Cyfoeth Naturiol Cymru Natural Resources Wales

Compliance Assessment Report

Report ID: CAR_NRW0031359

This form will report compliance with your permit as determined by an NRW officer					
Site	Port Talbot Steel Works EPR/BL7108IM	Permit Ref	BL7108IM		
Operator/Permit holder	Tata Steel UK Limited				
Regime	Installations				
Date of assessment	31/03/2017	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/ Lead Environmental Engineer	Date issued	08/03/2018		

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 - Suspended	3.1.2 Emissions to air
	C3 - Suspended	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
E3 - Emissions - Surface water	C3	3.1.2 Emissions to water
	C3	3.1.2 Emissions to water
	C3	3.1.2 Emissions to water
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	A	
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	C3	4.3.1 Notification of breach of permit
	X	

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	**9**	**Total compliance score** (see section 5 for scoring scheme)	28

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 1 2017** (1 January – 31 March):

<u>Sinter Plant</u>

1. **S5N/17/07** received on 01/02/17 – A2 Sinter Plant Secondary De-dust
2. **S5N/17/12** received on 15/02/17 – A1 Sinter Plant Main Stack
3. **S5N/17/13** received on 20/02/17 – A1 Sinter Plant Main Stack
4. **S5N/17/14** received on 20/02/17 – A2 Sinter Plant Secondary De-dust
5. **S5N/17/15** received on 27/02/17 – A1 Sinter Plant Main Stack
6. **S5N/17/18** received on 13/03/17 – A1 Sinter Plant Main Stack
7. **S5N/17/19** received on 13/03/17 – A2 Sinter Plant Secondary De-dust
8. **S5N/17/22** received on 20/03/17 – A1 Sinter Plant Main Stack

9. **S5N/17/23** received on 20/03/17 – A2 Sinter Plant Secondary De-dust
10. **S5N/17/25** received on 27/03/17 – A1 Sinter Plant Main Stack
11. **S5N/17/26** received on 27/03/17 – A2 Sinter Plant Secondary De-dust
12. **S5N/17/28** received on 03/04/17 – A2 Sinter Plant Secondary De-dust

Ironmaking

1. **S5N/17/20** received on 13/03/17 – A9 No.5 Blast Furnace Cast House FEP
2. **S5N/17/21** received on 15/03/17 – No.4 Blast Furnace GCS Cooling Tower

BOS Plant

1. **S5N/17/11** received on 15/02/17 – A14 BOS Plant Secondary FEP North

Surface waters

1. **S5N/17/01** received on 04/01/17 – W1 Long Sea Outfall
2. **S5N/17/04** received on 24/01/17 – W1 Long Sea Outfall
3. **S5N/17/05** received on 30/01/17 – W1 Long Sea Outfall
4. **S5N/17/06** received on 30/01/17 – W3 Abbey Beach Outfall
5. **S5N/17/09** received on 13/02/17 – W1 Long Sea Outfall
6. **S5N/17/10** received on 15/02/17 – W1 Long Sea Outfall
7. **S5N/17/16** received on 27/02/17 – W1 Long Sea Outfall
8. **S5N/17/24** received on 27/03/17 – W1 Long Sea Outfall
9. **S5N/17/27** received on 31/03/17 – W1 Long Sea Outfall

Coke Ovens

1. **UR/17/08** received on 08/02/17 – A54 Morfa Coke Oven Batteries
2. **(no reference)** received on 01/03/17 – A54 Morfa Coke Oven Batteries
3. **UR/17/17** received on 06/03/17 – A54 Morfa Coke Oven Batteries
4. **UR/17/32** received on 06/04/17 – A54 Morfa Coke Oven Batteries

Power Plant

1. **UR/17/03** received on 20/01/17 – A50 Service Boilers 4 & 5

Compliance assessment

Sinter Plant

S5N/17/07: Schedule 1 Part A received 1 February 2017 (by email)

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

05/11/2016: 30.90mg/m3
25/11/2016: 31.30mg/m3
28/11/2016: 34.30mg/m3
29/11/2016: 32.20mg/m3
30/11/2016: 38.90mg/m3
23/12/2016: 39.00mg/m3
24/12/2016: 30.60mg/m3
27/12/2016: 30.90mg/m3
02/01/2017: 35.00mg/m3
03/01/2017: 30.90mg/m3
04/01/2017: 37.80mg/m3

05/01/2017: 37.80mg/m3
08/01/2017: 31.50mg/m3
20/01/2017: 45.80mg/m3

A2: Sinter plant secondary de-dust

Permitted limit is 30.00mg/m3 as a daily mean

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

Part A operator comment:

Current derogation expired. Extension request to be submitted.

