

Compliance Assessment Report

Report ID:
CAR_NRW0033267

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

Site	Port Talbot Steel Works	Permit Ref	BL7108IM		
Operator/Permit holder	Tata Steel UK Limited				
Regime	Installations				
Date of assessment	30/09/2018	Time in	N/A	Out	N/A
Assessment type	Check Monitoring/Sampling				
Parts of the permit assessed	3 Emissions and Monitoring; 4 Information				
Lead officer's name	Cowie, Douglas				
Accompanied by					
Recipient's name/position	Claire Grainger/ Environment Manager	Date issued	30/08/2019		

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. 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
A1 - Specified by permit	A	
C2 - General Management - Management system and operating procedures	A	
E1 - Emissions - Air	C3	3.1.2 Emissions to air
	C4	3.1.2 Emissions to air
	C3	3.1.2 Emissions to air
	C3	3.1.2 Emissions to air
	C3	3.1.2 Emissions to air
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	X	
G2 - Monitoring and Records, Maintenance and Reporting - Records of activity, site diary/journal/events	A	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	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	5	Total compliance score (see section 5 for scoring scheme)	16.1
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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 Steel) 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). Tata Steel has several defined industrial 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 steel). The permit also covers coke making and the reception, stockpiling and blending of raw iron making materials. Four other companies – Cambrian Stone, Harsco Metals, Runtech and ICL – are contracted to undertake their own permitted activities at the steelworks on Tata Steel's behalf.

Purpose of visit/assessment

Condition 4.3.1(a) of permit BL7108IM requires the operator to inform Natural Resources Wales (NRW) in the event that the operation of the (permitted) activities gives rise to an incident or accident which significantly affects or may significantly affect the environment.

Condition 4.3.1(b) of permit BL7108IM requires the operator to inform NRW in the event of a breach of any permit condition.

Condition 4.3.2 specifies that any information provided under condition 4.3.1 where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in Schedule 5 to this permit within the time period specified in that schedule.

Schedule 5 of the permit outlines the information that the operator must provide and is divided into Part A and Part B. The schedule provides a framework/template for informing and/or notifying NRW in accordance with the requirements of condition 4.3.1.

Condition 3.1.2 requires that the limits given in Schedule 3 of the permit (point source emissions) shall not be exceeded.

The following operator notifications have been received concerning breaches/exceedances, incidents or accidents which occurred or were notified to us during **Quarter 3 2018** (1 July – 30 September):

Sinter Plant

1. **S5N/18/79** received on 09/07/18 – A2 Sinter Plant Secondary De-dust
2. **S5N/18/83** received on 17/07/18 – A2 Sinter Plant Secondary De-dust
3. **S5N/18/84** received on 03/08/18 – A1 Sinter Plant Main Stack
4. **S5N/18/88** received on 03/09/18 – A1 Sinter Plant Main Stack
5. **S5N/18/89** received on 03/09/18 – A2 Sinter Plant Secondary De-dust
6. **S5N/18/92** received on 17/09/18 – A2 Sinter Plant Secondary De-dust
7. **S5N/18/94** received on 01/10/18 – A1 Sinter Plant Main Stack

8. **S5N/18/95** received on 01/10/18 – A2 Sinter Plant Secondary De-dust

Ironmaking

1. **UR/18/81** received on 10/07/18 – A4A Blast Furnace 4 bleeders
2. **UR/18/82** received on 16/07/18 – A5A Blast Furnace 5 bleeders
3. **S5N/18/87** received on 06/08/18 – A4A Blast Furnace 4 bleeders
4. **S5N/18/93** received on 24/09/18 – BF4 Cast House Fume Extraction South

BOS Plant

1. **S5N/18/91** received on 12/09/18 – A16 BOS Plant Secondary FEP (South)

Coke Ovens

1. **UR/18/80** received on 10/07/18 – A54 Morfa Coke Oven Batteries
2. **UR/18/85** received on 03/08/18 – A54 Morfa Coke Oven Batteries
3. **UR/18/86** received on 06/08/18 – A55 Morfa Main Stack
4. **S5N/18/90** received on 06/09/18 – A54 Morfa Coke Oven Batteries
5. **S5N/18/96** received on 03/10/18 – A54 Morfa Coke Oven Batteries

Compliance assessment

A1: SINTER PLANT MAIN STACK

S5N/18/84: Schedule 5 Part A received 03 August 2018 (by email)

Daily mean (average) for particulates recorded at emission point A1:

