

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

Site	Tata Steel Port Talbot steelworks	Permit Ref	BL7108IM (as amended)
Operator/ Permit holder	Tata Steel UK Ltd		
Date	2 February 2016	Time in	13.30 Out 16.30
What parts of the permit were assessed	See below		
Assessment	EPR - inspection	EPR Activity:	Installation X Waste Op Water Discharge
Recipient's name/position	Jason Heatman, Lead Environmental Engineer, Tata Steel Port Talbot		
Officers names	DMP Broom & DE Cowie	Date issued	20/4/2016

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). 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

Condition(s) breached

a) Permitted activities	1. Specified by permit	A	
b) Infrastructure	1. Engineering for prevention & control of pollution	A	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	A	
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	A	
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	N	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	A	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	N	
	5. Waste	N	
f) Amenity	1. Odour	N	
	2. Noise	A	
	3. Dust/fibres/particulates	A	
	4. Pests, birds & scavengers	N	
	5. Deposits on road	N	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	A	
	2. Records of activity, site diary, journal & events	A	
	3. Maintenance records	N	
	4. Reporting & notification	N	
h) Resource efficiency	1. Efficient use of raw materials	A	
	2. Energy	N	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),
A = Assessed or assessed in part (no evidence of non-compliance), N = Not assessed, NA = Not Applicable

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0
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If the Total No Breaches is greater than zero, then please see Section 3 for details of 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 (e.g. 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 suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all 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. Two other companies, Cambrian Stone and Harsco, undertake separately-permitted slag handling and iron plating activities at the steelworks on Tata's behalf.

Purpose of visit/assessment

To review progress with Tata Steel's ongoing CAPEX projects and some recent bleeder valve openings on the blast furnaces.

Person(s) present (Office based)

Tata Steel	Fiona Abbott	NRW	Mark Broom
	Jason Heatman		Doug Cowie
	Andrew Townsend (Bleeders)		
	Oliver Mullan (CAPEX)		
	Clare Grainger (CAPEX)		
	Stuart Lloyd (CAPEX)		
	Ryan Lipscomb (CAPEX)		

Bleeder valve openings

During the latter part of 2015, blast furnace bleeder valve openings appeared to become less frequent. This is believed to be due to better furnace stability on No. 4 and No. 5 Blast Furnaces which in turn have been attributed to use of good quality coke and improved hot blast management with increasing tuyere velocity. However a recent reduction in iron output to meet Tata Steel's revised business plan has meant that both furnaces are now operating under unusual conditions. The BOS plant is also operating to a reduced liquid steel output which has meant that one or both furnaces are being brought 'off-wind' more frequently. Based on the number of recorded bleeder openings between November 2015 and January 2016, Furnace No. 4 (which is a slightly larger volume furnace) appears to be affected by these unusual conditions more than No. 5.

Currently there are a number of work streams being carried out by Tata to improve furnace stability. These include reviewing tuyere velocities at Furnace No. 4, optimising process control stability on both furnaces and sourcing of consistent good quality raw materials. Improved furnace stability is key to reducing bleeder valve releases and achieving consistent furnace outputs. There may also be opportunities for cross-learning and knowledge sharing between the Ironmaking and Steel & Slab works areas e.g. application/adaptation of BOS plant's ELVIS software for furnace process control.

Tata agreed to provide NRW with periodic updates regarding furnace operations. Bleeder valve openings will also be reviewed again at NRW's planned complaint handling intervention in March/April and then at regular intervals during 2016.

CAPEX update Q1 2016

Coke Oven Gas (COG) Desulphurisation

The COG desulphurisation project has been paused with two technology suppliers in the frame for Tata's tendering process. Tata's plan, subject to funding agreements, is to apply to derogate the project until 2020. This means the project will need to be restarted in 2017 to meet this target. The re-visited project could generate some issues which would have consequential effects on the users of desulphurised COG. Tata believe there will be around two weeks of Sulphur Recovery Unit (SRU) downtime

when the boilers and other key infrastructure will need inspection and maintenance. During these times, un-desulphurised COG will be generated and any surplus will need to be used. Tata could operate on a low-sulphur coal blend to reduce the sulphur dioxide (SO₂) released from the main COG users – the mills and the combustion plant. Tata will need to consider the best time(s) of the year to carry out this work from an environmental impact point of view. These periods could also be deemed to be 'abnormal' and/or start-up operations when interpreted in the context of the Industrial Emissions Directive (IED). The project design plan or FEED – front end engineering design – is to build a plant that is capable of coping with increased capacity if needed at a later date and also to be capable of having redundancy in the future. The proposed plant will not have these capacities from day one, but with more investment it will be capable of operating at increased capacity in the future. Further ancillary engineering and preparatory work while the project is paused may also reduce costs in the long run.

The project also considers how to deal with the ammonia coming from the coke making process and effluent. There are two basic options to either crack the ammonia into hydrogen and nitrogen by reversing the Haber ammonia process or by making ammonium sulphate which can be sold as a chemical and/or fertiliser feedstock.

Should Tata wish to apply for a new derogation or change an existing one, then a permit variation will be required. NRW can provide further advice regarding this process if necessary.

