

	EPR Compliance Assessment Report	Report ID: 05787			
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	7 November 2014		Time in	09.30	Out 12.00
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, G Baskerville		Date issued	17 November 2015	

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	A	
e) Emissions	1. Air	A	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	N	
	5. Waste	A	
f) Amenity	1. Odour	N	
	2. Noise	N	
	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	A	
h) Resource efficiency	1. Efficient use of raw materials	N	
	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	-	Total compliance score (see section 5 for scoring scheme)	-
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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

The Basic Oxygen Steelmaking (BOS) plant at Port Talbot steelworks has been identified as a source of environmental complaints during the third quarter of 2014. We have already discussed this with the operator on 19 September 2014 (CAR 5784). The purpose of this inspection was to look at the operational issues at the BOS Plant in more detail, with a particular focus on:

- converter slop prediction, detection and control
- converter charging techniques
- management of de-sulph slag pots
- dust control and abatement

A short discussion regarding Tata's draft waste strategy for the steelworks also took place before our main BOS plant visit.

Person(s) present

Tata Steel	Jason Heatman (SHE Team)	NRW	Mark Broom
	Georgina Brooks (SHE Team)		Doug Cowie
	Hywel Woolf (steel plant)		Guy Baskerville
	George Govan (steel plant)		
	Pieter Broersen (steel plant)		
	Mark Sexton (waste strategy)		

Tata waste strategy

Earlier in 2014 Tata presented its draft waste strategy for the steelworks to NRW (CAR 5637). A project is underway to further develop this strategy in relation to revert materials from the steel (BOS) plant. This gritty, slurry-like material is rich in recoverable metals such as iron and zinc.

Tata have already been looking at Rotary Hearth Furnace (RHF) technology as a means of recovering zinc from the steelmaking process in the form of zinc oxide. However the company is also considering ways of reducing or even eliminating zinc at earlier stages in the process. Galvanised scrap metal, currently used as part of the hot metal charge for the BOS converter, could be segregated from ferrous scrap and diverted to other steelmaking activities e.g. Electric Arc Furnace operations. This could in turn reduce the zinc content of hot metal charge and the resulting BOS grit to manageable levels, allowing the low zinc BOS grit to be recycled as part of the raw materials blend for the sintering and iron making processes.

Low-zinc BOS grit needs to be stored separately from the current stockpile of BOS grit on site to give Tata the flexibility to handle it in a different way. The potential for wind-blown fugitive dust emissions from any new stockpile was discussed. This type of fugitive emission could contribute to elevated levels of PM10. [NRW feels that Tata should fully explore internal storage/stockpiling options to mitigate this](#) and it was agreed there may be suitable options available on site. We support the overall aims of the BOS grit project and we would like to be kept informed of its progress.

Steel (BOS) plant

Tata is undertaking a review and re-organisation of its personnel and operational structure at the BOS plant. This is linked to wider shift changes across the steelworks as a whole. Pieter Broersen introduced himself as the new steel plant manager at Port Talbot. We agreed to meet Pieter again in December 2014 to discuss his vision for the plant, its current performance and the future planned interventions by Tata.

Slop prediction, detection and control

The nature of slops and the factors that influence their nature and frequency has been discussed in our previous CAR 5784.

Tata's slop prediction model is now in live operation on both BOS converters as part of a trial. The scrap mix used for the hot metal charge is being examined in more detail to see what influence it can have on slop formation. Quarter 1 of 2015 should see full rollout of the prediction model (once the trial is complete).

The company continues to develop an automatic anti-slop system. This will use data gained from the slop prediction model trial and from previous slop events to refine the automated response. A review of the oxygen lance ladder heights has also been carried out to determine the optimum profiles which minimise slop formation. Finally the addition rate of coolants, such as waste oxide briquettes and iron ore, has been reviewed and modified.

100% hot metal charging

This technique has been trialled at the BOS plant in recent months and excludes the use of scrap metal in the converter in favour of a 100% charge of molten iron. The technique is a recognised industry practice used elsewhere including at Tata's plants in Holland and India. 100% hot metal charging can allow the steel plant to process increased quantities of hot metal from the blast furnaces, minimising the requirement to 'plate' a surplus of iron. Plating is an undesirable but necessary operation which can generate its own environmental issues.

The 100% hot metal charge therefore offers advantages compared to conventional scrap metal charging, but it also carries certain difficulties especially in terms of the volatility of the charge and its susceptibility to slops. On 18 September 2014 there was an explosion and subsequent fire inside the BOS plant which occurred during a 100% hot metal charge. Tata is carrying out an investigation into this event and has suspended the use of 100% hot metal charging until this has been concluded and its slop prediction model trials completed. Tata notified us and the Health & Safety Executive (HSE) of the event, which will be the subject of a future compliance visit.