02/07/2018: 95.26 mg/m3
03/07/2018: 63.36 mg/m3
05/07/2018: 109.81 mg/m3
06/07/2018: 64.14 mg/m3
07/07/2018: 70.05 mg/m3
08/07/2018: 100.33 mg/m3
09/07/2018: 103.89 mg/m3
10/07/2018: 82.47 mg/m3
11/07/2018: 74.93 mg/m3
12/07/2018: 71.27 mg/m3
13/07/2018: 112.89 mg/m3
14/07/2018: 105.40 mg/m3
15/07/2018: 102.52 mg/m3
16/07/2018: 87.47 mg/m3
17/07/2018: 95.56 mg/m3

18/07/2018: 97.90 mg/m³
19/07/2018: 109.89 mg/m³
20/07/2018: 58.26 mg/m³
23/07/2018: 55.02 mg/m³
24/07/2018: 87.57 mg/m³
25/07/2018: 94.96 mg/m³
26/07/2018: 84.66 mg/m³
28/07/2018: 54.17 mg/m³
29/07/2018: 60.92 mg/m³
30/07/2018: 81.90 mg/m³
31/07/2018: 83.46 mg/m³

A1: Sinter plant main stack

Permitted limit is 40.00mg/m³ as a daily mean

The operator has specified that a measurement uncertainty factor of +/- 30% should be applied to the reported results.

Schedule 5 Part A operator comment:

Regulation 61 has been issued by NRW, an improvement plan will be submitted by the 18th August.

Single fan operation on the 18th 01.00am - 20th 17.00pm, and the 31st July 10.12am – 8.00pm. Remaining period dual fan operation.

Schedule 5 Part B operator comment:

As a result of the Regulation 61 being served on Tata Steel a comprehensive project has been put in place and regular meetings are held with the NRW providing a detailed update on progress to plan.

Please see a copy of the plan attached to this notification covering 2018 Q3 (July, August and September 2018).

Actions proposed to bring particulate emissions from emission point A1 to within 40 mg/Nm ³ as a daily mean	Start	Finish	Owner	Status	Progress
Reduction of air ingress					
Wind main repairs and replacement of 18m section	01-Apr-19	12-Jun-19			Enquiry out to tender. Price negotiation ongoing
Windmain Double Cone Valves replacements (5 to be replaced out of 28)	03-Sep-18	12-Jun-19			2 of 5 replaced
ESP Hopper Conveyor repair / sealing	03-Sep-18	12-Jun-19			Changed No.19 and overplated No.18 (change planned Mar/Apr 2019)
North & South ESP Structural Repairs	03-Sep-18	12-Jun-19			South 80% complete, North 50% (ongoing work planned)
ESP North and South Hopper Door Sealing	03-Sep-18	12-Jun-19			All South doors replaced
North ESP Internal Repairs					
North ESP Field Repairs	03-Sep-18	30-Sep-18			All fields repaired and working ESP recommissioned Fri 14th Sept ,
Improved Instrumentation and ESP Control Optimisation					
Installation of new CEMS instrumentation into North and South ESP ducting systems, (Inlet and Outlet)	11-Jun-18	01-Dec-18			Installation complete, capability assessment & optimisation ongoing
North and South ESP Control Optimisation	11-Jun-18	31-Aug-19			Control optimisation will recommence following cable fire repair North ESP & stable operation
Waste Gas System Maintenance Strategy					
Double Dome Valve Improved Maintenance Strategy Implementation	03-Sep-18	on-going			on Site Oct change conveyor 950 DDV and then every 4 weeks change pair. Next change week 49
North and South ESP Improved Maintenance Strategy Implementation	03-Sep-18	on-going			Implementation started week 36 outage, next outage planned week 49 & 50
Reduction of the chloride content of the sinter feed material					
Treatment of Sinter Plant ESP dusts and BF flue dusts - trial 1	01-Sep-18	12-Nov-18			Trial ongoing
Treatment of Sinter Plant ESP dusts and BF flue dusts - trial 2	12-Nov-18	01-Sep-21			Dependant on results from trial 1
Subject to outcomes of trial and feasibility study: Full Scale Plant CAPEX Scheme	12-Nov-18	01-Sep-21			Awaiting results from trial(s) to formulate forward plan

We have discussed the emission limit for particulates at A1 during other compliance interventions in 2017 & 2018. NRW's findings are confirmed in the following reports:

CAR_NRW0032992

CAR_NRW0032993

CAR_NRW0032995

CAR_NRW0032996

CAR_NRW0033787

CAR_NRW0034062

NRW has agreed to accept a monthly written Schedule 5 notification from Tata in the event of continued breaches of the particulate daily mean ELV at A1.

After applying the appropriate measurement uncertainty factor, the exceedance recorded at A1 on 02/07/2018 remains non-compliant with the permit limit and Condition 3.1.2. **One CCS Category**

3 score has been recorded in response to this non-compliance.

