

Compliance Assessment Report for: CAR_NRW0037092

Permit number	BL7108IM	Operator name	Tata Steel UK Ltd.
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Site name	Port Talbot Steelworks
Site address	Port Talbot Steelworks, Port Talbot, SA13 2NG
Type of assessment	Audit

Date of assessment	9 th September 2020
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Parts of permit assessed	See section 4
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NRW Lead officers	Neil Herbert & Douglas Cowie		
Report sent to – Name and position	Nathan Ace SHE Manager	Date	3 rd November 2020

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

Part of permitted activity assessed (use action criteria below)	Assessment result	Permit condition
A1 Specified by permit	Assessed or assessed in part (A)	
B1 Infrastructure – Engineering for prevention and control of emissions	Assessed or assessed in part (A)	
B3 Infrastructure – Site drainage engineering (clean and foul)	Assessed or assessed in part (A)	
C1 General management – Staff competency/training	Assessed or assessed in part (A)	
C2 General management – Management system and operating procedures	Assessed or assessed in part (A)	
F1 Amenity – Odour	Assessed or assessed in part (A)	
F2 Amenity – Noise	Assessed or assessed in part (A)	
F3 Amenity – Dust/fibres/particulates and litter	Assessed or assessed in part (A)	
F4 Amenity – Pests/birds and scavengers	Assessed or assessed in part (A)	

Part of permitted activity assessed (use action criteria below)	Assessment result	Permit condition
F5 Amenity – Deposits on road	Assessed or assessed in part (A)	
G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events	Assessed or assessed in part (A)	

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

Total number of non-compliances recorded
0

2. What action is required?

Criteria	Action needed	Complete by
G4	Ref: 0037092.1 Tata to confirm the location (NGR) of the W4 monitoring point.	30 th Nov 2020
B1	Ref: 0037092.2 TATA to submit their findings of their investigations to establish the construction of the Phoenix Wharf Tank Farm's floor/base and the condition of the base (in terms of containment).	31 st Jan 2021
A1	Ref: 0037092.3 Tata to provide NRW with update on Coke Oven Gas (COG) desulphurisation project	31 st Jan 2021

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 prosecutions and/or suspension or revocation of your permit.

No non-compliances were recorded during this assessment

4. Details of our assessment

4.1 Introduction

This visit was planned in order to undertake an inspection of the Steelwork's stockyards¹, specifically looking at dust control measures and drainage improvement works. The inspection also included an inspection of progress with the new Ministerstein Hood replacement project at the Morfa Coke Ovens.

The operator also provided NRW with updates on progress with their various major CAPEX environmental improvement projects ongoing at Port Talbot steelworks.

4.2 Fugitive dust management and control (Stockyards inspection)

NRW officers met with representative of the contractor, Lloyd Walters (LW) who now deliver environment management control measures (including dust suppression) across this area of the site.

LW has dedicated teams for dust suppression and maintenance of key assets e.g. wheel washes.

The work is co-ordinated by LW's Environmental Manager and area team leaders. The new contract empowers these personnel to deliver control measures and act without Tata direct supervision allowing for swifter and more proactive system.

Tata's Air Quality Management Plan outlines a series of procedures to reduce the risk of dust releases from the site's activities. As part of this visit, we were shown evidence of some of these in use. We saw evidence of the "forecasted notifications" system used by TATA to notify key work areas and contractors. In the example we discussed with LW, they were able to explain the measures they would undertake in response to a notification.

We were also shown a sample of Tata's "Daily Air Quality Communication" sheets.

Again, this is issued to several work areas and contractors and provide a daily alert on the risk of potential dust fallout.

NRW stockyard¹ observations

Weather conditions at the time of the visit were wet and overcast and therefore precluded a full² inspection of the dust control measures used at the stockyards. However, the following observations were made:

¹ The stockyard consists of a very large area (approx. 3,700m²) which is used for the storage of raw materials used in the iron making process. This visit was limited to the "rubble ore" and "fine ore" area of the stockyards. The yards are largely surfaced and provided with a surface water drainage system.