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

Following the expiration of the derogation of the new IED limit on the 1st November 2016, there have been a number of breaches of the 30 mg/Nm3 daily particulate limit as summarised below:

05-Nov-16	30.9	26-Mar-17	41.5
25-Nov-16	31.3	27-Mar-17	57.0
28-Nov-16	34.3	17-Apr-17	35.4
29-Nov-16	32.2	18-Apr-17	53.3
30-Nov-16	38.9	19-Apr-17	34.4
23-Dec-16	39.0	22-Apr-17	45.3
24-Dec-16	30.6	23-Apr-17	42.8
27-Dec-16	33.1	25-Apr-17	37.5
02-Jan-17	35.0	26-Apr-17	31.8
03-Jan-17	30.9	27-Apr-17	35.4
04-Jan-17	37.8	28-Apr-17	45.4
05-Jan-17	37.8	29-Apr-17	52.9
08-Jan-16	31.5	30-Apr-17	41.0
20-Jan-17	45.8	01-May-17	42.0
17-Feb-17	37.0	02-May-17	45.9
18-Feb-17	30.2	03-May-17	46.5
08-Mar-17	30.8	06-May-17	54.9
14-Mar-17	54.3	07-May-17	42.0
15-Mar-17	78.7	08-May-17	42.2
16-Mar-17	101.7	09-May-17	43.7
17-Mar-17	74.3	10-May-17	39.2
18-Mar-17	79.5	11-May-17	45.6
19-Mar-17	69.5	12-May-17	48.2
20-Mar-17	70.1	13-May-17	50.1
21-Mar-17	82.6	14-May-17	52.7
22-Mar-17	85.1	18-May-17	41.8
24-Mar-17	32.1	19-May-17	33.4
25-Mar-17	62.2	21-May-17	32.6
		02-Jul-17	48.9

<u>Sinter Bed Collapse</u>
Elevations between 10th and 27th March 2017 were attributable to a collapse of the sinter bed resulting in the production of un-sintered material. Analysis indicates that the root cause was that the particle size in the sinter blend was too fine due to the inclusion of a new raw material which consists of sintering ores, pellet feed and fine concentrates. The material should have been delivered as a homogenous blend, however it was delivered as discrete layers of unblended materials which included layers of very fine particles. When these layers of fine materials entered the sinter strand, the mix could not be sintered which led to the bed collapse.

<u>ESP Equipment Integrity</u>
There were several instances of dirty monitor lenses causing high stack readings since November 2016. The high daily averages of >50 mg/Nm3 on the 18th April, 29th April and 6th May were all attributable to a dirty monitor lens. In each instance the readings significantly dropped when the

lens was cleaned.

There were also several elevations in stack particulate readings which were caused by operational issues with the denseveyor (dust return) or ESP field failures. For example, field 2 failed on the 11th May, the field was split on 12th May (to bring part of the field back into operation) and it was repaired on 15th May.

Sinter Bed Collapse Investigation
Following the learnings from the investigation, a number of improvements have been implemented or are underway including;
- The percentage of burnt lime in the sinter blend has been increased to ensure agglomeration of materials.
- A minimum particle size for the sinter blend has been integrated into the Sinter Plant's control parameters.
- A change in practice when purchasing new sinter feed materials which includes a number of improvements e.g. any spot or new material purchase should be inspected by an independent third party.

De-dust ESP Replacement CapEx Scheme
The majority of the ESP's equipment is around 40 years old and therefore will require replacement in the near future. Consequently, a continually increasing amount of money and resource is required to maintain the de-dust ESP and ensure continued operation of the ESP fields and auxiliary equipment. Significant CapEx has been allocated for this scheme of work and a derogation of the new IED limit has been applied for the de-dust stack emission point (A2) to enable time for the scheme to be completed.

We have discussed the emission limit for particulates at A2 during other compliance interventions in 2017. These interventions have also addressed Tata Steel's agreed derogation for sinter de-dust emissions and an application to extend this derogation. NRW's findings are detailed in **CAR_NRW0026923**, **CAR_NRW0031694** and **CAR_NRW0032815**.