Please refer also to **Summary and actions required** (below) which confirms NRW's enforcement response to persistent emission limit breaches at A1 during 2018.

We have assessed and consolidated all subsequent notified exceedances of this ELV at A1 during Quarter 3 (July – September) 2018 under a single CCS3 score for **S5N/18/84** confirmed above, in line with our Compliance Classification Scheme [CCS]. The notifications for A1 which have been consolidated during Quarter 3 are listed below:

S5N/18/88 received on 03/09/18

S5N/18/94 received on 01/10/18

A2: SINTER PLANT SECONDARY DE-DUST

S5N/18/79: Schedule 5 Part A received 09 July 2018 (by email)

Daily mean (average) for particulates recorded at emission point A2:

02/07/2018: 147.82mg/m3

03/07/2018: 144.11mg/m3

06/07/2018: 61.14mg/m3

A2: Sinter Plant Secondary De-dust

Permitted limit is 50.00mg/m3 as a daily mean

The operator has specified that a measurement uncertainty factor of +/- 30% should be applied to the reported results.

Schedule 5 Part A operator comment:

Field 3 was repaired on the 3rd July. Dust suppression system found to be leaking water on 6th July and repaired on the 6th July.

Schedule 5 Part B operator comment:

Field 3 failed in the Dedust ESP (Electrostatic precipitator) between 18/06/18 and 16/07/18. No3 De-dust field was then split and further investigation undertaken. It was found that a section of the cable had failed and the decision was taken to replace whole cable in the long stop at the end of August. Situation was managed until that point. During this period some issues with water supplies also occurred due to the warm weather which impacted the performance of the de-dust system.

Investigations into water supply issues were undertaken and measures put in place to manage such as stopping water bowsers from filling up at certain locations to reduce the impact on water pressure in the area.

We have discussed the emission limit for particulates at A2 during other compliance interventions in 2018. NRW's findings are confirmed in the following reports:

CAR_NRW0032992

CAR_NRW0032993

CAR_NRW0032995

CAR_NRW0032996

CAR_NRW0034629

NRW issued an updated version of permit BL7108IM (V016) on 26 June 2018 following Tata Steel's successful application to extend the derogation period for particulate emissions at A2. This extended derogation took effect during Quarter 2 2018 and details are confirmed in the Annex to permit BL7108IM V016.

Verified exceedances of the derogated particulate daily mean ELV at A2 (50.00mg/m³) should be notified in accordance with the basic permit requirements i.e. Schedule 5 Part A within 24 hours of detection.

After applying the appropriate measurement uncertainty factor, the exceedance recorded at A2 on 02/07/2018 remains non-compliant with the permit limit and Condition 3.1.2. **One CCS Category 3 score** has been recorded in response to this non-compliance.

We have assessed and consolidated all subsequent notified exceedances of this ELV at A2 during Quarter 3 (July – September) 2018 under a single CCS3 score for **S5N/18/79** confirmed above, in line with our Compliance Classification Scheme [CCS]. The notifications for A2 which have been consolidated during Quarter 2 are listed below:

S5N/18/83 received on 17/07/18

S5N/18/89 received on 03/09/18

S5N/18/92 received on 17/09/18

S5N/18/95 received on 01/10/18

IRONMAKING

UR/18/81: Schedule 5 Part A received 10 July 2018 (by email)

Release of particulates and blast furnace gas from No.4 Blast Furnace bleeder valves (emission point A4A)

09/07/2018 17:56hrs

A4A: Blast Furnace 4 bleeders

No emission limit values (ELVs) apply to emissions/releases from A4A

Schedule 5 Part A operator comment:

Bleeder opening – cause to be established

Blast volume reduced to reduce furnace pressure to allow bleeder valves to close

Schedule 5 Part B operator comment:

- 1. The bleeder opening occurred as Blast Furnace 4 was being prepared for a 72 hour planned maintenance shutdown.*
- 2. Due to inaccurate coal silo level indication, coal was injected at 60kg/tHM while on all coke*

- operations, resulting in a warm thermal condition prior to shut down.*
- 3. The bleeder opening occurred during a prolonged intercast time due to the drill bit coming off in the taphole and oxygen being used to open the taphole.*
 - 4. The North and Semi clean bleeders opened for 6 seconds, occurring at 05:56pm on 9th July 2018.*

Measures taken, or intended to be taken, to prevent a recurrence of the incident:

- 1. Alter shutdown procedure when emptying coal silos and distribution hoppers to avoid having to inject coal when on all coke operations prior to shut down – shutdown plan compiled and communicated by Blast Furnace process technologist. Emptying of coal silos to be commenced as early as possible during shutdown plan to ensure coal exhausted prior to all coke reaching tuyeres.*
- 2. Recalibrate or investigate alternative methods for coal silo level indication – recalibration of silo level indication conducted when silo has been emptied / refilled.*
- 3. Investigate root cause of drill bit coming off in the taphole – nothing conclusive was found, however rules are now in place to reduce blast volume if exceeding 20 minutes intercast time to mitigate effects of extended intercast times.*

We have discussed blast furnace operations with Tata Steel during permit compliance interventions between 2017 and 2019. NRW's findings are confirmed in the following reports:

CAR_NRW0031694

CAR_NRW0032248

CAR_NRW0034781

Compliance interventions are undertaken periodically by NRW to understand the root cause(s) of any notifiable blast furnace bleeder valve releases.

UR/18/82: Schedule 5 Part A received 16 July 2018 (by email)

Release of particulates and blast furnace gas from No.5 Blast Furnace bleeder valves (emission point A5A)

13/07/2018 06:20hrs, 06:38hrs

A5A: Blast Furnace 5 bleeders

No emission limit values (ELVs) apply to emissions/releases from A5A

Schedule 5 Part A operator comment:

Bleeder opening – cause to be established

Blast volume reduced to reduce furnace pressure to allow bleeder valves to close

Schedule 5 Part B operator comment:

- 1. BF5 furnace top bleeder valves opened at 06:22 and 06:37 during two blow throughs after a disruption to the furnace process due to a burden distribution change and a ferrous burden change coming through on blast furnace 5 together.*
- 2. BF5 North, South and semi-clean bleeder valves functioned correctly by opening at the correct limits when the high top pressure deviated from its set-point*
- 3. The process team leader and senior operator opened the cold blast snort valve to reduce furnace pressure and close the bleeder valves.*

4. *The Davey cone was opened in an attempt to control/relieve furnace top pressure.*

Measures taken, or intended to be taken, to prevent a recurrence of the incident:

Avoid making large process changes together to minimise process disruptions as they come through. Changes made by the Technical team and Raw material / Process changes are planned to be separated from each other as much as possible to avoid large disruption to process, and to allow assessment of change. This is controlled by BF Technical team and Process Team leader.

We have discussed blast furnace bleeder valve releases and raw material handling with Tata Steel during permit compliance interventions between 2017 and 2019. NRW's findings are confirmed in the following reports:

CAR_NRW0031694

CAR_NRW0032248

CAR_NRW0034781

Compliance interventions are undertaken periodically by NRW to understand the root cause(s) of any notifiable blast furnace bleeder valve releases.

S5N/18/87: Schedule 5 Part A received 06 August 2018 (by email)

Release of particulates and blast furnace gas from No.4 Blast Furnace bleeder valves (emission point A4A)

04/08/2018 22:58hrs

A4A: Blast Furnace 4 bleeders

No emission limit values (ELVs) apply to emissions/releases from A4A

Schedule 5 Part A operator comment:

Snort cracked during incident but bleeder still opened

Blast volume reduced to reduce furnace pressure to allow bleeder valves to close

1. Schedule 5 Part B operator comment:

Blast Furnace 4 bleeders opened due to combination of a lower coke rate reaching the tuyeres and a period of stock sinter reclaim.

- 2. The process team leader acted as expected, reducing blast volume to relieve furnace pressure, allowing the bleeder to close.*
- 3. The semi-clean bleeder valve was the only bleeder that opened, for a period of 5 seconds.*

Measures taken, or intended to be taken, to prevent a recurrence of the incident:

- 1. Ensure a stock of pre-screened sinter is available to ensure any reclaimed sinter is of the best available quality.*
- 2. Conduct a process review prior to making a coke rate reduction, which covers a review of sinter (and other raw material) changes which may interrupt smooth operations, coke rate reductions communicated by BF process technologist (which includes daily setpoints) and, full assessment of process conducted prior to reduction.*

We have discussed blast furnace operations with Tata Steel during permit compliance

interventions between 2017 and 2019. NRW's findings are confirmed in the following reports:

CAR_NRW0031694

CAR_NRW0032248

CAR_NRW0034781

Compliance interventions are undertaken periodically by NRW to understand the root cause(s) of any notifiable blast furnace bleeder valve releases.

S5N/18/93: Schedule 5 Part A received 24 September 2018 (by email)

Daily mean (average) for particulates recorded at emission point A8B:

23/09/2018: 16.48mg/m³

A8B: BF4 Cast House Fume Extraction Stack South

Permitted limit is 15.00mg/m³ as a daily mean

The operator has specified that a measurement uncertainty factor of +/- 30% should be applied to the reported results.

