

Compliance Assessment Report CAR_NRW0042837

Permit being assessed: BL7108IM.

For: Port Talbot Steel Works , **held by:** Tata Steel UK Limited

At: Tata Steel Strip Products UK , PORT TALBOT, PORT TALBOT, WEST GLAMORGAN, SA13 2NG.

Type of assessment: Site Inspection,

Reason: Routine.

On: 28/09/2023 between 09:00 and 17:00.

Parts of permit assessed: Site Inspection - Wastewater Treatment .

NRW Lead Officer: Rhodri Morgan, accompanied by Mark Broom, Kirsty Thomas, Benjamin Taylor.

Report sent to: Nathan Ace , Head of Environment TSUK Operations, on 27/11/2023.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR1A - Management - General management	Assessed (A)	
IR1D - Management - Efficient use of raw materials	Assessed (A)	
IR1F - Management - Multiple operator installations	Assessed (A)	
IR3A - Emissions and monitoring - Emissions to water, air or land	Assessed (A)	
IR1A - Management - General management	Action only (X)	
IR1A - Management - General management	Action only (X)	
IR1A - Management - General management	Action only (X)	

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

Total non-compliances recorded	Total non-compliance score
0	0

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	Action 042837/01 – TSUK to provide a copy of WQMP following completion of final review.	29/02/2024
IR1A	Action 042837/02 – TSUK to provide details of flow meters installed at W1/W5 including any monitoring certification/accreditation available.	29/02/2024
IR1A	Action 042837/03 - TSUK to provide justification for deviation from MCERTS standards for both flow meters.	29/02/2024

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.

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

4. Details of our assessment

Tata Steel UK Limited (TSUK) operates the Port Talbot Steelworks in accordance with Permit BL7108IM. The Steelworks has several identifiable processes which are conducted sequentially across the site to convert raw iron ores and coal to semi-finished (slab) and finished steel products.

Three other companies – Tarmac, Harsco and Runtech – are contracted to undertake their own permitted activities at the steelworks on TSUK's behalf.

Introduction

NRW has initiated a targeted programme of compliance interventions; focusing on key areas of the Site which have the greatest ability to impact the surrounding community. This visit focused on wastewater treatment throughout the steelworks.

The site inspection was split into two distinct sessions. The morning session was held with members of the Sustainability & Environment Team and focused on the wider steelwork's installation (the 'Site'). Topics of discussion included:

- Recent community complaints
- Water abstraction/supply
- Wastewater management
- Effluent improvement projects

In the afternoon, an inspection of the Site was undertaken; specifically looking at the wastewater treatment facilities and permitted discharge points throughout the installation. Key areas included as part of the site visit:

- Biological effluent treatment plant
- Cold mill effluent treatment plant
- Nautilus treatment plant
- Accessible discharge points

Attendees

Tata Steel

- Neil Rowles – Environment Lead, Legionella & Water
- Matthew Thomas – Environment Lead Governance
- Jamie Barrett – Environmental Process Specialist
- Harshika Patel – Energy & Environmental Graduate

NRW

- Mark Broom – Senior Specialist Advisor, Industry & Waste Regulatory Approaches
- Kirsty Thomas – Lead Specialist, Industry & Waste Regulation
- Rhodri Morgan – Senior Officer, Industry & Waste Regulation
- Ben Taylor – Senior Officer, Industry & Waste Regulation

Community Complaints

TSUK provided an update on the number of complaints received from the local community between June 2023 and August 2023. The majority of the complaints relating to dust fallout have been associated with emissions from Morfa Coke Ovens (MCO), with over fifty complaints received for the three-month period (Figure 1).

Iron plating events generated complaints relating to “fallout” (>25 complaints) and visual emissions (10 complaints). A management Investigation has been initiated following numerous visible emissions from plating activities throughout 2023. The investigation will determine the root causes of these events and create an actionable list of recommendations to reduce the risk of future re-occurrences. NRW will consider the compliance implication of the plating events following receipt of the operator’s management investigation.