NRW has agreed to accept a weekly written Schedule 5 notification from Tata in the event of continued breaches of the particulate daily mean ELV at A2. This is normally reported alongside any notifiable breaches of the equivalent ELV for sinter plant main stack emissions (A1).

After applying the appropriate measurement uncertainty factor to exceedances at A2 which occurred during Quarter 4 2016, all exceedances remain within the permitted limit of 30.00mg/m3. No non-compliance (CCS) scores have been applied to these events.

After applying the appropriate measurement uncertainty factor to exceedances at A2 which occurred during Quarter 1 2017, the exceedance recorded at A2 on 20/01/2017 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 notified exceedances of this ELV at A2 during Quarter 1 (January – March) 2017 under a single CCS3 score for S5N/17/07 confirmed above, in line with Annex 3 of our Compliance Classification Scheme [CCS] (version 3, 26 March 2013). The notifications for A2 which have been consolidated during Quarter 1 are listed below:

S5N/17/14 received on 20/02/17
S5N/17/19 received on 13/03/17
S5N/17/23 received on 20/03/17
S5N/17/26 received on 27/03/17
S5N/17/28 received on 03/04/17

S5N/17/12: Schedule 1 Part A received 15 February 2017 (by email)

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

04/01/2017: 40.90mg/m3
08/01/2017: 46.83mg/m3
09/01/2017: 41.57mg/m3
10/01/2017: 71.32mg/m3
13/01/2017: 64.14mg/m3
20/01/2017: 48.98mg/m3
21/01/2017: 48.26mg/m3
22/01/2017: 43.76mg/m3
23/01/2017: 48.99mg/m3
25/01/2017: 57.21mg/m3
27/01/2017: 58.14mg/m3
28/01/2017: 48.84mg/m3
31/01/2017: 53.74mg/m3
04/02/2017: 58.17mg/m3
05/02/2017: 57.31mg/m3
08/02/2017: 42.36mg/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.

Part A operator comment:

This is a new limit and this has been discussed at length with the NRW. Significant project work has been completed and planned ahead in order to comply with this limit and a plan will be submitted to the NRW in due course.

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

Extensive modifications have taken place on the sinter main in order to comply with the new IED emission limit values which changed in March 2016 from 115 mg/Nm3 to 40 mg/Nm3 as a daily mean. In order to attempt to achieve this it has been necessary to secure capital to refurbish the wind main and carry out up-grades on the Electrostatic Precipitators over the last 2 years totalling nearly £10 million.

The wind main integrity was found to be compromised therefore a programme of repairs and refurbishment has been implemented since 2016. Key repairs have taken place including replacement and over plating during main outages or single fan operation in October 2016 and April 2017. Further repairs to the inlet ductwork of the North ESP is planned for July 2017. Total cost for this work is around £3 million.

In addition to the wind main repairs, upgrades have been carried out in the ESP's.

<u>Field's and Conveyors:</u>
Over a period of 5 weeks 2nd October to 5th November, work was carried out on the North ESP including the installation of new collector electrodes on Field 6. Following on from that the South ESP was inspected and areas of stress corrosion were addressed.

Replacement of the exit conveyors took place on the North ESP during the outage dated 26th March to 7th April 2017.

This work significantly reduces the amount of ambient air ingress into the wind main which has an adverse impact on the performance of the ESP's and costs of the work to date have been circa £3 million.

Control System Upgrades:
During to work carried out 26th March to 7th April 2017, the North ESP had fields split from 8 to 12 and a new control system was installed to allow for increased power to the ESP.

During the outage dated 24th April to the 5th May, work was carried out on the South ESP where the fields were split from 8 to 16 and the new control system was commissioned to allow for increased power to the South ESP.

This work is enabling work to increase the dust removal efficiency of the ESP's at a cost in the region of £3 million.

Planned System Optimisation:
The system has yet to be fully optimised and will take place in 3 stages:
- The plant is scheduled to go onto one fan operation from the 10th July where the south ESP will be optimised over a 5 day period and returned to service.
- The north will likewise be optimised over 5 days from 17th July.
- During two fan operation over a period of an estimated 4 weeks commencing 24th July there will be a total system optimisation with a view of final confirmation of system parameters during August 2017 with a plan to sign off with the OEM during September 2017.

We have discussed the emission limit for particulates at A1 during other compliance interventions in 2017. NRW's findings are detailed in **CAR_NRW0026923**, **CAR_NRW0031694** and **CAR_NRW0032815**.

