Compliance Assessment Report CAR_NRW0053016

Permit being assessed: BV0759IC.

For: Cardiff Rod & Bar Mill EPR/BV0759IC, **held by:** 7 Steel Manufacturing (UK) Limited

At: PO Box 83 Cardiff Rod & Bar Mill Castle Works , East Moors Road, Tremorfa, Cardiff, Cardiff, South Wales, CF24 5NN.

Type of assessment: Report/Data Review,

Reason: Routine.

On: 23/09/2026.

Parts of permit assessed: 1.3.1, 2.4.1.3, 2.4.1.2, .

NRW Lead Officer: Dale Padfield.

Report sent to: ~, Environmental Manager, on 23/09/2026.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR1A - Installations - Management - General Management	C3 Minor	1.3.1
IR1D - Installations - Management - Efficient use of raw materials	Assessed (A)	

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

Total non-compliances recorded	Total non-compliance score
1	4

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
IR1A	Implement measures identified within the 'A-system oil consumption' report.	Already completed

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.

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

7 Steel (UK) Limited

Rod and Bar Mill

EPR/BV0759IC

This compliance assessment report (CAR) details the review of the operators water efficiency report and oil consumption investigation report, as requested be undertaken in CAR_NRW0050633.

Water efficiency

A review has been undertaken of the site's water efficiency report ~ IR1D - Rod and Bar Mill Water Efficiency Report 2026, to assess the effectiveness of water management arrangements, identify opportunities for improvement and determine whether any regulatory concerns are evident.

The Rod and Bar Mill (RBM) operates predominantly recirculating cooling water systems which are designed to maximise water reuse and minimise freshwater demand. Water is sourced from East Bute Dock, commercial water supplies and town water, with extensive recirculation achieved on site through the Unifloc and TEVA systems.

The report identifies a water intensity of approximately 0.20 m^3/t for the RBM during 2025 and a combined site (Meltshop and RBM) water intensity of approximately 0.68 m^3/t, which is reported to be significantly lower than the benchmark figure published by the World Steel Association for electric arc furnace steelmaking operations. Additionally, this figure is substantially below the lower BAT associated environmental performance levels (0.5 – 5 m^3/tonne) quoted for hot rolling in the up-coming UKBAT for Ferrous Metals forming and Processing BAT conclusion document. Although this BATc currently remains in draft awaiting formal publication, it does provide a good indicator that the operations are well within the expected performance levels.

The operator has identified that historical water consumption records were affected by metering failures, missed readings and data capture issues. The report concludes that the increase in recorded water consumption observed in recent years is largely attributable to improved metering reliability and reporting arrangements rather than a significant increase in actual water use. Enhanced monitoring, verification and reporting procedures have subsequently been implemented.

The report provides evidence that the operator has a good understanding of site water use and has undertaken a systematic review of water efficiency performance. Positive aspects include:

- Weekly water meter readings and monthly review of water intensity performance indicators.

- Automated water chemistry control systems and regular third-party monitoring of cooling water quality.
- Identification and correction of metering and data quality issues.
- Optimisation of coagulant and flocculant dosing to reduce water losses associated with sludge production.
- Restoration of abstraction control logic to prioritise dock water ahead of commercial water supplies where appropriate.
- Development of projects aimed at further reducing water consumption and water use impact, including the interceptor recirculation project and alternative water sourcing for dust suppression activities.

These measures demonstrate a commitment to continual improvement and resource efficiency.

The report demonstrates that water consumption is being actively monitored and managed. The site's extensive recirculation systems, routine monitoring arrangements and ongoing investment in water management infrastructure indicate that water efficiency remains an operational priority.

The report identifies several improvement initiatives that are expected to deliver further reductions in water demand and improve overall environmental performance. It is noted that a number of these projects have already been completed, whilst others are currently being implemented or remain subject to management approval processes.

A leak within the furnace cooling circuit was identified during early 2026, resulting in an estimated loss of approximately 40 m^3 of water per week. While temporary controls have reportedly been implemented, permanent repair has been deferred until a planned shutdown. The operator should ensure that repairs are completed at the earliest practicable opportunity and that records are maintained to demonstrate completion of corrective actions.