Schedule 5 Part A operator comment:

Ongoing investigations

Schedule 5 Part B operator comment:

Investigations were completed by area engineers, it was found that several filter compartments within the bad filter unit were not sequencing as per programme.

New solenoid sourced and fitted to restore all 20 compartments to sequence.

Dust levels noticeably dropped below the daily average of 15m³/hr once the correct sequence was restored. Ongoing monitoring is being undertaken to ensure there are no further issues.

After applying the appropriate measurement uncertainty factor, this exceedance remains within the permitted limit of 15.00mg/m³. No non-compliance (CCS) score has been applied to this event.

BOS PLANT

S5N/18/91: Schedule 5 Part A received 12 September 2018 (by email)

Daily mean (average) for particulates recorded at emission point A16:

07/09/2018: 17.77mg/m³

A16: BOS Plant Secondary FEP South

Permitted limit is 15.00mg/m³ as a daily mean

The operator has specified that a measurement uncertainty factor of +/- 30% should be applied to

the reported results.

Schedule 5 Part A operator comment:

Electrical failure that led to data loss has been resolved.

Schedule 5 Part B operator comment:

During this period there was an electrical failure that led to a breach of 17.77 mg/m³. There was only one hour of data available during this period of time. The electrical failure was resolved but the area engineer was unable to recover the missing data during that period.

The compliance live database was not providing good data for fans 4,5,6. Also Fan 3A was feeding back zero readings to the compliance live database. Shift and day engineer contacted to investigate and rectify issue of feeding back data to compliance live.

We have discussed BOS Plant operations with Tata Steel during permit compliance interventions in 2017 and 2018. NRW's findings are confirmed in the following reports:

CAR_NRW0032745

CAR_NRW0034064

After applying the appropriate measurement uncertainty factor, this exceedance remains within the permitted limit of 15.00mg/m³. No non-compliance (CCS) score has been applied to this event.

COKE OVENS

UR/18/80: Schedule 5 Part A received 10 July 2018 (by email)

Monthly mean (average) Door Leakage Control Factor (DLCF), Top Leakage Control Factor (TLCF) and visible emissions from coke oven charging recorded at emission point A54:

June 2018: 90.52% (Doors)*

June 2018: 96.01% (Tops)

June 2018: 47.67 seconds (Charging)

A54: Morfa Coke Oven Batteries

Permitted limit for DLCF is at least 90% of coke oven doors with no leaks as a monthly mean (BAT-AEPL percentage of visible emissions is <10%)

Permitted limit for TLCF is at least 99% of coke oven tops with no leaks as a monthly mean (BAT-AEPL percentage of visible emissions is <1%)

Permitted limit (BAT-AEPL) for coke oven charging emissions is <30 seconds visible emissions per charge expressed as a monthly mean

*The notified result for doors (DLCF) is compliant with the permitted limit.

As these results were obtained during the previous calendar quarter, NRW has already consolidated these notified exceedances of the permitted limits for coke oven tops and charging emissions during Quarter 2 under 2 x CCS3 scores for **UR/18/53** (TLCF, Charging). Our assessment is recorded in **CAR_NRW0033265**.

UR/18/85: Schedule 5 Part A received 03 August 2018 (by email)

Monthly mean (average) Door Leakage Control Factor (DLCF), Top Leakage Control Factor (TLCF) and visible emissions from coke oven charging recorded at emission point A54:

July 2018: 90.00% (Doors)*

July 2018: 96.00% (Tops)

July 2018: 33.47 seconds (Charging)

A54: Morfa Coke Oven Batteries

Permitted limit for DLCF is at least 90% of coke oven doors with no leaks as a monthly mean (BAT-AEPL percentage of visible emissions is <10%)

Permitted limit for TLCF is at least 99% of coke oven tops with no leaks as a monthly mean (BAT-AEPL percentage of visible emissions is <1%)

Permitted limit (BAT-AEPL) for coke oven charging emissions is <30 seconds visible emissions per charge expressed as a monthly mean

*The notified result for doors (DLCF) is compliant with the permitted limit.

The current DLCF and TLCF method employed by Tata and agreed with NRW is a simple binary assessment i.e. leak/no leak which does not involve grading individual emissions. The scope for error is therefore minimised and it is not necessary for the operator to specify monitoring uncertainty when reporting these parameters.

The current method for assessing visible emissions from charging employed by Tata and agreed with NRW is a modified version of the *US EPA Method 303*. Under *Method 303*, measured charging emissions are recorded to the nearest 0.5 seconds. Incomplete charges (visual interference) should be excluded from the assessment. For compliance purposes, we have rounded up the reported results to the nearest 0.5 seconds before assessing them against the BAT-AEPL (ELV).