Tata's Safety, Health & Environment (SHE) Team has examined on-site air quality monitoring data for the 100% hot metal charging period, however no trends or associations with elevated PM₁₀ events have been identified.

Management of de-sulph slag pots

Iron from the blast furnace often contains excessive levels of sulphur. A simple treatment involves injection of lime into the transfer ladle which moves iron from the torpedo to the steelmaking (BOS) vessel. The lime may be mixed with calcium carbide or with magnesium or aluminium additives. The resulting 'de-sulph' slag floats on top of the molten iron and is removed by mechanical scrapers to prevent the sulphur partitioning back into the metal.

The de-sulph slag pots then pass to the control of Harsco Metals who manage them within their on-site facility. Harsco provides the BOS plant with a fortnightly email update regarding de-sulph slag pot operations. This data is reviewed regularly.

Tipping of de-sulph slag pots can generate fugitive emissions. It is important to allow the pots sufficient standing time to enable the slag to cool and minimise emissions when tipping. Pot standing times are currently 24 – 45hrs and the slag temperature is monitored during this period. The slag pot fleet size at Port Talbot is currently around 40 pots. A large pot fleet allows sufficient standing/cooling time and also prolongs the life of individual pots. At Port Talbot some design changes have also been made to a number of pots which has made them more robust and there is an ongoing programme to upgrade the rest of the fleet.

Wind direction is important during slag tipping. Tata and Harsco operate a traffic-light system to indicate when wind conditions are unfavourable. Odour and kish are wind-borne emissions which can potentially have off-site impacts. Slag tipping pits are aligned to shield them from the prevailing wind and water mist cannons are deployed to dampen any airborne emissions.

Tata Port Talbot is considering trialling a different de-sulph slag tipping approach adopted by Ijmuiden steelworks. This would involve tipping slag which is more fluid due to changes at the lime injection stage. We agreed this trial should be carried out during winter months to get an accurate picture of the potential environmental impacts of this operation.

Dust control and abatement

The issue of missing cladding sheets on the southern gable end of the main BOS Plant building was again discussed. Tata believe that these sheets have been missing for some time as they are also missing in historic photos of the plant. They may have been removed for Health & Safety reasons. The matter will be discussed further during our next compliance visit in December 2014 when Tata should have a cost estimate ready for replacement of the sheets.

A recent incident involving one of the fume extraction system fans at the Hot Metal Pouring (HMP) Bay was discussed. Tata confirmed that one of two fans failed catastrophically and will be out of service for some time. The remaining fan is still operational and Tata have supplemented it by adjusting the dampers on the main BOS plant secondary de-dust fume extraction system. The steel plant dust collection systems will be discussed in more detail during a future compliance visit.

Other issues

Air quality data – metals (Defra)

The UK Air quality site has information on the metals monitored at the Fire station in Port Talbot. The link below goes to a series of menus to down load the monitoring results

http://uk-air.defra.gov.uk/data/non-auto-data?uka_id=UKA00501&view=data&network=metals&year=2013&pollutant=264#view

This largely monthly data shows a large step change at the end of 2013:

http://uk-air.defra.gov.uk/assets/graphs/UKA00501_2013_264.png

The steel plant is a potential source of zinc and reviewing the metals data for 2014 see - http://uk-air.defra.gov.uk/data/non-auto-data?uka_id=UKA00501&view=data&network=metals&year=2014&pollutant=264#view.

This data shows that the high levels seen in December 2013 continue into 2014 with a general decline in zinc levels through the year to the levels seen in previous years. Detailed and complex analysis of the metals data may help show the site contributors to the PM₁₀ levels being monitored at the Fire Station in Port Talbot as well as the local dust problems being experienced in Port Talbot.

Example EIF for 5 August 2014

There were a number of fume complaints about the Steel plant on the 5 August 2014. Tata raised an Environmental Incident Form (EIF) for this event which was reviewed to check that the EIF had been raised and that Tata had identified the cause of this event and that they had taken action to minimise recurrence.

[END OF SECTION 2]

	EPR Compliance Assessment Report	Report ID: 05787	
This form will report non-compliance with your permit as determined by an NRW officer			
Site	Tata Steel Port Talbot steelworks	Permit	BL7108IM (as amended)
Operator/ Permit	Tata Steel UK Ltd	Date	17 November 2015

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			
E5	N/A	Recommendation 1: Tata should fully explore internal storage/stockpiling options to mitigate potential particulate emissions from the storage of low-zinc BOS grit. It was agreed there may be suitable options available on site. We support the overall aims of the BOS grit project and we would like to be kept informed of its progress.	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**.