² Topics/Areas not inspected during this visit: Visual check from stockyards tower; Vehicle speed restriction; Plant/equipment tipping heights; CCTV system used to monitor dust management; Kress carrier routes; Yard Zero materials recycling area; On-site air quality monitoring network, control room displays & telemetry; Foam dust suppressant application systems & telemetry; Deep water harbour (ship offloading); Granulate wharf (Tarmac); Slag handling and storage (Harsco & Tarmac); Legacy stockpiles & by-product stockpiles; Stockyards works area AQMP; Sinter cooler conveyor area; Stockhouse area.

- We saw no evidence of dust lift-off from the any of the raw materials stockpiles we inspected.
- Road and yard sweeping units were active at the time of inspection. Even during wet weather this helps keep accumulated debris (which potentially generates dust when dry) to a minimum.
- Main haul road dissecting stockyards was visibly clear of debris and mud;
- Drainage system appeared to be working with no evidence of ponding water (see figure 1);



Figure 1. Photograph showing stockyard's surface. Despite heavy rain, the yard's drainage system appears to be functioning correctly with no evidence of significant waste ponding or surcharging drainage systems.

- The wheel washers we inspected appeared to be functioning correctly (NRW also inspected a random sample of the stockyards wheel washer maintenance schedule – which appeared satisfactory);
- Integrity of block enclosures for sinter blend additives/fluxes appeared satisfactory;
- Central water bowser filling point now available within rubble yards. This has a supply piped directly from the blast furnace area and a much faster filling capacity than all other points. Allows LW more flexibility and increases the capacity for latexing and water bowser deployment (see figure 2);



Figure 2. Photograph showing new water filling bowser point within the stockyard's rubble yards, significantly improving the operator's dust management capability.

- Raw material stockpiles are worked from the sheltered (leeward) side where possible. However configuration of bucket wheel stacker reclaimers and conveyors within primary ore yards restricts ability to reclaim from leeward side in every circumstance (see figure 3);



Figure 3. Photograph showing boom stacker.

- The operator applies latex-based dust suppressant to raw material stockpiles. Latex additive is mixed with water at ratios varying from 2-3% to 10%. More latex increases dust suppressant properties; higher ratios are used on finer (dusty) materials. Applications are targeted and are now planned to provide a proactive (as opposed to a reactive) approach to the application of preventative dust control measures. These are tied into Tata Steel EMS and AQMP procedures including weather forecasts and daily air communications.
- NRW also inspected a sample of the site records (“Stockpile Monitoring and Latex Report”) which documents which stockpiles have had latex applied and documents the site operative’s visual inspection record for each stockpile (i.e. for signs of dust lift-off);
- New dust suppression tankers (fitted with water cannon and road cleaning equipment) have been acquired by the facility. We were informed that these provide an enhanced dust suppression capability. One of these new tankers was observed during course of our inspection (see figure 4).



Figure 4: New dust suppression tanker with enhanced capability

4.3 October 2019 bleeder release - stockyards drainage improvements

Discussion of the drainage improvement works, which were instigated after a series of blast furnace bleeder valve releases in October 2019³. As part of this visit, we sought an update on these works and undertook a visit to inspect the improvements.

- TATA provided an update on the improvement works undertaken and were able to provide evidence from their SAP (Maintenance) system that the French drains along the yard edges are now subject to more formalised inspection and maintenance checks.

³ see CAR_NRW0003667 – dated 15th June 2020

- All drains in the rubble and fine ore stockyards are checked within 3 months (3 drains: 1 checked per month).
- Regular visual (drain) checks are undertaken in wet weather in addition to programmed SAP tasks.
- Six-monthly cleaning of manhole covers is also undertaken. Manhole covers are recessed into yard surfaces to minimise heavy plant damage and avoid debris accumulation and solidification. Last performed in July 2020. Also verified during NRW's field visit.
- Central stockyards drain (underground) is more vulnerable to damage and collapse due to constant heavy plant movements on overlying yard. Also, this drain channels the flow from three French drains to a single chamber. Therefore, the central drain is periodically jetted using specialist heavy equipment to clear accumulated debris and to check flows.
- As a contingency TATA can deploy mobile pumping equipment should a similar heavy rainfall/localised flooding event occur in future
- TATA has considered a longer-term pumping solution involving fixed pumps and above-ground drainpipes.
- We were shown time-stamped photographs showing condition of yards during recent heavy rainfall events. No similar pooling water and raw material saturation issues were evident when compared to same area in October 2019.
- During the visit to the stockyard area we observed several improvements and could clearly see flow in the central drain chamber.
- We noted that surface waste ponding (despite the rain) was largely absent from the areas inspected, indicating effective drainage (see figure 1).
- Over time, TATA has enclosed key drain chambers and pits with raised walls to protect them from deterioration and facilitate checks and maintenance
- W4 outflow chamber was inspected. This is divided into two settlement chambers by a low weir. The operator has been asked to clarify the location of EPR permit compliance samples for this emission point. **Action.**