NRW has agreed to accept a weekly written Schedule 5 notification from Tata in the event of continued breaches of the particulate daily mean ELV at A1. This is normally reported alongside any notifiable breaches of the equivalent ELV for sinter plant secondary de-dust emissions (A2).

After applying the appropriate measurement uncertainty factor, the exceedance recorded at A1 on 10/01/2017 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 notified exceedances of this ELV at A1 during Quarter 1 (January – March) 2017 under a single CCS3 score for S5N/17/12 confirmed above, in line with Annex 3 of our Compliance Classification Scheme [CCS] (version 3, 26 March 2013). The notifications for A1 which have been consolidated during Quarter 1 are listed below:

S5N/17/13 received on 20/02/17
S5N/17/15 received on 27/02/17
S5N/17/18 received on 13/03/17
S5N/17/22 received on 20/03/17
S5N/17/25 received on 27/04/17

Ironmaking

S5N/17/20: Schedule 5 Part A received 13 March 2017 (by email)

11/03/2017: 15.20mg/m3

A9: No.5 Blast Furnace Cast House FEP

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 result.

Part A operator comment:

To be investigated.

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

On investigation it was discovered issues with a small number of compartments in the bag filter plant which caused the breach.

There is an improvement plan in place to return the Fume Extraction Plant back To OEM Performance. This will ensure maximum extraction with minimum emissions. This includes, but is not limited to:
- New software and control for pulsing
- Staged and continuous bag replacement as a preventative measure
- Replacement of dampers (scheduled 2018)
- Replacement of hoods and repairs to ducting
- New compressor

Most of this work has already been completed and is tracked in the monthly operations meeting.

We have discussed the performance of the Cast House FEPs during other compliance interventions in 2017. NRW's findings are detailed in **CAR_NRW0032993** and **CAR_NRW0032996**.

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

S5N/17/21: Schedule 5 Part A received 15 March 2017 (by email)

Potential unpermitted discharge (via misconnection) into DCWW main sewer

Start time: on or before 15/03/2017

No.4 Blast Furnace Gas Cleaning System (GCS) Cooling Tower

No emission limit values (ELVs) apply to emissions/releases at this location

Part A operator comment:

No limit assigned. However, following dialogue with Dwr Cymru/Welsh Water (DCWW) there is a suspicion of a potential miss-connection into DCWW's assets. Test carried out previously were inconclusive, but a dye test carried out today (15th March 2017) proved a positive link between the discharge of Blast Furnace 4 Gas Wash Cooling Tower and the Afan Treatment works. Tata does not hold authorisation to discharge to sewer so is a breach of a permit condition.

There will be a plan established to identify the exact pathway from the cooling tower and sewer network and once established a plan to rectify the issue.

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

Following the confirmation by dye testing of the miss-connection into the DCWW network from the Blast Furnace 4 cooling tower blow-down, Tata Steel's civil department carried out some investigations around the foul sewer and process drain lines in the vicinity of the cooling tower. The lines run parallel to each other several metres north of the cooling tower and both run in a

westerly direction towards DCWW's pumping station when the Tata process drain changes direction to a southerly direction to discharge into Tata Steel's sump number 2 and then onto the internal effluent system.

The investigation checked two chambers located next to each other just a few metres north east of the cooling tower in the parallel section of foul water system and process drain system had been compromised allowing process drainage to overflow into the foul system and then onto the DCWW treatment works. It is not known when this occurred or the reasons why. This issue was shown to DCWW when they visited Tata to assist in its investigations. It can be confirmed that Tata have repaired the chambers on 10th May and have informed DCWW. Tata and DCWW are to carry out further joint CCTV exercises to check for any further potential connections in the next few weeks.

We have discussed this issue with Tata Steel during a separate compliance intervention in 2017. NRW's findings are detailed in **CAR_NRW0026923**.

NRW is aware of potential discharges entering the main sewer that crosses the steelworks via Abbey Sewage Pumping Station (SPS) towards Afan Wastewater Treatment Works (WWTW). Abbey SPS and Afan WWTW are operated by Dwr Cymru Welsh Water (DCWW). We are also aware of elevated zinc levels being reported in the sewage entering Afan WWTW. The content of notification S5N/17/21 indicates a misconnection between Tata Steel and DCWW's main sewer network.

Once the CCTV survey exercises have been completed and Tata Steel is able to present its conclusions, NRW will inspect the steelworks to review the root cause of this issue and assess permit compliance. Tata Steel should update the Part B notification accordingly and submit this to NRW before our inspection takes place.