The effectiveness of recently implemented improvement measures, including sludge optimisation, abstraction control changes and the interceptor recirculation project, should continue to be monitored and quantified to demonstrate achievable and sustained water savings.

Permit Condition 2.4.1.3 requires incoming water use to be directly measured and recorded. Whilst the issues appear historic and have reportedly been corrected, the report demonstrates that water use records may not have been fully compliant throughout the period affected by meter failures.

Conclusion

Based on the information presented within IR1D - Rod and Bar Mill Water Efficiency Report 2026, water management arrangements at the Rod and Bar Mill are considered satisfactory. The report demonstrates that water usage remains within expected environmental performance levels and provides evidence of a proactive approach to resource efficiency and continual improvement. The operator has identified opportunities to further improve water efficiency and has implemented, or is progressing, a number of measures intended to minimise water consumption and associated environmental impacts. These actions are considered consistent with the requirements of Permit

Conditions 2.4.1.2.

Regulatory concerns were identified regarding historical water meter failures and data capture issues, including periods where water consumption may not have been fully measured or recorded. These issues may have resulted in non-compliance with Permit Condition 2.4.1.3, which requires incoming water use to be directly measured and recorded. However, the report demonstrates that these issues are historic in nature and that improvements have been implemented to strengthen metering reliability, data verification and reporting arrangements. There is no evidence to suggest that such issues remain ongoing or currently undermine the site's ability to accurately monitor environmental performance. Therefore, no compliance assessment score is considered necessary at this time. Any future failures of monitoring or metering systems will be assessed on their own merits and may attract non-compliance scoring where appropriate.

The operator should ensure that:

- All incoming water supplies continue to be accurately measured and recorded.
- Formal meter verification and calibration arrangements are maintained.
- Any derived, estimated or substituted consumption figures are clearly identified and justified within reporting records.
- Water efficiency improvement projects are monitored to demonstrate measurable environmental benefits.

The operator should continue to maintain robust arrangements for meter verification, monitoring and reporting to ensure water consumption data remains accurate, reliable and suitable for demonstrating compliance and environmental performance improvements

Oil consumption investigation

The investigation documented within IR1A Investigation report – A-system oil consumption provides an assessment of the increase in A-System oil consumption and identifies a range of contributory factors rather than a single root cause. The operator has undertaken a structured review of historical performance, identified areas of weakness, and implemented a number of corrective measures which have subsequently resulted in measurable improvements in oil consumption. The following areas where highlighted as significant aspects contributing to the decrease in oil use efficiency highlighted in CAR_NRW0050633.

Ageing Infrastructure and Legacy Design

The Rod and Bar Mill contains infrastructure dating from the 1960s and 1970s. As a consequence, significant portions of the lubrication and hydraulic systems were designed to standards and operating philosophies that differ substantially from those expected of modern installations. Older equipment inherently presents a greater risk of oil loss due to wear-related deterioration of seals, bearings,

hydraulic cylinders and pipework.

The investigation notes that some aspects of the lubrication system continue to utilise legacy arrangements, including systems that are less efficient than modern designs. Whilst ongoing upgrades have been undertaken over the years, the age and complexity of the plant increases the likelihood of chronic leakage and makes complete elimination of oil losses difficult.

From a regulatory perspective, the significance of this finding is that deterioration is not limited to isolated equipment failures. The investigation demonstrates a wider asset integrity challenge, with oil losses being driven by the cumulative effect of ageing infrastructure throughout the system.

Vulnerability to Cobbles and Mechanical Damage

A-System serves stands 1-16 at the front end of the rolling process, where production conditions are particularly severe and oil demand is highest. The investigation identifies cobbles as one of the most significant contributors to oil loss. When cobbles occur, steel can strike lubrication pipework, hoses and fittings, causing shearing, displacement or mechanical failure.

These failures can result in substantial and immediate losses of oil. Unlike gradual leakage caused by seal deterioration, damage associated with cobbles can cause significant releases in a very short period of time. The report recognises that, although these events can be reduced through maintenance and equipment protection, they cannot be entirely eliminated due to the nature of the rolling process.

The investigation concludes that many of the highest loss events were linked to mechanical damage rather than solely poor maintenance practices.

