

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	16 September 2015	Time in	09.30 Out 11.30
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	09 October 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	A	
	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	A	
f) Amenity	1. Odour	N	
	2. Noise	A	
	3. Dust/fibres/particulates	N	
	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	N	
	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 the progress with the various capital investment projects Tata have to meet the requirements of IED and to conclude the trial on the use of oil from Tata Steel Trostre works at the coke ovens.

Person(s) present (Office based)

Tata Steel	Richard Leonard (CAPEX)	NRW	Mark Broom
	Jason Heatman		Doug Cowie
	Charlotte Barlow (CO)		
	Jamie-Ross Landeg (CO)		
	Paul Dickenson (CO)		
	Stuart Lloyd (CAPEX)		
	Claire Grainger (CAPEX)		

Oil trials at the Coke Ovens

Tata has completed a further trial with Trostre recovered oil and is looking to review the specification of the oils used at the coke ovens to ensure that they do not adversely affect coke quality. We agreed during the visit that Tata needs to formally submit its conclusions to NRW for assessment before the prolonged trial use of recovered oil at the coke ovens can be extended to using Trostre material.

Tata are also considering sourcing oil from Orb and Llanwern to use in a similar way to Port Talbot and Trostre material at the coking process. NRW is willing to discuss any future proposals Tata may wish to make in relation to the use of recovered oil from these sites.

With regard to Action 4 identified in CAR 5903, Tata has examined the potential change in PAH emissions (including benzo[a]pyrene) when using recovered oil at the coke ovens. A submission outlining Tata's conclusions was received by NRW on 21 July 2015. Tata believes that the use of recovered oil as a bulk density agent at the coke ovens will not result in increased B[a]P emissions and may actually lower them due to beneficial effects on coal charge efficiency rates when using oil. NRW considers Tata has addressed Action 4, but B[a]P or an equivalent Polycyclic Aromatic Hydrocarbon (PAH) measurement [must be obtained](#) before or as soon as relevant PAH data from Defra's air quality monitoring network becomes available, to allow meaningful interpretation and data comparison. This would also show that use of the oil-based coal density enhancer will not have an adverse effect on the existing air quality target for B[a]P.

A revised oil specification was submitted for NRW's consideration on 17 September 2015. Tata has reviewed the specification based on the impact on coke production (total) and quality. Tata's recent trials of Port Talbot and Trostre recovered oils have shown that both oils give a similar and consistent increase in coke bulk density and it is not necessary to consider the calorific value or density of the oil. Tata proposes to retain ash and Fe (iron) content in its revised oil specification as these are important parameters for coke strength and quality. Tata will also retain zinc in its specification as this is an important measurement when coke is used at the blast furnaces.

NRW has considered the outcomes from Tata's further trial using Trostre oil. We are content for the Trostre material to be included in the scope of the prolonged (extended) trial use of recovered oil at Morfa Coke Ovens. [Tata must continue to analyse its recovered oil for metals and sulphur for at least 1 out of every 4 batches to demonstrate continued stability and suitability.](#) This is particularly important for the Trostre recovered oil which is derived from two processes. NRW may scrutinise this periodically so Tata must retain the relevant analysis records for inspection. The performance of Port Talbot and Trostre recovered oil will need to be reviewed as soon as relevant PAH/B[a]P data from Defra's air quality monitoring network becomes available, possibly in early 2016. Once this data is available NRW will give further consideration to allowing routine use of recovered oil at the coke ovens.

CAPEX

There are a number of major projects Tata is working on to enable the steelworks to comply with the Industrial Emissions Directive (IED). Tata has until March 2016 to meet these requirements unless a derogation has been agreed with NRW. The projects are centred on the coke ovens (Coke Oven Gas [COG] desulphurisation), the steel plant (BOS secondary fume extraction and collection system), the sinter plant (secondary dedust, main stack emissions abatement and reverbs washing). This meeting covered the sinter plant projects and an update on the steel (BOS) plant work.