<u>BOS Plant</u>

S5N/17/11: Schedule 5 Part A received 15 February 2017 (by email)

Daily mean (average) for particulates recorded at emission point A14:

28/12/2016: 15.16mg/m3
05/01/2017: 15.85mg/m3
02/02/2017: 15.23mg/m3
06/02/2017: 15.64mg/m3
07/02/2017: 17.75mg/m3

A14: BOS Plant Secondary FEP North

Permitted limit is 15.00mg/m3 as a daily mean

The operator has specified that a measurement uncertainty factor of +/- 6.1% should be applied to the reported results.

Part A operator comment:

Investigation to be carried out.

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

Following the investigation it was concluded that the cause for exceeding the average daily limits is due to the filtration bags being at end of life. A full filtration bag change is scheduled in for August / September 2017. Costs estimated to be £500,000

We have discussed the emission limits at A14 during a separate compliance intervention in 2017.

NRW's findings are detailed in **CAR_NRW0032745**.

After applying the appropriate measurement uncertainty factor, the exceedance recorded at A14 on 07/02/2017 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.

Surface waters

S5N/17/01: Schedule 5 Part A received 04 January 2017 (by email)

Weekly average for total hydrocarbons recorded at emission point W1:

25/12/2016 – 31/12/2016: 7.40mg/l

W1: Long Sea Outfall

Permitted limit for discharge is 5.00mg/litre

The operator has specified that a measurement uncertainty factor of +/- 1.00mg/l should be applied to the reported result.

Part A operator comment:

To be investigated

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

As a result of the oil breach being recorded over (7.4mg/m3) over the weekly average. It was not possible to request additional samples to further investigate the breach due to time elapsed since the breach.

Based on analysis of internal laboratory data of sump samples taken across site, a review of the operations at the time and meteorological data, evidence suggests the major contributor was the Morfa Coke Ovens, with a contribution from the BOS plant. This investigation finding does not exclude that there were contributions from other areas of site.

Improvement strategies that have been put in place include;
- Improvement in the monitoring and control of the Morfa BET plant to avoid contaminants reaching the final effluent sump
- Effluent flash report delivered to works areas weekly to share laboratory analysis of individual works areas wastewater streams and opportunities for improvement
- Training and awareness building with works areas and contractors

NRW has already applied a consolidated compliance score for associated breaches of the ELV for hydrocarbons at W1 during Quarter 4 2016. The score is recorded in **CAR_NRW0027094**.

S5N/17/04: Schedule 5 Part A received 24 January 2017 (by email)

Weekly average for total hydrocarbons recorded at emission point W1:

15/01/2017 – 21/01/2017: 6.94mg/l

W1: Long Sea Outfall

Permitted limit for discharge is 5.00mg/litre

The operator has specified that a measurement uncertainty factor of +/- 1.00mg/l should be applied to the reported result.

Part A operator comment:

To be investigated meeting to be held on Thursday the 26th Jan.

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

As a result of the oil breach being recorded over the weekly average. It was not possible to request additional samples to further investigate the breach due to time elapsed since the breach.

Based on analysis of internal laboratory data of sump samples taken across site, a review of the operations at the time and meteorological data, evidence suggests the major contributor was unscheduled maintenance of spray heads being undertaken in the Concast, with a contribution from the BOS plant. This investigation finding does not exclude that there were contributions from other areas of site.

Improvement strategies that have been put in place include;
- Improvement in the monitoring cleaning and maintenance of the spray heads to avoid contaminants reaching the final effluent sump
- Effluent flash report delivered to works areas weekly to share laboratory analysis of individual works areas wastewater streams and opportunities for improvement
- Training and awareness building with works areas and contractors

After applying the appropriate measurement uncertainty factor, the exceedance recorded at W1 on 21/01/2017 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 notified exceedances of this ELV at W1 during Quarter 1 (January – March) 2017 under one CCS3 score for S5N/17/04 confirmed above, in line with Annex 3 of our Compliance Classification Scheme [CCS] (version 3, 26 March 2013). The notifications for W1 which have been consolidated are listed below:

S5N/17/05 received on 30/01/17
S5N/17/24 received on 27/03/17

S5N/17/06: Schedule 5 Part A received 30 January 2017 (by email)

Weekly average for oil and grease recorded at emission point W3:

22/01/2017 – 28/01/2017: 22.35mg/l

W3: Abbey Beach Outfall

Permitted limit for discharge is 20.00mg/litre

The operator has specified that a measurement uncertainty factor of +/- 1.00mg/l should be applied to the reported result.