Sinter plant: Lignite-lime injection

Tata has undertaken a lot of work at the sinter plant during the October 2015 maintenance stop. All double-dome valves have now been installed and the new and modified conveyors are installed and operational. Major sections of the wind main have also been replaced. A host of new instrumentation has been installed to help mitigate the potential for glowfires inside the Electrostatic Precipitators (ESPs); these include new oxygen, pressure and level meters inside the ESPs and in the preceding wind main sections. These meters provide early warning of conditions conducive to glowfire formation and allow the sinter plant operators to throttle back lignite dosing.

Initial monitoring results comparing operations before and after the shutdown show releases to be one-third of the pre-work levels – around 25 mg/m³ compared with 70 mg/m³. However there is the caveat that iron and steel production levels and throughput are currently less than before (see earlier section on bleeder valve releases). Accepting the caveat of reduced throughput, the monitored reduction can be attributed to reduced air ingress into the system and reducing the re-suspension of dusts through the ESPs through the use of double-dome valves. Previously the valves at the base of the ESPs were opened to allow dust collected in each section of the ESPs to drop out into a collection system. Air was sucked in under negative pressure during this procedure, re-suspending collected dust into the waste gas flow and out through the main stack. The new double-dome valves and the gas-tight enclosed conveyors beneath the ESPs appear to have addressed this problem. The South ESP conveyors have now been replaced but the North ESP conveyors still need work to ensure that they are gas-tight.

The wind main transition pieces between the sinter plant building and the North and South ESPs have varying degrees of corrosion and wear. The newer North ESP is showing significant amounts of wear – primarily because it was built using 6mm steel plate. The older South ESP uses 10-12mm steel plate. Because thinner plate has been used at the North ESP, this cannot be over-plated because the supporting structure may not be able to hold the additional weight. The wind main transition piece between the sinter plant building and the ESPs has significant corrosion which has been attributed to the condensation of acidic sulphurous compounds. Tata may be able to reduce this by lagging/insulating the new transition pieces which should keep the acidic gases above their dew point.

The next major stop is in March 2016 when some of these issues will be addressed. There will be a short maintenance stop followed by one-fan operation for around 18 days. Tata will then carry out a second, slightly longer stop to tie in the previous work with further adjustments. Further work on both ESPs will be staggered towards the end of summer 2016 with the South ESP off-line in August followed by the North ESP in October. During these two stops, power off rapping will be implemented. Currently the electrodes in the ESPs are 'rapped' – strong shearing forces are transmitted to the collecting plates in order to release deposited dust particles – with the ESP power on, which means that the system remains active while the dust drops off the electrode. With the power switched on some dust can be attracted back onto the electrode. Following the August and October 2016 stops, power off rapping will be used so that the supply to various sections of the ESP will be interrupted while rapping happens. This measure should reduce the re-attraction of dusts to the electrodes.

The ESP power fields will also be split to allow more sections to be rapped while maintaining the integrity of the fields. For example, if the South EP has four basic power fields, when rapping takes place one field is powered off and rapped leaving the three remaining fields to abate particulates. Splitting each field into two produces eight fields rather than four. When power off rapping is used in these circumstances, only one field out of eight would be taken out in sequence, providing more particulate

abatement during the rapping sequence compared to using three fields.

In the meantime the lignite-lime system will be overhauled so that it complies with The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002. Lignite/lime injections can then re-start.

Sinter plant: secondary de-dust and sinter cooler

Tata may need to apply for a revised IED derogation in relation to sinter plant secondary de-dust emissions abatement. Previously Tata's plan was to time the upgrades to the secondary de-dust system with the refurbishment/replacement of the sinter cooler. The intention remains to fit the de-dust system with a bag filter which is technology beyond the minimum requirements in terms of Best Available Techniques (BAT). Should Tata wish to change an existing derogation, then a permit variation will be required. NRW can provide further advice regarding this process if necessary.

Hydrocyclone project

A trial system is looking to be installed to help improve the ferrous recovery from the material going to the Betsi lagoon. The details of this system have yet to be engineered.

Conclusions

NRW welcomes the update provided by Tata Steel regarding furnace operations and we understand the difficulties associated with the current unusual and lower output furnace operating regime. The number of bleeder openings will be reviewed regularly during 2016.

The CAPEX projects are still progressing but not always at the pace that was planned. There are a variety of reasons for this. The sinter plant projects do appear to be struggling more due to the poor condition of parts of the existing plant and the consequences of decisions made several years ago.

[END OF SECTION 2]

	EPR Compliance Assessment Report	Report ID: 6093
This form will report non-compliance with your permit as determined by an NRW officer		
Site	Tata Steel Port Talbot steelworks	Permit
Operator/ Permit	Tata Steel UK Ltd	Date
		BL7108IM (as amended) 20/4/2016

Section 3- Enforcement Response		Only one of the boxes below should be ticked
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.		
Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.		n/a
In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.		n/a
We will now consider what enforcement action is appropriate and notify you, referencing this form.		n/a

Section 4- Action(s)			
Where a non - compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.			
Criteria Ref.	CCS Category	Action Required/Advised	Due Date
See Section 1 above			
N/A	N/A	N/A	N/A

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 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 which 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 Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). 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 (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 and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

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

NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report 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 the officer's line managers. 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) 601 0987**.