BOS plant

In November 2014 one of the extraction fans serving the hot metal pouring bay (HMP) bay failed catastrophically. This fan has now been replaced. [Tata needs to confirm the restart date for this fan](#). Basic engineering work is ongoing to upgrade the HMP bay extraction system and travelling hood. Work is also due to start soon to extend the filter plant ready for the new fan and increased extraction capacity. Finally, work is beginning to augment the compressed air system serving fans 4, 5 & 6 which are part of the main fume extraction system.

Phase 1 of the BOS plant CAPEX project is currently on schedule to be completed by March 2016 – the BAT deadline.

Sinter plant (secondary) dedust

Tata has undertaken technical visits to several installed sinter dedust plants across Europe, including Spain, Italy and Germany. Two suppliers are being considered for Port Talbot. In most cases a pre-filter was installed or is being installed to reduce the risk of fires and damage to the main dedust abatement system from larger particles. Lagging (insulation) of the main waste gas ducts can also reduce the formation of cool spots where increased condensation and resulting corrosion of pipework can occur. A heat exchanger is another technology which could help regulate the temperature of gases entering the dedust abatement system.

Ground surveys are underway and the project is on plan to meet the prolonged planned maintenance stop scheduled for June 2017 in line with Tata's current derogation request.

Sinter cooler

The sinter cooler project is working to the same timescales as the dedust project. Again, technical visits have been undertaken at other European steelworks to gather information and assess the performance of different systems. Tata has been looking at the design of the cooler fans: axial vs radial. One system needs more fans than the other, with axial (enclosed propeller) needing three fans and radial (water wheel) five fans. The project team is also looking at how many variable speed drives are needed and how the fans can be managed to minimise energy usage. They are looking at isolating cooler fans to enable a phased replacement of individual fans to help reduce construction time during the June 2017 stop.

NRW has been dealing with complaints about ongoing low-frequency noise allegedly coming from the steelworks. We have carried out extensive investigations into this issue and at the time of writing we believe that the current sinter cooler fans may be a possible source of this noise. Our investigations are ongoing and we request that the project team [consults NRW](#) before making any decisions regarding sinter cooler fan design. Alternative fan designs such as 'quiet fan' technology should be explored, we understand this has been used successfully at other Tata Steel installations.

The design of choice will have a high-sided circular sinter cooler conveyor with a perforated 'roof', which helps minimise fugitive releases. The design of the chute from the sinter strand to the cooler can affect the sinter distribution onto the cooler and the cooler efficiency. The ideal design puts large sinter at the base, finer sinter in the middle and then large sinter on top with a uniform coverage across the width of the cooler. Since Port Talbot's present cooler was built there have been changes in how coolers are designed (and redesigned), with progress being made in having pre-fabricated cooler carriages, larger carriages and longer rails and tracks for the carriages. These changes all help to reduce thermal flexing and provide improved maintenance options.

How the cooler is built will affect the construction time. The 4-week window is critical to the project and it in turn could affect the furnace operations and furnace stability. There is a work stream looking at how the furnaces will be operated during this part of the project.

Sinter plant lignite lime injection

After technical visits to other steelworks, Tata's project team have been reviewing their lignite lime plans and the proposed operational methods. The wind mains (pipes) beneath the sinter strands are being replaced in critical areas. These wind mains convey the hot gases and particulates from the sinter strand to the primary electrostatic precipitators (EPs). Oxygen ingress through corroded sections can compromise EP performance and also presents a higher risk of glowfires occurring when lignite is introduced into the system.

A recent 6-mile tailback on the M4 was as a result of a large wind main section being transported by road from Bedwas to Port Talbot (see photos on page 4). The 8m wide section proved a difficult item to deliver and various problems (including traffic jams) were encountered along the route. Further wind main replacement work and delivery of large sections are expected to take place during October 2015.

Tata is looking at how it can apply different practices seen elsewhere to their sintering process and operational methods. One example involves insulating the wind main section that was being delivered to increase the temperature in the EPs, which in turn improves the particulate capture performance of the abatement system. Tata is obtaining quotes to undertake this lagging work.