Schedule 5 Part A operator comment:

Regulation 61 has been issued, an improvement plan will be issued to NRW by the 18th August.

Schedule 5 Part B operator comment:

As a result of Regulation 61 being served on TATA Steel a comprehensive project has been put in place. Regular meetings are held with NRW providing a detailed update on progress to plan.

Please see a copy of the plan attached to this notification covering CY19 Q3 (July, August, September)

Quarter 3

Morfa Coke Ovens Regulation 61 Action Plan						
Actions proposed to bring Battery Top emissions to within 4% and compliant with emission point A54	Start	Finish	Owner	Status	Progress	Comments
Complete change out of remaining ascension pipes	01-Feb-17	01-Feb-20				Ongoing
Campaign spigot repair programme	01-Jun-18	01-Aug-19				Ongoing – 65% Completed
Battery Top Collector main control						
- Forward view system. Upgrade of transmitters to provide quicker response during charging	01-Feb-17	01-Jan-20				Ongoing
- Upgrade Controllers (Kent / Askania equipment)						
- Improve Exhauster control parameters						
Collector Main Configuration						Ongoing
- Feasibility study on operating with single collector main	01-Jul-18	01-Feb-20				Ongoing
- Execute transition to single collector main if applicable post survey	01-May-20	01-May-23				After feasibility
envisaged Battery Top emissions will be compliant with emission point A54, but not sustained until transition to new spring sealed door arrangement		01-May-23				Ongoing
Actions proposed to sustain Battery Door emissions to within 10% & compliant with emission point A54	Start	Finish				
Upgrade and Improve Reliability of door cleaning equipment on machines	01-Aug-18	01-Feb-20				Complete
Purchase and Install Automatic small door cleaning device for RAM machines	01-Jun-18	01-Feb-20				Ongoing
Door Design						Ongoing
- Purchase and trial x10 blue sky doors (spring sealing).	01-Nov-18	01-May-19				
- Run 12 months to assess effectiveness of new doors and emission levels	01-May-19	01-May-20				
- If trial successful convert battery to new doors	01-Jul-20	01-Jul-23				
Sustained Compliance with Limit Value It is envisaged Battery Door emissions will periodically be compliant with emission point A54, but not sustained until transition to new spring sealed door arrangement		01-Jul-23				Ongoing
Actions proposed to sustain Visible Charging emissions to within agreed levels outlined in emission point A54	Start	Finish				
Correct all charge hole frames identified with misalignment	01-Aug-18	01-Feb-20				Ongoing
Charging Machine						Ongoing
- Change machine Telescopes (x4), seals and inspection covers	01-Aug-18	01-Aug-19				55% Complete
- Refurbishment of all charge oscillators (x4)						
- Auto charge hole lid sealing system on charger	01-Sep-18	01-Sep-20				Ongoing
- Auto charge hole carbon cleaning on charge machine						
Sustained Compliance with Limit Value Battery charging emissions will be compliant with emission point A54		01-Sep-20				Ongoing

We have discussed the introduction of the DLCF, TLCF and Charging limits at A54 during other compliance interventions in 2017 and 2018. NRW's findings are confirmed in the following reports:

CAR_NRW0032992

CAR_NRW0032993

CAR_NRW0032995

CAR_NRW0032996

CAR_NRW0033787

CAR_NRW0034062

CAR_NRW0034629

The exceedances for TLF (tops) and Charging recorded at A54 during July 2018 are non-

compliant with the permit limits and Condition 3.1.2. **Two CCS Category 3 scores** have been recorded in response to these non-compliances.

Please refer also to **Summary and actions required** (below) which confirms NRW's enforcement response to persistent emission limit breaches at A54 during 2018.

We have assessed and consolidated all subsequent notified exceedances of these ELVs at A54 during Quarter 3 (July – September) 2018 under two CCS3 scores for **UR/18/85** confirmed above, in line with our Compliance Classification Scheme [CCS]. The notifications for A54 which have been consolidated during Quarter 3 are listed below:

S5N/18/90 received on 06/09/18 (August 2018 tops & charging)

S5N/18/96 received on 03/10/18 (September 2018 tops & charging)

UR/18/86: Schedule 5 Part A received 06 August 2018 (by email)

Weekly mean (average) for visible smoke obscuration recorded at emission point A55:

25/07/2018: 28.29% Obscuration

26/07/2018: 29.20% Obscuration

27/07/2018: 53.69% Obscuration

28/07/2018: 50.60% Obscuration

29/07/2018: 46.11% Obscuration

30/07/2018: 65.17% Obscuration

Daily average for 27/07/2018: 31.24

A55: Morfa Main Stack

Permitted limit is 20% obscuration (Ringelmann 1) over a maximum of 30 minutes in any day, expressed as a weekly mean value

The Ringelmann Smoke Chart (BS 2742) is used to measure the smoke density or opacity (obscuration) of stack emissions. The method allows visual comparison of emissions against a five-step graduated chart with progressively darker shades of grey between white and black. The method has limitations in that it relies on empirical measurements, the judgement of the observer and can be influenced by variations in physical conditions e.g. weather. Therefore, there is inherent uncertainty (which is difficult to quantify) when obtaining measurements using Ringelmann.