Part A operator comment:

To be investigated meeting to be held on Tuesday the 31st Jan.

NRW awaits further information from the operator (Schedule 5 Part B notification).

After applying the appropriate measurement uncertainty factor, the exceedance recorded at W1 on 28/01/2017 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.

S5N/17/09: Schedule 5 Part A received 13 February 2017 (by email)

Weekly average for thiocyanate recorded at emission point W1:

05/02/2017 – 11/02/2017: 4.96mg/l

W1: Long Sea Outfall

Permitted limit for discharge is 4.00mg/litre

The operator has specified that a measurement uncertainty factor of +/- 1.00mg/l should be applied to the reported result.

Part A operator comment:

Investigation to take place.

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

The concentration of the pollutants above in the effluent feed to the Coke Ovens Biological Effluent Treatment (BET) Plant was within the normal range during the weeks in question. However, the organisms in the Aerator of the Plant which break down the pollutants became dormant following the introduction of strong liquor which was necessary during Ammonia Plant maintenance.

Strong liquor was directed away from the BET Plant following the completion of the Ammonia Plant maintenance period.

After applying the appropriate measurement uncertainty factor, this marginal exceedance remains within the permitted limit of 4.00mg/l. No non-compliance (CCS) score has been applied to this event.

S5N/17/10: Schedule 5 Part A received 15 February 2017 (by email)

Weekly average for suspended solids recorded at emission point W1:

30/10/2016 – 05/11/2016: 32.90mg/l
06/11/2016 – 12/11/2016: 50.60mg/l
13/11/2016 – 19/11/2016: 89.70mg/l
20/11/2016 – 26/11/2016: 71.70mg/l
27/11/2016 – 03/12/2016: 74.90mg/l
04/12/2016 – 10/12/2016: 59.70mg/l
11/12/2016 – 17/12/2016: 64.60mg/l
18/12/2016 – 24/12/2016: 57.70mg/l
25/12/2016 – 31/12/2016: 63.40mg/l
01/01/2017 – 07/01/2017: 54.60mg/l
08/01/2017 – 14/01/2017: 72.90mg/l
15/01/2017 – 21/01/2017: 54.00mg/l
22/01/2017 – 28/01/2017: 79.10mg/l

S5N/17/16: Schedule 5 Part A received 27 February 2017 (by email)

Weekly average for suspended solids recorded at emission point W1:

29/01/2017 – 04/02/2016: 61.14mg/l
05/02/2017 – 11/02/2017: 30.86mg/l
12/02/2017 – 18/02/2017: 31.70mg/l

19/02/2017 – 25/02/2017: 40.00mg/l

W1: Long Sea Outfall

Permitted limit for discharge is no more than 20mg/litre above background concentration at emission point W9

The operator has specified that a measurement uncertainty factor of +/- 1.00mg/l should be applied to the reported results.

NRW has agreed to accept a monthly written Schedule 5 notification from Tata in the event of continued breaches of the suspended solids weekly average ELV at W1.

Part A operator comment:

This is a new limit and this has been discussed at length with the NRW. Awaiting confirmation once NRW develops its position on emission limits for certain water pollutants.

NRW has not received any Schedule 5 Part B information from the operator for these exceedances. We have however discussed the ELV for suspended solids at W1 during other compliance interventions in 2016 and 2017. During these interventions, relevant information that would normally be included in a Part B was supplied by Tata. NRW's findings are detailed in **CAR_NRW0031159**.

NRW is also assessing an application from Tata Steel to derogate against the permitted limit for suspended solids at emission point W1. This application is being considered as part of permit variation V016. NRW's decision will be communicated to Tata Steel and placed on the public register at the end of the determination period.

At a higher level NRW is considering how it applies emission limits for certain water pollutants in environmental permits and it is considering its position on Biological Oxygen Demand (BOD) and suspended solids monitoring requirements for discharges into the sea. Further information will be cascaded to Tata Steel as NRW develops its position. In the meantime, these exceedances at W1 will not be scored as non-compliant.

