA) test could be used to compare taxa richness and RIHS scores followed by Tukey's post hoc test if necessary.
- Statistical analysis of scores over time not carried out.
- Consideration of downstream abundance of any indicator species.
- No details of when counts were undertaken and relevant accreditation.

The report of smoke on Friday 10th November was due to a trial on Line 3 Cupola involving the addition of a small amount of salt to the syphon that collects mineral melt at the base of the cupola. The salt was added to help protect the syphon during production campaigns, as syphon replacement is usually required every 10 days or so. The salt was added at 08:30h during a planned stop but there was a release of steam and smoke after the mineral melt entered the syphon. The steam and smoke then escaped from Line 3 dust extraction system to atmosphere for a short period.

The limited quantity of particulate matter and its composition of mainly steam and salt aerosol will not have caused any air quality standards to be exceeded.

Nevertheless, Rockwool needs to improve planning of such trials in the future to ensure that

unwanted events such as this do not occur or can be managed appropriately. Management of change procedures should capture the potential for such events and ensure that steps are taken to prevent offsite impacts.

The Rockwool management of change assessment that was undertaken ahead of the trial has not been provided. It is unclear if moisture in the salt added to the syphon caused the release, whether the presence of moisture was considered in planning the trial and if any moisture tests were undertaken.

There remains an outstanding action to implement a management of change process for hardware, software, and process modifications. NRW understands that implementation is imminent.

Action: Rockwool to provide more details of the trial planning process and an update on implementation of a management of change process at next compliance meeting.

Emissions review

Monitoring data for Q1, Q2, Q3 and Q4, half year and annual report for 2023 have been reviewed and no breach of permit conditions was identified other than those already identified and discussed in this report.

Note that the annual report should be used to summarise CEM calibration and performance testing data, such as dates and outcome of annual surveillance testing and current calibration functions and date of implementation.

Action: Rockwool to provide CEM calibration and performance testing data in next annual report.

END

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.

If your assessment result in Section 1 is suspended, what does this mean?

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 compliance criteria (used in section 1 and 2):

1. Management

- IR1A – General management
- IR1B – Finance (only applicable to Landfill)
- IR1C – Energy efficiency
- IR1D - Efficient use of raw materials
- IR1E - Avoidance, recovery and disposal of wastes produced by the activities
- IR1F - Multiple operator installations

2. Operations

- IR2A – Permitted activities
- IR2B – The site
- IR2C – Operating techniques
- IR2D – Technical requirements
- IR2E – Improvement programme
- IR2F – Pre-operational conditions
- IR2G – Landfill engineering (only applicable to Landfill)
- IR2H – Waste acceptance (only applicable to Landfill)
- IR2I – Leachate levels (only applicable to Landfill)
- IR2J – Closure and aftercare (only applicable to Landfill)
- IR2K – Landfill gas management (only applicable to Landfill)

3. Emission and Monitoring

- IR3A – Emissions to water, air or land
- IR3B – Emissions of substances not controlled by emission limits
- IR3C – Odour
- IR3D – Noise and vibration
- IR3E – Monitoring
- IR3F – Pests
- IR3G – Air quality management plans
- IR3H – Monitoring for the purposes of the Industrial Emissions Directive (this heading includes Large Combustion Plants)
- IR3I – Fire

4. Information

- IR4A – Records
- IR4B – Reporting
- IR4C – Notification

Enforcement response

Any non-compliance with a permit condition 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 twenty 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 to 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.