Schedule 5 Part A operator comment:

Due to reduced Blast Furnace availability there was a reduction in Blast Furnace gas which resulted in increased Coke Oven gas being used in the batteries underfiring system.

Adjustments have been made to the Battery draughts and pressures to try to offset the higher CV of the Coke Oven gas.

Schedule 5 Part B operator comment:

Due to reduced Blast Furnace availability there was a reduction in Blast Furnace gas which resulted in increased Coke Oven gas being used in the batteries under firing system.

During the period between 25/07/18 and 30/07/18 there was a large number of walls being under-

fired on Coke Oven Gas under-firing conditions. The waste gas drafts were checked on these walls, then after carrying out waste gas analysis and visually checking individual heating flues on these walls, it was evident that there was “flooding” of rich gas across most walls and flues, all contributing to smoke in the heating flues leading to high smoke density readings. To combat this issue the following actions have been carried out: Both (Battery 1 & 2) stack draught settings increased from 4.35 mbar to 5 mbar, both Battery 1 & 2 Coke Oven Gas main controllers closed to reduce the side main pressure to approx. 20 mbar, and finally the Finger bars in both the Gas side and Air side on all Battery 1 Air-intake boxes have been adjusted to allow more air flow.

During the period between 26/10/18 and 30/10/18, again there was a high number of walls being under-fired on Coke Oven Gas under-firing conditions. Coke Oven Gas was found to be “burning” in the Bus flue of No 64 heating wall, which was contributing to the high smoke density readings. The heating wall was changed back to Blast Furnace Gas under-firing conditions, prior to be taken out of service for a Regenerator repair.

Although the operator has provided an explanation for this exceedance and a description of the measures taken to prevent a recurrence, in our opinion the results initially notified to NRW (Schedule 5 Part A) do not provide a reliable indicator of compliance against the weekly mean limit. We have therefore compared these notified results against the associated monitoring return submitted for this emission point in October 2018 (Morfa Q3 returns 2018), which is reproduced below:

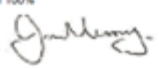
RELEASES INTO AIR

Operational summary for the month: **July-18**

Operator: Tata Steel UK Ltd Release Point: A55
Location: Port Talbot Works Permit: BL7106/AP3330BE

Obscuration (%)	Day																															Month																			
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean																			
Daily Mean	13.1	14.2	14.9	10.5	11.2	12.8	16.6	16.6	15.9	17.3	22.2	22.0	23.2	16.9	14.5	13.9	16.0	10.8	18.9	14.5	17.6	16.3	18.7	23.5	26.3	29.2	30.1	36.1	32.7	31.8	25.0	19.6																			
Weekly Mean Limit ±25%	10.2										14.0										18.6										16.1										30.5										
Max Hourly	34	27	21	21	19	20	18	26	22	27	38	36	32	23	21	18	25	25	29	20	23	22	30	31	6	33	49	37	55	55	46																				
Time greater than R1 (mins)	56	104	85	17	78	60	10	85	103	89	435	475	597	70	48	31	112	62	254	49	98	60	160	478	1051	1026	1161	1329	1149	940	0	Total 10274																			

Ringelmann 1 (R1) equivalent to smoke opacity of 25%
Ringelmann 2 (R2) equivalent to smoke opacity of 50%
Ringelmann 3 (R3) equivalent to smoke opacity of 75%
Ringelmann 4 (R4) equivalent to smoke opacity of 100%

Signed on behalf of the Operator: 
Dated: 14-Sep-2018

Form Coke CEMS Smoke

The relevant results, emission limit, monitoring period and reference period have been highlighted within the above reproduction of the submitted return. The submission shows that the weekly mean value for the period 24 – 30 July 2018 was 30.5%, which exceeds the permitted emission limit. We have used this value to assess compliance.

NRW understands that Ringelmann 1 corresponds to 20% obscuration according to the five-step scale outlined in the current published version of BS 2742 (2009).

