

Compliance Assessment Report

Report ID:
CAR_NRW0026744

This form will report compliance with your permit as determined by an NRW officer

Site	Port Talbot Steel Works EPR/BL7108IM		Permit Ref	BL7108IM	
Operator/Permit holder	Tata Steel UK Limited				
Regime	Installations				
Date of assessment	26/09/2016	Time in	11:00	Out	17:00
Assessment type	Audit				
Parts of the permit assessed	1 Management; 2 Operations; 3 Emissions and Monitoring; 4 Information				
Lead officer's name	Cowie, Douglas				
Accompanied by	Broom, Mark,Baskerville, Guy				
Recipient's name/position	Fiona Abbott/ Environment Manager	Date issued	20/01/2017		

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS Scores can be consolidated or suspended where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

Permit conditions and compliance summary	CCS Category	Condition(s) breached
B1 - Infrastructure - Engineering for prevention and control of emissions	A	
B5 - Infrastructure - Plant and equipment	X	
C2 - Infrastructure - Management system and operating procedures	X	
E1 - Infrastructure - Air	A	
F3 - Infrastructure - Dust/fibres/particulates and litter	X	
F5 - Infrastructure - Deposits on road	A	
G1 - Infrastructure - Monitoring of emissions and environment	X	
	X	
G2 - Infrastructure - Records of activity, site diary/journal/events	A	
G3 - Infrastructure - Maintenance records	A	

KEY: See Section 5 for breach categories, suspended scores will be indicated as such.
A = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only,
O = Ongoing non-compliance, not scored.

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0
------------------------------------	----------	---	----------

If the Number of breaches recorded is greater than zero, please see Section 3 for our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- The part(s) of the permit that were assessed (eg. Maintenance, training, combustion plant, etc)
- Where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- Any non-compliances identified
- Any non-compliances with directly applicable legislation
- Details of any multiple non-compliances
- Information on the compliance score accrued inc.
- Details of advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

Site description

Tata Steel UK Ltd (Tata) operates an integrated iron and steel works at Port Talbot, Neath Port Talbot. The site is permitted as an installation under the Environmental Permitting Regulations (EPR). The steelworks has several identifiable permitted processes which are carried out sequentially across the installation to convert raw iron ores and coal to semi finished (slab) and finished steel products (such as hot rolled, pickled and oiled, cold rolled and annealed). The permit also covers coke making and the reception, stockpiling and blending of raw iron making materials. Three other companies, Cambrian Stone, Harsco Metals and ICL, undertake separately-permitted slag handling, iron plating and cold mill effluent treatment activities at the steelworks on Tata's behalf.

Purpose of visit/assessment

To review fugitive emissions management and control at Port Talbot steelworks, including Tata Steel's Air Quality Management Plan (AQMP) and techniques and procedures used by the various works areas. We reviewed Tata's response to a selection of nuisance dust complaints reported to NRW between July – September 2016.

The relevant permit conditions are listed under Sections 3.2 and 3.7 of Tata's permit.

Person(s) present

Tata Steel

Fiona Abbott

Jason Heatman

Claire Grainger

Andrew Townsend

NRW

Mark Broom

Doug Cowie

Guy Baskerville

AQMP review

The steelworks is split into 15 sections or 'works areas' that cover the main iron and steelmaking operations – furnaces, sinter, coke ovens etc. and also Tata's main contractors Harsco, Cambrian Stone, ICL and Darlow Lloyd.

Hargreaves is now an additional contractor and they have taken over some duties previously carried out by the other contractors within the steelworks. Hargreaves' roles include moving coke breeze from the wharf and some other raw material movements on behalf of Tata. They also work in partnership with Darlow Lloyd for some activities.

Each works area has its own AQMP in addition to Tata's over-arching steelworks AQMP. Tata has an ongoing programme of works area AQMP reviews which involves one annual audit and an interim 6-monthly check. The interim check is a positive development and means that the practical elements as well as the paperwork are reviewed every year. All works areas have had their AQMP reviewed since the beginning of 2015. The AQMP review programme is being developed further and extended to other Tata Steel installations in South Wales.

Tata's Safety, Health and Environment (SHE) Team has developed a new AQMP audit template in 2016 to capture information and data from the various works areas. The new template includes more about material movement procedures which will help demonstrate compliance with BAT 11 [Diffuse dust emissions from materials storage, handling and transport of raw materials and (intermediate) products] across the steelworks. NRW requires an example copy of the audit template.