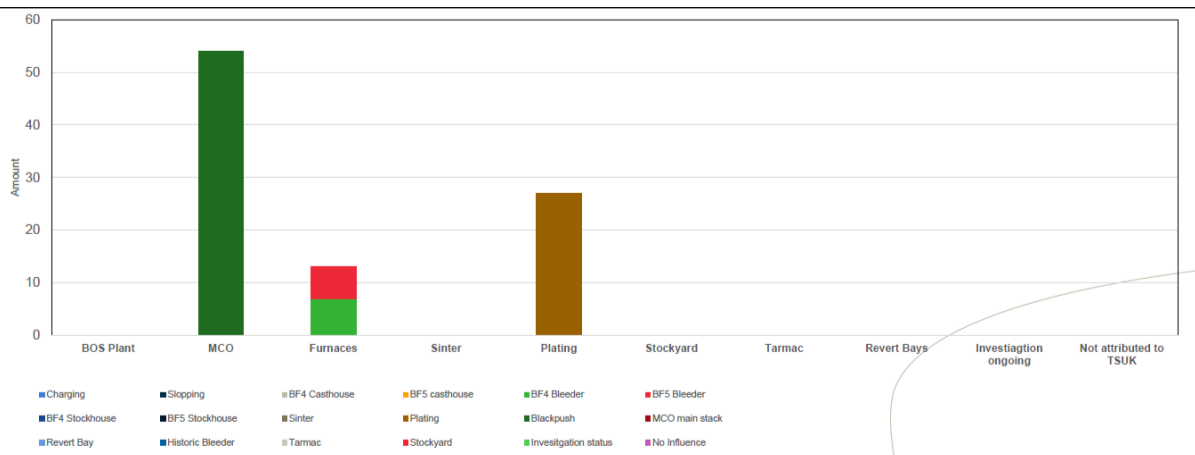


Figure 1 - Fallout Complaints Root Cause (May 2023)

Two noise complaints were received by TSUK throughout the period; one of which has been associated with an alarm system. TSUK are actively investigating methods to mitigate the impact of onsite level crossing alarm systems on receptors within the local community.

Water Abstraction

Significant volumes of water are used throughout the Site each day. Throughout the Summer of 2023 (June – August), a daily average of 227 million litres was recorded. The majority of this water is used for cooling purposes; with considerable quantities also required for material processing, waste treatment and air pollution abatement measures.

TSUK hold five water abstraction licences which permits the Site to abstract water from local sources; subject to the provisions of each licence. The abstraction points and the maximum quantity to be extracted are detailed in Table 1.

Licence Name	Licence Number	Site Name	Abstraction Volume Limit (M ³ /year)
Lower Mother Ditch	21/58/34/0002	Mother Ditch	1,227,420
River Afan	21/58/61/0009	Afan	14,933,610
River Ffrwdwyllt	21/58/61/0024	Ffrwd	2,273,000
River Kenfig (Point A) Castle Stream (Point B)	21/58/51/004	Point A – River Kenfig Point B – Castle Stream	Point A – 11,819,600 Point B – 11,819,600
Port Talbot Dock Cooling Water Flume	21/58/61/0012	Dock	43,009,427

Table 1 - TSUK Abstraction Licences

TSUK provided evidence to show that the annual abstraction limit for each abstraction point – with the exception of the Lower Mother Ditch (21/58/34/0002) – has not been exceeded over the past two years.

The Lower Mother Ditch drains the Margam Moors; a site of special scientific interest (SSSI). The operator has no control over discharges from the Moors; with the flow water table dependent. The abstraction volumes

for the Lower Mother Ditch over the past two years are shown in Table 2.

Licence Name	Abstraction Volume Limit (M ³ /year)	2021 Abstraction Volume (m ³ /year)	2022 Abstraction Volume (m ³ /year)
Lower Mother Ditch (21/58/34/0002)	1,227,420	13,615,002	13,575,029

Table 2 - Lower Mother Ditch - Abstraction Volumes

NRW are of the opinion that whilst technically the volume of water “abstracted” is non-compliant with the requirements of the respective licence (21/58/34/0002), currently no environmental impact is being, or is likely to be caused. It should be noted that the situation should be a matter of review during future compliance inspections.

A discussion was held on the security of the Sites water supply; with TSUK confirming that prolonged dry weather throughout recent summers had presented specific challenges. A number of developments throughout the installation have increased the Sites resilience while also decreasing demand.

The majority of safety critical systems (cooling systems etc.) have back up water supplies which can be used if the primary water source is not available. Certain work areas are also able to rely on recirculated service water which reduces the demand of the Site.

A water supply mapping exercise has been undertaken with an aim of improving the Sites understanding of the individual work area requirements. The exercise has identified several opportunities for reducing water usage through process optimisation and water reuse. This has helped reduce the Sites reliance on abstractions from the Afan River; where the supply can be threatened in periods of prolonged dry weather.

Wastewater Management – Overview

TSUK provided NRW officers with an overview of the Sites wastewater management system. A significant volume of effluent is generated throughout the Site which requires treatment before it is discharged into the surrounding environment.

There are five-point source emissions to water listed within the permit, where treated effluent from the Site is discharged into the surrounding environment:

- W1 – Long Sea Outfall (LSO)
- W2 – Arnallt River
- W3 – Abbey Beach Outfall
- W4 – Afan Estuary
- W5 – Port Talbot Dock

The majority of the effluent is collected in a series of drainage sumps within the operational areas before being pumped to a central sump (Sump No. 2) and discharged to the Swansea Bay via the LSO (W1). Surface water from the stockyards is channelled through a brick-built interceptor before it is discharged directly into the Afan estuary (W4).