The exceedance for smoke obscuration (Ringelmann 1) recorded at A55 on 30/07/2019 is non-compliant with the permit limit and Condition 3.1.2. **One CCS Category 4 score** has been recorded in response to this non-compliance.

The monitoring and reporting arrangements for visible smoke obscuration at emission point A55 need to be discussed and clarified with the operator. Table S3.1 of the installation permit and Form Coke CEMS Smoke may also require updating to ensure this emission limit and monitoring standard is accurately and correctly reflected in the permit.

Summary and actions required

Permit compliance

Natural Resources Wales (NRW) has consolidated permit compliance scores within this calendar quarter where appropriate and in line with our Compliance Classification Scheme (CCS).

Our assessment of notifications received during Quarter 3 2018 has concluded **four CCS Category 3 breaches** and **one CCS Category 4 breach** of the operator's permit conditions have occurred in response to notified exceedances of permitted emission limit values (ELVs) at the following emission points:

- A1 Sinter Plant Main Stack (particulates)
- A2 Sinter Plant Secondary De-dust (particulates)
- A54 Morfa Coke Oven Batteries (TLCF & Charging)
- A55 Morfa Main Stack (visible smoke obscuration)

The EC Industrial Emissions Directive (IED) introduces a stricter environmental compliance regime for Tata Steel's operations at Port Talbot and reflects a wider effort to improve the environmental performance of industry across Europe. NRW has a duty to enforce these new emission limits (BAT-AELs and BAT-AEPLs) in Wales, but we remain committed to working with Tata Steel to improve the environmental performance of Port Talbot steelworks.

Emission points A1 & A54

On 18 July 2018, NRW issued two EPR Regulation 61 (Statutory) Information Notices to Tata Steel UK Ltd in response to persistent emission limit breaches at the following permitted emission points:

- A1 Sinter Plant Main Stack (particulates)
- A54 Morfa Coke Oven Batteries (DLCF, TLCF & Charging)

Tata Steel UK Ltd responded to both Information Notices on 18 August 2018. The company has supplied two improvement plans (with timescales) which outline a pathway towards sustained compliance with the relevant emission limits. Progress against both plans has been captured and recorded in subsequent inspection reports during 2018-19.

NRW will be issuing a formal **Warning Letter** in response to these persistent emission limit breaches (permit non-compliances) at A1 and A54. We expect Tata Steel to adhere to the improvement plans and the timescales outlined in its response(s) dated 18 August 2018. If there is slippage or unjustified deviation from these plans, or we detect any sustained deterioration in emissions at A1 or A54, additional CCS scores will be applied, and further enforcement action considered in line with NRW's published Enforcement & Prosecution Policy.

Emission points A2 & A55

This CAR form includes a **Warning** in response to the CCS3 breach identified at emission point A2 and the CCS4 breach identified at emission point A55.

Derogated emission limits

From Quarter 3 2018 onwards, the derogated emission limit value (ELV) for particulates at A2 is 50.00mg/m3. This derogated limit applies until 31 October 2020.

Verified exceedances of the derogated ELV at A2 should be notified in accordance with the basic permit requirements i.e. within 24 hours of detection.

Areas requiring further attention/action

The monitoring and reporting arrangements for visible smoke obscuration at emission point A55 (Morfa Main Stack) need to be discussed and clarified with the operator. Table S3.1 of the installation permit and Form Coke CEMS Smoke may also require updating to ensure this emission limit and monitoring standard is accurately and correctly reflected in the permit.

[END OF SECTION 2]

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0033267**

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

Site	Port Talbot Steel Works	Permit Ref	BL7108IM
Operator/Permit holder	Tata Steel UK Limited	Date	30/09/2018

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.

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.

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			
E1	C3	EPR Regulation 61 Statutory Information Notice served 18/07/18 and complied with on 18/08/18. IGNORE ACTION DATE - not applicable	28/02/2019
E1	C4	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2019
E1	C3	EPR Regulation 61 Statutory Information Notice served 18/07/18 and complied with on 18/08/18. IGNORE ACTION DATE - not applicable	28/02/2019
E1	C3	EPR Regulation 61 Statutory Information Notice served 18/07/18 and complied with on 18/08/18. IGNORE ACTION DATE - not applicable	28/02/2019
E1	C3	Bring permitted operations back into compliance with (derogated) ELV. IGNORE ACTION DATE - not applicable	28/02/2019
G1	X	The monitoring and reporting arrangements for visible smoke obscuration at emission point A55 need to be discussed and clarified with the operator. Table S3.1 of the installation permit and Form Coke CEMS Smoke may also require updating to ensure this emission limit and monitoring standard is accurately and correctly reflected in the permit.	31/12/2019

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 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 fifteen 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.