4.4 Heavy Fuel Oil (HFO) leak⁴ – Phoenix Wharf Tank Farm

- On 6th July 2020 there was a small leak of Heavy Fuel Oil (HFO) at the Phoenix Wharf Tank Farm (NGR: SS 76678 8637). The leak occurred within the facility's containment bund. The leak was repaired, and the plant returned to service.
- On the 23rd July 2020 a second leak was discovered, and a notification issued to NRW. The operator estimates that approx. 1m³ leaked although this was also contained within the facility's containment area (covering an area of approx. 3m²).
- The leak was traced to leaking pipework which was repaired. The oil was removed by specialist waste contractors.

⁴ Schedule 5 notification (ref: S5N/20/27A, 23rd July 2020 & Part B 15th September 2020)

- Tata's subsequent root cause investigation has identified that the likely cause is believed to be excessive vibration from two adjacent HFO pumps which in turn damaged a pipe seal.
- Tata have taken interim measures to prevent a reoccurrence, and a permanent method of dampening vibration at the pipework is being developed.
- Of the two HFO Pumps (E1 & E4), one has been removed for refurbishment and the second will be refurbished once the first has been replaced and reinstalled.

Phoenix Wharf Tank Farm - Site Inspection:

- During this visit the affected area within tank farm compound was inspected. We were shown the pipework where the leak occurred (connecting the pressure transmitter to the main line).
- Traces of localised surface contamination and visual oily residue on pipework was noted. Absorbent products had been used around leak area and residual oil removed.
- The staining appears confined to approx. 3m² area around leak.

The area is understood to be with the site's containment area and therefore there is no evidence of a release to land or water.

- The last inspection of the equipment was approx. 12 months ago and records are available for inspection that confirm this.

4.5 Phoenix Wharf Tank Farm – general observations

- The Tank farm was previously occupied by Harsco before coming under TATA control.
- We were informed that a Written Scheme of Examination is in place for the tank farm's pipework and storage tanks. Pipeline integrity checks are also undertaken every 2 years using PSR standards. The last inspection of HFO pipeline was undertaken in 2018.
- Compound is situated on land belonging to Associated British Ports (ABP) and is understood to have a concrete base with a perimeter interception trench/moat.
- A sensor is fitted to the moat overflow which shuts down the HFO pumps if oil is detected.
- A small containment wall is also sited on the outer perimeter of the tank farm. We were informed that this forms a complete perimeter around the tank farm, although this was not verified by NRW during this inspection.
- Detection of oil leaks within the compound and the presence of oil within the moat relies on visual inspections by TATA personnel.
- The tank farm's concrete base needs further investigation to confirm its construction and ongoing integrity and extent. TATA have already identified this and plan to undertake further checks/tests. **Action**

4.6 Morfa Coke Ovens – coke-side fume arrestment system inspection

Tata Steel uses an integrated coke transfer and de-dusting (fume arrestment) machine to capture dust emissions from coke pushing at Morfa Coke Ovens (MCO). This system, also known as a 'Minister Stein' machine, has been offline while a replacement fume extraction hood and guide car is fitted.

During this visit we took the opportunity to inspect progress with this work.

- The project delivery has been impacted by Covid-19 disruption, as well as delayed crane lifts due to poor weather. The projected commissioning date is now November 2020.
- The replacement system has been redesigned to offer enhanced fume extraction capability, using a primary hood and a new secondary hood. This should improve the overall environmental performance of the system and reduce emissions from coke pushing. The main components are now all lifted into place.
- Commissioning can start once the remaining sections of ductwork are installed and connected to the abatement system already in place at the south end of the coke oven batteries.

In the event of a further delay to the project delivery timescale, the operator needs to inform NRW as soon as possible.