S5N/17/27: Schedule 5 Part A received 31 March 2017 (by email)

Weekly average for polycyclic aromatic hydrocarbons (PAHs) recorded at emission point W1:

05/03/2017 – 11/03/2017: 0.0636mg/l

W1: Long Sea Outfall

Permitted limit for discharge is 0.05mg/litre

The operator has specified that the following measurement uncertainty factors for individual PAH compounds are associated with the reported result:

Substance	Uncertainty (%)
Fluoranthene	3.89
Benzo [b] fluoranthene	6.95
Benzo [k] fluoranthene	3.77
Benzo [a] pyrene	4.32
Indeno [1,2,3-cd] pyrene	4.78
Benzo [g,h,i] perylene	2.89

We have applied the uncertainty factor for benzo-[a]-pyrene (B[a]P) to the measured result. B[a]P is internationally recognised as a 'marker' compound for PAHs in the environment.

Part A operator comment:

Investigation ongoing

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

The concentration of the pollutants above in the effluent feed to the Coke Ovens Biological Effluent Treatment (BET) Plant was within the normal range during the weeks in question. However, the organisms in the Aerator of the Plant which break down the pollutants became dormant following the introduction of strong liquor which was necessary during Ammonia Plant maintenance.

Strong liquor was directed away from the BET Plant following the completion of the Ammonia Plant maintenance period.

After applying the appropriate measurement uncertainty factor, the exceedance recorded at W1 on 11/03/2017 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.

Coke Ovens

UR/17/08: Schedule 1 Part A received 8 February 2017 (by email)

Monthly mean (average) Door Leakage Control Factor (DLCF) and Top Leakage Control Factor (TLCF) recorded at emission point A54:

January 2017: 88.74% (Doors)
January 2017: 94.61% (Tops)

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%)

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.

Part A operator comment:

This is a new limit and this has been discussed at length with the NRW. Significant project work has been completed and planned ahead in order to comply with this limit and a plan will be submitted to the NRW in due course.

The operator has subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

Improvement work has been on-going to meet the targets and regular meetings held with the NRW to give updates on progress.

The tops emissions will improve following replacement of ascension pipes. In total for 2016/17, there were 41 pipes changed. This work has accelerated and so far 41 pipes have been changed since Apr 2017 i.e. same number of pipes changed in 5 months of this year so far compared to 12 months the previous year/

The spigots on the battery tops are sealed with bitumen to stop the spigot from gassing.

Tata has trialled a recycled bitumen of two ovens and the results have concluded an improved performance on preventing gassing of the spigot. This trial is on-going

The contract for jetting of spigots has been changed resulting in an improved response. This new contract improves maintenance for spigot control. The results of these trials will be communicated to the NRW on the monthly update visits.

Door emissions: Options are being appraised to improve the door cleaning contract.

Coke oven life extension will replace door frames and doors to and will improve door emissions.

The results of these works will be communicated to the NRW on the monthly update visits.

We have discussed the introduction of the new DLCF and TLCF limits at A54 during other compliance interventions in 2017. During these interventions, relevant information that would normally be included in a Part B was supplied by Tata. NRW's findings are detailed in **CAR_NRW0031694** and **CAR_NRW0032731**.

The exceedances for DLCF and TCLF recorded at A54 during January 2017 are non-compliant with the permit limits and Condition 3.1.2. The operator has submitted a compliance plan to NRW outlining how it will improve operations and infrastructure at Morfa Coke Ovens and bring emissions back into compliance with the permit. NRW has accepted this compliance plan and we have therefore **suspended two CCS Category 3 scores** recorded in response to this non-compliance. This approach and timescales for compliance are discussed below.

We have assessed and consolidated all notified exceedances of these ELVs at A54 during Quarter 1 (January – March) 2017 under two suspended CCS3 scores for UR/17/08 confirmed above, in line with Annex 3 of our Compliance Classification Scheme [CCS] (version 3, 26 March 2013). The notifications for A54 which have been consolidated are listed below:

UR/17/17 received on 06/03/17
UR/17/32 received on 06/04/17

Power Plant

UR/17/03: Schedule 1 Part A received 20 January 2017 (by email)

Monthly mean (average) for particulates recorded at emission point A50:

August 2016: 34.50mg/m3

A50: Service Boilers 4 & 5

Permitted limit is 20.00mg/m3 as a monthly mean

The operator has not specified a measurement uncertainty factor, therefore the default value of +/- 30% for particulate measurements has been applied to the reported result.