A variety of contaminants can be present within the effluent stream; dependent on the upstream process. Treatment is provided locally within the majority of sumps and is tailored dependent on the characteristics of the incoming effluent (Table 3). Oil skimmers are present in the majority of sumps in order to remove any hydrocarbons present before the effluent reaches Sump No.2.

Sump / Drainage System	Treatment	Sump / Drainage System	Treatment
ABO/Sump 3	Oil Skimmers	Concast Sump	Oil Skimmers
LSO	Oil Skimmers	BOS Degasser	n/a
Sump No.1	Oil Skimmers/ Hydrogen Peroxide Dosing	BOS Stormwater	n/a
Sump No.5	Clarification and chemical treatment	Final Effluent	Clarification and Chemical Treatment
Sump No.6	BET Plant	CAPL	Oil Skimmer and oil splitter treatment
Sump No.10	Oil Skimmers	Deep Drain	Oil Skimmers

Table 3 - Sump Treatment Options

If additional treatment is required, the effluent from individual sumps can be diverted to the Nautilus effluent treatment system. The Nautilus is a set of sedimentation channels which can be used to remove contaminants such as suspended solids, hydrocarbons and metals from the effluent. The nautilus discharges into Sump No.2.

The decision to divert effluent to the Nautilus is influenced by sampling of the individual sumps and in response to certain abnormal operations (i.e., high heat gains in the Blast Furnaces). Daily meetings with the individual work areas allow proactive decisions to be made about the treatment of certain effluent streams.

Wastewater Treatment – Environmental Performance

Non-compliances for water emissions throughout 2023 were discussed along with the root causes. The majority of non-compliances have been recorded in previous CAR forms following submission of the relevant quarterly monitoring returns (CAR_NRW0042302, CAR_NRW0041909).

The environmental performance of the LSO (W1) has improved throughout 2022 and 2023, as highlighted by Figure 2. The improved performance has been associated with ongoing maintenance activities throughout the Site, including improvements to the BET Plant the Cold Mill Effluent Treatment Plant.

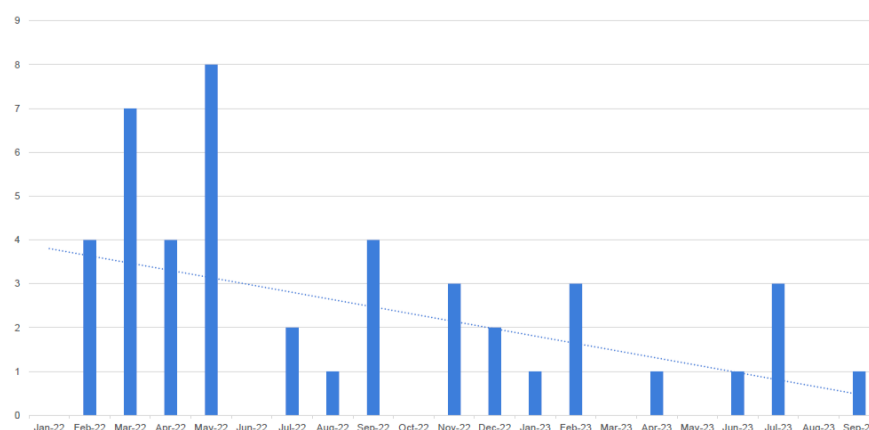


Figure 2 – W1 non-compliances by Month (2022 -2023)

W1 – Zinc

The Zinc emission limit of 2 mg/l was exceeded three times throughout Quarter 1 (Q1) January to March 2023.

A Schedule 5 notification (S5N/23/03B) attributed the breaches with high heat gains within No4. Blast Furnace (BF4). The high heat gains were forced on to BF4 to remove scabs building from the furnace walls. The scabs are rich in trace metals – including Zinc – which can lead to elevations within the gas wash system and subsequently the effluent system.

The procedure for “Blowdowns at the Furnaces” has been amended to include pre-notification to the Environment Operations team. This will allow for the immediate diversion of the effluent to the Nautilus treatment system. TSUK provided evidence of the amended procedure. A pre-blowdown checklist has been created to notify relevant stakeholders and allow Sump No1. to be diverted to the Nautilus.

W1 – Hydrocarbons

A discussion was held regarding a series of hydrocarbon breaches which were experienced at W1 (LSO) between the 6th November 2023 and the 26th November 2023. An internal investigation discovered that a contactor was disposing off a hydrocarbon contaminated effluent within the drainage system.

This practice began in early November, and was halted on the 22nd November, when the Environment Operations team became aware of the practice. An update was provided on the measures which have been identified to prevent a recurrence of the incident. All of the actions have either been completed or have been scheduled for 2024.