The sinter projects are now focused on delivering the various work streams for the October 2015 stop. These include the wind main work, replacing the EP valves, getting the lignite lime injection system operational and upgrading the EPs. Tata has tried to carry out a trial to remove the dust from the last fields of the EPs. The trial did have initial problems with dust removal but these have been overcome. A detailed analysis of the trial results is due shortly but the early indications are that there appears to be a lag between the removal of the dusts and a drop in the particulate results. This could be due to a holdup of chloride in the sintering process and/or unstable operation.

Hydrocyclone

The hydrocyclone project is a key enabler for the sinter plant in that it removes the chloride from the returning reverts that arise from across the works. Chloride removal is key to reducing particulate releases. There are two main streams of high chloride reverts – blast furnace gas cleaning residues and the sinter plant EP dust. Tata has been working on ways to recover the iron content without increasing the chloride levels. After several iterations, Tata is now looking to return the blast furnace gas cleaning dust through the existing gas cleaning clarifier systems. Once the washed dusts are recovered, they can be passed through a hydrocyclone to separate out the zinc fraction.

The sinter plant EP dust is more problematic because although significantly lower in tonnage it has the highest levels of chloride. Tata will need to find ways of dealing with the EP dusts and the high zinc content fraction from the hydrocyclone. This work is ongoing.

Tata believes it can re-use waste water from its Margam B sump as part of the hydrocyclone project. This may present a significant water saving/efficiency measure and negate the need for any new on-site abstraction. [NRW should be consulted](#) before the final engineering solution is agreed.

Other issues

The steel industry in the UK is currently under a variety of pressures such as cheap foreign imported steel, high raw material and domestic energy costs and an unfavourable currency exchange rate. Teesside steelworks has been mothballed and SSI UK has gone into liquidation. Port Talbot steelworks is not immune to these problems and Tata has decided to reduce overall steel output to focus on its highest margin products.

Conclusions and further actions required

Subject to the conditions and actions in this CAR form, NRW is content for the Trostre oil to be included in the scope of the prolonged (extended) trial use of recovered oil at Morfa Coke Ovens. The performance of Port Talbot and Trostre recovered oil will need to be reviewed as soon as relevant PAH/B[a]P data from Defra's air quality monitoring network becomes available, possibly in early 2016. Once this data is available NRW will give further consideration to allowing routine use of recovered oil at the coke ovens.

If Tata want to trial other recovered oils they will need to submit a plan for their trial use at the coke ovens.

The CAPEX projects look on plan for the March 2016 deadlines and the wider problems currently affecting the UK steel industry have not yet affected Tata's work plans for the longer projects. The technical visits to other European sites that have already carried out similar investments have provided useful information and Tata is looking to alter its projects and plans to take into account some of the lessons learned from these visits.

We would ask Tata to consult us regarding the replacement sinter cooler fan options (potential noise issues) and with regard to the water supply options for the hydrocyclone project.

[END OF SECTION 2]

	EPR Compliance Assessment Report	Report ID: 5996	
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	09 October 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			
G1	N/A	Action 1: B[a]P or an equivalent Polycyclic Aromatic Hydrocarbon (PAH) measurement must be obtained before or as soon as relevant PAH data from Defra's air quality monitoring network becomes available, to allow meaningful interpretation and data comparison. This would also show that use of the oil-based coal density enhancer will not have an adverse effect on the existing air quality target for B[a]P.	As soon as relevant Defra air quality data becomes available in 2016
G4	N/A	Action 2: Tata must continue to analyse its recovered oil for metals and sulphur for at least 1 out of every 4 batches to demonstrate continued stability and suitability. Analysis records must be retained for inspection.	Ongoing during extended recovered oil trial period
B1	N/A	Action 3: Tata needs to confirm the restart date for the replacement BOS Plant HMP bay extraction fan.	As soon as possible
F2	N/A	NRW asks to be consulted before Tata make any decisions regarding sinter cooler fan design. Alternative fan designs such as 'quiet fan' technology should be explored.	N/A
H1	N/A	NRW asks to be consulted regarding the water supply options for the hydrocyclone project before any final engineering solution is agreed.	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**.