Reduced Experience and Knowledge Retention

The report identifies workforce changes as a significant indirect contributor to increased oil consumption. Retirement and departure of experienced employees resulted in the loss of site-specific knowledge relating to complex lubrication and hydraulic systems. This knowledge was often developed through years of experience operating and maintaining ageing plant.

Recruitment challenges and resource shortages compounded this issue. New personnel may not have possessed the same familiarity with historical failure modes, vulnerable areas of the system or subtle indicators of developing problems. The investigation suggests this reduced the effectiveness of inspections and fault identification when compared with historical performance.

Although the report does not suggest a direct failure of competence, it highlights that reduced experience levels increased the risk that leaks, deteriorating components or poorly secured connections would remain undetected for longer periods.

Inspection and Monitoring Deficiencies

One of the most significant findings relates to shortcomings in inspection arrangements for feed and drain hoses. The investigation identified that the existing inspection regime did not adequately emphasise oil-loss prevention and that accountability for hose inspections was unclear.

Specific issues identified included:

- Feed and drain hoses were not receiving sufficient attention during routine operational inspections.
- Existing inspection documentation did not clearly identify oil-loss prevention as a key operational priority.
- Responsibility for completion and verification of inspections was not sufficiently defined.
- Reduced workforce experience increased the potential for inspection deficiencies.

These findings indicate that relatively minor defects or connection failures had the potential to develop into larger oil losses before being detected and corrected.

Physical Deficiencies in Hose Connections

The investigation also identified deficiencies in the design and condition of some hose connection arrangements. In particular, some camlock fittings were missing retaining rings that would normally allow additional securing of connections using cable ties.

The absence of these components increased the risk that connections could:

- Be improperly secured.
- Become disconnected during operation.
- Be omitted during maintenance activities.
- Fail under vibration or normal operating conditions.

Whilst seemingly a relatively small issue, the report recognised that disconnected feed or drain hoses could result in significant oil loss events. This therefore represented an important underlying cause that warranted corrective action.

Difficult Access for Inspection and Maintenance

The investigation highlights that many parts of the A-System are difficult to inspect during normal operation. Some feed and drain connections require mill stoppages or stand removal before effective inspection or maintenance can be undertaken.

This creates a practical challenge whereby:

- Visual inspections are restricted during operation.
- Defects may remain hidden between shutdown periods.
- Maintenance opportunities are limited by production requirements.
- Leak detection is more difficult than in readily accessible systems.

The report therefore identifies accessibility as a contributing factor because it reduces the operator's ability to identify and address deterioration before oil losses occur.

Ageing Hydraulic Cylinders and Seals

Hydraulic cylinders and roll seals were identified as recurring sources of oil leakage. Many cylinders were approaching the end of their operational life and had become increasingly prone to failure and leakage. Similarly, supply chain issues had resulted in some seals remaining in service longer than originally intended.

These issues contributed to both chronic low-level losses and larger losses associated with equipment failure. Importantly, these losses arose from normal asset degradation rather than isolated operational errors.

Root Cause Assessment - Management System Deficiency

Whilst the investigation identifies a range of direct and contributory causes of oil loss, including ageing infrastructure, equipment deterioration, cobble-related damage and accessibility constraints, these factors alone do not fully explain the decline in oil use efficiency observed during 2024 to 2026. The common theme linking several of the identified issues is a reduction in the effectiveness of the management systems designed to identify, manage and mitigate oil loss risks.

Permit condition 1.3.1 requires the operator to "implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit".

Whilst the operator identified ageing assets as a significant factor, the investigation also concludes that weaknesses in inspection controls, reduced workforce experience, resource pressures and deficiencies in maintenance oversight contributed to the increase in losses. These findings indicate that the underlying issue was not solely one of plant condition, but of management system resilience. A robust management system should ensure that environmental performance can be maintained despite foreseeable organisational changes such as staff turnover, retirements, resource constraints and ageing infrastructure.

The investigation specifically identified that:

- Oil loss prevention was not sufficiently prioritised within inspection documentation.
- Accountability for feed and drain hose inspections was unclear.
- Reduced experience levels affected the quality and effectiveness of inspections.
- Valuable mill-specific knowledge had been lost through retirement and staff departures.
- Resource challenges had contributed to knowledge gaps and reduced organisational capability.