Hargreaves' AQMP review has recently been completed. Vehicle movement checks have found overloading and spillage issues from Hargreaves vehicles. Tata has served Hargreaves with a 'supplier improvement request' in relation to these issues, but is also making some improvements around its materials loading areas to assist lorry and machinery drivers. There may also be shared learning opportunities and good practice comparisons with other industrial installations in South Wales which handle large amounts of solid fuel and other raw materials.

The Health & Safety Executive (HSE) has published guidance on safe vehicle sheeting and unsheeting, which includes an overview of the different techniques commonly used at industrial sites.

Tata has also run a 'Drive to Minimise Dust' campaign across the steelworks. This is evident by the posters visible around the steelworks and leaflets in offices and canteen facilities all focusing on reducing dust releases from road transport. The photo below shows one such poster and its key messages:



- keep the vehicle clean
- don't over fill
- cover the load

- slow down
- drive on the road

Hargreaves are requested to provide feedback to Tata's PM10 exceedance day investigations in the same way as any other works area or contractor. The SHE Team has developed a standard proforma intended to make it easier to capture the necessary feedback from all works area and allow timely completion of PM10 exceedance investigations. NRW requires an example copy of this proforma.

The Key Performance Indicator (KPI) score for nuisance dust fallout has been modified to trigger a 'medium' alert when monitored PM10 levels reach 30µg/m³. Previously the medium alert trigger level was 40µg/m³.

At the stockyards, a 'plume index' score is used to guide the deployment of fugitive dust reduction and suppression measures for raw material stockpiles and movements e.g. latexing, water bowlers. The plume index score uses local wind direction data and analysis to inform the stockyard control tower operators. The SHE Team has been working with the stockyard control teams to ensure the plume index score is included on shift reports. It is recommended that this approach be refined, tested and if successful rolled out to other works areas.

Conveyor systems and fugitive dust suppression

Foam suppression systems are used at the steelworks to reduce fugitive dust from conveyors. These systems have suffered from intermittent problems recently such as foam nozzle blockages due to fouling with biofilm. Nalco operate the foam suppression systems on behalf of Tata and they have now started to dose the systems with hypochlorite to control the biofilm build-up. NRW requires confirmation of when hypochlorite dosing was installed and commissioned.

Tata have begun replacing metal pipework with alkathene pipes as bacteria and biofilm cannot build up as easily on the inside of the plastic. The main challenge is that there are kilometres of metal pipework to replace. Tata are meeting on weekly basis with Nalco to review progress with foam suppression and pipe replacement.

The British Steel steelworks in Scunthorpe has recently installed a one-shot binder system on the sinter conveyor system. This system type was chosen over the foam suppressant approach used at Port Talbot. There are a number of key differences between the systems:

	Foam suppression	One-shot binder
Number of application points	Many	One
Suppression system	Foam-based water	Water
Water use	Minimal	???
Effect on thermal loadings at the blast furnace	Low water use minimises the need to introduce supplemental coke inside the furnace due to water loadings	Increased use of coke to maintain thermal loadings inside the furnace

Tata is looking to carry out a trial with a one-shot binder and will compare the two approaches to see which system performs best overall at Port Talbot.

Other measures

The following fugitive emissions management and control techniques were also reviewed during this audit:

1. Road sweeping and bowsering
2. Vehicle speed control/traffic enforcement
3. Raw materials/stockyard management
4. Sinter cooler temperature control
5. Stockhouse dust suppression measures

NRW requests an updated map showing the current routes taken by road sweepers and water bowzers within the steelworks.

We noted that one sinter cooler fan (No.2) had suffered a recent bearing failure which had led to an outage of approximately one month. No.2 cooler fan is now back online. The sinter cooler itself is due to be replaced as part of a planned CAPEX project which is the subject of an IED derogation request by Tata.

Foam suppression is also applied at the blast furnace stockhouse screens to reduce fugitive emissions from this area.

It was felt that a further site inspection was required at the stockyard control tower and at the blast furnace stockhouses to verify the performance of the fugitive dust control and minimisation measures outlined by Tata.

Complaint review: nuisance dust

Between July and September 2016 NRW has received a number of complaints about nuisance dust affecting nearby residential properties. As the steelworks is a potential source of dust emissions, we selected six complaints for review and we examined Tata's operational control of fugitive dust on the dates in question.