Effluent Improvement Projects

An overview of the effluent improvement projects undertaken throughout 2023, along with those planned for 2024 was provided. A selection of these projects were discussed including:

- Monitoring Improvement Plans
 - Flow meters
 - Autosampler
- Water Quality Management Plan
- Mapping of effluent system

A significant investment is the installation of flow meters and autosamplers within each of the main drainage sumps. This will allow for the contribution of individual sumps on the final discharge at the LSO (W1) to be fully understood.

The autosamplers will be set to obtain a representative sample over a 24-hour period, allowing internal sumps

to be diverted to the Nautilus if there is a risk of them contributing to an effluent breach at W1. The autosamplers have been installed and it is expected that each device will be operational by December 2023.

A Water Quality Management Plan (WQMP) has been developed for the Site, following the same principle of the Steelworks Air Quality Management Plan (AQMP). TSUK provided an overview of the WQMP which will use the recently installed monitoring equipment to provide alerts if internal sump limits are breached.

A mass balance tool has been created to allow for the internal sump limits to be developed. The limits will take into consideration flow rates through the sumps and the usual characteristics of the effluent stream. It is planned that the WQMP will work coherently with the Sites integrated environmental monitoring system; allowing automatic alerts to be sent throughout the Site when there is a risk of a non-compliance at the LSO (W1).

As with the AQMP, individual work areas will be required to provide feedback if a sump is determined to have contributed to a permit non-compliance. A feedback form has been created and will be circulated throughout the work areas as required.

The WQMP is in its final peer review and will shortly be rolled out across the Site along with the required training. TSUK anticipate that the WQMP will help to further reduce the frequency of non-compliances at the LSO (W1).

Action 042837/01 – TSUK to provide a copy of WQMP following completion of final review.

NRW recognise that significant investment has been made throughout wastewater management at the Site, with the results of the 2023 improvement projects clearly visible.

Biological Effluent Treatment (BET) Plant

TSUK provided an update on the BET Plant which has been subjected to significant investment throughout 2022 and 2023.

The BET Plant uses activated biomass/bacteria, to reduce concentrations of contaminants in effluent produced by the Coke Ovens. The key pollutants of the effluent include phenol, thiocyanate, cyanides, nitrogenous compounds, hydrocarbons and suspended solids.

The performance of the BET Plant was impacted in August 2020 following a changeover from aeration basin 1 (AER_1) to aeration basin 2 (AER_2) for essential maintenance activities. The changeover coincided with an increase in the number of non-compliances recorded at the LSO (W1). An internal investigation determined that low dissolved oxygen concentrations in AER_2 were negatively impacting the treatment performance at the BET plant.

Following significant investment at the Plant – including various asset upgrades – AER_1 was brought back online in July 2022. This resulted in an increase in the dissolved oxygen concentrations and subsequent improvements in the treatment efficiency of the plant.

The performance of the BET Plant has continued to improve throughout 2023; resulting in a reduction in the frequency of non-compliances at W1. The plant was visited during the Site tour to allow NRW officers to observe some of the recent improvements.

Cold Mill Effluent Treatment Plant (ETP)

The Cold Mill ETP treats ferrous chloride solution from the cold rolled steel pickling process. The ETP is managed by Hargreaves Industrial Services Limited (Hargreaves) who took over from the previous contract holders; Industrial Chemicals Limited (ICL), on the 14th September 2022.

The permit (AB3192HQ) for the ETP has been transferred to from ICL to TSUK. TSUK intend to merge the ETP permit with the wider installation permit (BL7108IM) during a future variation.

A selection of the improvements and maintenance activities which have been made throughout the ETP in 2023 were discussed, including:

- Installation of new tanks including oily sludge tank and FCS Neutralisation tank.
- Replacement of ETP Roof following extensive storm damage in 2022.
- Tank repairs
- Maintenance works to both presses.

The maintenance programme appears to have improved the performance of the ETP and subsequently the environmental performance of the LSO (W1).

Site Visit

NRW officers inspected key sections of the wastewater treatment system including:

- Cold Mill Effluent Treatment Plant
- Nautilus Treatment Plant
- BET Plant
- Sump No. 2
- Sump No. 6
- W4 Sump
- Permitted Discharge Points.

A discussion was held on the MCERTS requirements of the flow meters associated with W1 and W5, after it was identified that the TSUK assets are not MCERTS certified.

The permit condition 3.5.3 states that monitoring equipment shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.

Action 042837/02 – TSUK to provide details of flow meters installed at W1/W5 including any monitoring certification/accreditation available.

Action 042837/03 - TSUK to provide justification for deviation from MCERTS standards for both flow meters.

Whilst a detailed inspection of each facility was not undertaken, observations made during the site inspection did not identify any apparent permit breaches.

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.