These findings suggest that the management system did not adequately capture, retain and transfer critical operational knowledge relating to oil-loss prevention. The reliance upon experienced individuals to identify emerging issues represents a vulnerability within the management system. Effective management arrangements would normally be expected to translate operational experience into documented procedures, inspection standards, maintenance strategies and competency requirements, thereby reducing reliance on individual knowledge holders.

Similarly, the identification of deficiencies in inspection regimes indicates that management controls were not sufficiently robust to ensure critical environmental protection measures were consistently applied. The subsequent requirement to revise inspection check sheets, introduce management sign-off arrangements and increase accountability demonstrates that previous arrangements were not providing an adequate level of assurance.

The fact that significant improvements in oil consumption were achieved following the implementation of revised inspection procedures, enhanced management oversight, improved reporting arrangements and increased workforce awareness further supports the conclusion that management system weaknesses were a significant underlying cause of the elevated oil losses. The improvements achieved were not solely dependent on replacement of physical assets, but also on strengthening management controls and operational discipline.

It is therefore reasonable to conclude that the root cause of the increased oil losses was a deficiency in the implementation and effectiveness of the environmental management system required by permit condition 1.3.1. The ageing nature of the plant and the occurrence of cobbles are recognised operational challenges inherent to the installation; however, the management system should have ensured that adequate procedures, maintenance arrangements, competency controls, knowledge retention mechanisms and inspection programmes were in place to minimise the environmental consequences of those risks.

The following minor category 3 non-compliance score is issued**.** This is considered proportionate as the operator was able to demonstrate that measures had been implemented to minimise and control oil losses. However, the assessment identified deficiencies in certain aspects of the oil loss prevention arrangements, indicating that the measures in place were not fully effective in preventing releases or minimising the risk of loss.

Whilst a degree of operational control was evident, opportunities for improvement remain in relation to the identification, prevention and management of oil losses. The deficiencies identified are not considered to have resulted in a significant environmental impact, but they represent a departure from the standards expected under the permit and BAT requirements. Consequently, a minor category non-compliance score is considered appropriate.

Non-Compliance: A Category 3 non-compliance is issued for the operator failing to implement a management system and allocate resources that are sufficient to achieve compliance with the conditions of the permit. **Permit condition 1.3.1.**

The investigation demonstrates that the operator has now recognised these shortcomings and implemented improvements to inspection controls, maintenance planning, competency development, management oversight and performance monitoring. These actions appear to address the management system deficiencies identified and have resulted in a measurable improvement in oil use efficiency. However, the findings support the conclusion that the elevated oil losses recorded in CAR_NRW0050633 were symptomatic of broader weaknesses in management system implementation rather than solely the consequence of ageing equipment or unavoidable operational events.

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 required for the permit condition assessed to avoid non-compliance. No non-compliance scored at this time
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(1) – Emissions to water
- IR3A(2) – Emissions to air
- IR3A(3) – Emissions to 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.

Disputing the Content of this Compliance Assessment Report Form
If you disagree with the content of this Compliance Assessment Report form, you should submit your concerns, in writing, to the regulating officer who issued it within **15 working days** of its issue. This will be treated as a **Stage 1 review**.

If you are not satisfied with the outcome of the stage 1 review, you may request a **Stage 2 appeal**. This request must be submitted **within 21 working days** of receiving the response from the stage 1 review.

Further details on our review and appeal process are available at: Natural Resources Wales / Appeal a regulatory decision from Natural Resources Wales

Concerns Not Related to the Content of this Compliance Assessment Report Form
If your concerns do not relate to the content of the Compliance Assessment Report form, you should first attempt to resolve the issue with the regulating officer or their line manager.

If the issue remains unresolved, please contact our **Customer Contact Team**:

- **Telephone**: 0300 065 3000 (Monday to Friday, 09:00–17:00)
- **Email**: enquiries@naturalresourceswales.gov.uk

They will provide details on how to escalate your concerns through our **Complaints and Commendations procedure**.

If you are dissatisfied with our response, you may contact the **Public Services Ombudsman for Wales**:

- **Telephone**: 0300 790 0203
- **Email**: 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.