4.7 Coke Oven Battery Tops emissions (Tops Leakage Control Factor)

Following a notifiable event in June 2020 which involved the controlled, emergency flaring of Coke Oven Gas (COG) from the coke oven battery bleeders, Tata Steel has encountered an issue with the spigot joint seals on the battery tops. This in turn has resulted in a notifiable exceedance⁵ of the Tops Leakage Control Factor (TLCF) during July 2020, which is a permitted emission limit.

It appears that the integrity of the spigot seals across both batteries was weakened by the June flaring event, causing tops emissions to increase. A programme of repairs has been ongoing to re-seal the spigots.

This effort has returned the MCO to compliance with the TLCF limit during August 2020.

New mechanical spigots are being trialled on approximately 20 coke ovens (approx. 25% of the total number of ovens). These spigots are configured differently and do not require continuous maintenance e.g. to re-seal joints. The early trial outcomes are encouraging, and Tata Steel is asked to keep NRW informed of progress.

⁵ These emissions will be assessed separately on receipt of the quarterly emission monitoring data – due by the 28th October 2020

4.8 Morfa Main Stack emissions: monitoring of oxides of nitrogen (NOx)

During the visit we clarified with the operator the configuration and layout of the ductwork which conveys waste gases from coke oven battery underfiring, to the Morfa Main Stack. Blast Furnace Gas (BFG) or Coke Oven Gas (COG) are used for underfiring, either separately or in combination. The NOx emissions vary according to the combination of fuels used.

The installation permit contains different NOx emission limits for each fuel. This should now be reviewed to ensure it reflects current (underfiring) practices at MCO and the emission limits remain environmentally protective. Tata Steel has supplied fuel use data to support this process. (Action complete)

4.9 Tata Steel Major Projects update (CAPEX & Covid-19 impact)

TATA provided an update about their capital expenditure (CAPEX) projects which Tata Steel is pursuing to meet statutory requirements and/or environmental standards. Wider economic impact on the global steelmaking industry (due to Covid-19) was noted; this situation is forcing many steelmakers to look critically at their planned expenditure and project approval protocols. This visit focused on the following Tata Steel projects:

Sinter Plant Secondary De-dust abatement system (Approved)

Covid-19 disruption has impacted this project in 2020. Despite this, the preparatory civil engineering works are complete and most of the system components (including the bag filter) have now been delivered to the steelworks. Tata Steel and its project delivery partners have needed to adapt quickly to the wider disruption to minimise escalating project costs and protect the installation phase. The installation must align with planned Sinter Plant maintenance stops in November 2020 and March/April 2021.

Once installed and commissioned, the new bag filter abatement system will reduce particulate emissions and improve the overall emissions profile of the sinter plant. It will also allow NRW to conclude the agreed derogation from the BAT-Associated Emission Limit (AEL) applying to the existing electrostatic precipitator (ESP) abatement system.

In the event of any major delays to the project delivery timescale, the operator must inform NRW as soon as possible.

Morfa Coke Ovens (MCO) coke-side fume arrestment system (Approved)

Please see the specific section (above) within this report.

Coke Oven Gas (COG) desulphurisation

The requirement to desulphurise COG is subject to an agreed derogation from the published Iron & Steel BAT Conclusions until 31 October 2024.

Tata Steel is refreshing an existing feasibility study for this project to consider the current lifespan of the MCO, the latest economic situation as well as the longevity of any COG desulphurisation system. The projected project cost could be significant (>£50m) and alternative techniques to those listed in the BAT Conclusions – ‘equivalent measures’ – such as bio-treatment are being considered.

It is expected that the COG desulphurisation project scope will become better-defined over the coming months and the operator will be able to present further detail to NRW in early 2021. From our regulatory perspective, Tata Steel needs to demonstrate that it can deliver this major project in time and comply with the relevant BATc before the derogation expires.

Action

Flue dust and reverts washing scheme

It has been necessary to conduct trials using ironmaking by-products and residues to inform the final design of this scheme. Some trials have been delayed by Covid-19 disruption.

The scheme potentially requires its own permitting arrangement within the steelworks installation, depending on the entities involved e.g. a third party operating the washing equipment and/or handling the materials on behalf of Tata Steel. Further dialogue with the regulator will be necessary once the scheme design is finalised.

If you have any queries about this report, 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 in the aspects assessed.
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property

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, formal caution or warnings. We may also take a protective response to a permit non-compliance and this can include 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.