Neither of the two main foam suppression systems (fitted to the sinter plant conveyors and the new furnace stockhouse screens) are capable of interacting with Tata's PI system. NRW's view is that Tata must identify and use plant data/telemetry that can show the foam suppression systems are working effectively. Although this may be difficult to measure directly, the sinter cooler and downstream sinter conveyor temperatures are recorded and could be uploaded to the PI system. If the sinter is too hot – above 70°C - the effectiveness of the foam binder diminishes. Using these temperatures together with sinter strand speed, a KPI could be developed for the foam suppression systems.

Reported complaint date	Sinter cooler temp. <300 C	Strand speed	1021 conveyor temp.	1027 conveyor temp. <70 C	Observations
20-21/7/16	No	2.5	Yes	Yes	Sinter plant off 20/7/16
02-03/8/16	No	Yes	Yes	Yes	Sinter plant off 03/8/16
12-13/8/16	Yes	2.5	No	No	Foam effectiveness likely to be reduced
21-22/8/16	Yes	Yes	Yes	Yes	OK
06/9/16	Yes	2.4	Yes	Yes	OK

The speed of the sinter plant has an effect on the potential to produce dust. During 2013 the typical sinter strand speeds were above 3.0 metres/minute whereas now (2016) the sinter production rates are lower and the plant operates between 2.0 - 2.5 metres/minute.

Water is sprayed on sections of the sinter cooler to ensure that the sinter temperature is kept below 300°C. Above this threshold the effectiveness of the inter-dust suppression system is affected, especially if the temperatures on 1021 (off-cooler) and 1027 (high-line) conveyors are above 70°C which is just before the first application of foam suppression to the sinter at the conveyor interchange. 1021 conveyor also has water sprays so it should be less prone to higher temperatures.

NRW requests clarification regarding the time zone used for the sinter temperature data and if changes between UTC+00:00 (GMT) and Daylight Saving Time (BST) have been taken into account.

Conclusions

Tata's Air Quality Management Plan (AQMP) system continues to be effective for the areas of the steelworks we inspected. AQMP audits and checks are still evolving and developing to widen their use across the site as a whole. The principles of the Port Talbot AQMP are being taken elsewhere to other sites within Tata Steel UK.

There are some areas where Tata needs to show that all their critical dust control systems are operational when historic complaint events are reviewed. Tata needs to identify plant data/telemetry that can show the foam suppression systems are working effectively. If this data is added to the PI system then this gap can be closed.

On the selection of complaint dates we reviewed, the sinter plant and its critical parameters were largely within the required control limits. In some instances the conveyor temperatures were too high for the foam suppressant to work effectively.

A further site inspection will be carried out to verify the performance of the foam suppression systems at the sinter plant and at the blast furnace stockhouses.

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0026744**

This form will report compliance with your permit as determined by an NRW officer

Site	Port Talbot Steel Works EPR/BL7108IM	Permit Ref	BL7108IM
Operator/Permit holder	Tata Steel UK Limited	Date	26/09/2016

Section 3 – Enforcement Response

You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

Criteria Ref.	CCS Category	Action required/advised	Due Date
See Section 1 above			
G1	X	Tata needs to identify plant data/telemetry that can show the foam suppression systems are working effectively. If this data is added to the PI system then this gap can be closed.	03/03/2017
G1	X	NRW requests clarification regarding the time zone used for the sinter temperature data and if changes between UTC+00:00 (GMT) and Daylight Saving Time (BST) have been taken into account.	31/01/2017
F3	X	NRW requests an updated map showing the current routes taken by road sweepers and water bowsers within the steelworks.	31/01/2017
C2	X	Please supply an example copy of the current AQMP audit template and an example of the works area (exceedance day) feedback proforma.	31/01/2017
B5	X	NRW requires confirmation of when hypochlorite dosing (for foam suppression systems) was installed and commissioned.	31/01/2017

Section 5 – Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- Advise on corrective actions verbally or in writing
- Require you to take specific actions verbally or in writing
- Issue a notice
- Require you to review your procedures or management system
- Change some of the conditions of your permit
- Decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and/or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- Ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- Ensure you comply with other legislative provisions which may apply

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance that could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General information

Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- Offering/providing you with its literature/services relating to environmental matters
- Consulting with the public, public bodies and other organisations (eg. 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 its service
- Freedom of Information Act/Environmental Regulations request

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this reports should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with officer's line managers using the informal appeals procedure. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00 – 18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.