Part A operator comment:

The ELV in the permit was changed from 40mg/m3 to 20mg/m3 during the change from variation 14 to variation 15. This was not detected and discussions with the NRW indicate the change is an administrative error. However, on advice from the NRW a notification is being submitted

The operator subsequently provided a Schedule 5 Part B notification containing the following additional information and representations:

The service boilers were being fired on a back-up fuel (HFO) at the time so particulate levels were elevated from normal and the boilers were running at abnormal conditions

However, it has also been noted that the particulate ELV has changed when the permit was varied from V014 to V015 from 40 mg/m3 to 20 mg/m3. As this was not communicated to Tata, we consider this as an administrative error during the permit review and request the original consent to be re-instated.

In addition, the backup fuel of the Service Boilers has now been changed from HFO to natural gas, so particulate levels will be reduced.

NRW has assessed this issue as part of the annual verification of Tata Steel's Large Combustion Plant (LCP) returns for the UK Transitional National Plan (TNP). Our findings have been recorded in **CAR_NRW0032918**.

Essentially, the particulate ELV for the Service Boilers was incorrectly set at 20.00 mg/m3 in the last permit variation (V015). It will revert to the previous ELV (40.00 mg/m3) in the latest variation (V016) which is currently being determined. In the meantime, Tata Steel needs to inform NRW about any indicative breach of the 20.00 mg/m3 ELV (email is acceptable) and formally notify NRW if emissions exceed 40.00mg/m3 (Schedule 5 Part A). NRW will not score any breaches which remain under 40.00mg/m3 once the 95% confidence interval has been removed.

Compliance plans

The operator has voluntarily submitted the following compliance plans to NRW in relation to breaches of the permitted ELVs at the Coke Ovens:

Coke Oven Doors plan – submitted 01/08/2016
Coke Oven Tops plan – submitted 01/08/2016

The submitted Coke Ovens Doors plan outlines the steps Tata will take to achieve compliance with the relevant ELV (DLCF) at emission point A54.

The submitted Coke Ovens Tops plan outlines the steps Tata will take to achieve compliance with the relevant ELV (TLCF) at emission point A54.

NRW can **suspend** CCS scores for ELV breaches associated with the above emission points for a maximum of **6 months** while an operator is working towards compliance (see Principle 5 and Annex 4 of our Compliance Classification Scheme [CCS] (version 3, 26 March 2013). Where a non-compliance is so complex that it requires longer than six months to rectify then we shall recommence active scoring after six months to reflect our ongoing effort at the site.

We have decided to **suspend** compliance scores for ELV breaches during Quarter 1 2017 at emission point **A54 (DLCF and TLCF).** The compliance situation for Coke Ovens doors and tops

has since been reviewed by NRW – see **CAR_NRW0031453**.

Late notifications

- **S5N/17/07** received on 01/02/17 – A2 Sinter Plant Secondary De-dust
- **S5N/17/10** received on 15/02/17 – W1 Long Sea Outfall
- **S5N/17/11** received on 15/02/17 – A14 BOS Plant Secondary FEP North
- **S5N/17/12** received on 15/02/17 – A1 Sinter Plant Main Stack
- **(no reference)** received on 01/03/17 – A54 Morfa Coke Oven Batteries

The ELV exceedances (breaches) in these five notifications occurred at least one month before they were notified to NRW. The operator has not informed NRW about these breaches promptly enough and therefore has not complied with the requirements of Condition 4.3.1(b). **One consolidated CCS Category 3 score** has been recorded in response to this non-compliance.

Since we were notified about these permit breaches, the operator has put measures in place to ensure this situation does not happen again. No further non-compliances with Condition 4.3.1(b) during 2017 have been identified by NRW.

- **(no reference)** received on 01/03/17 – A54 Morfa Coke Oven Batteries

This late notification refers to exceedances of the monthly DLCF and TLCF BAT-AEPLs at emission point A54 for May 2016 (Quarter 2 2016). NRW has already applied a consolidated compliance score for breaches at A54 during this period. The score is recorded in **CAR_NRW0027092**.

Summary and actions required

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 1 2017 has concluded **six CCS Category 3 breaches** 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)
- A14 BOS Plant Secondary FEP North (particulates)
- W1 Long Sea Outfall (total hydrocarbons)
- W1 Long Sea Outfall (PAHs)
- W3 Abbey Beach Outfall (oil & grease)

Five exceedances occurred at least one month before they were notified to NRW. The operator has not informed NRW about these breaches promptly enough and therefore **one CCS Category 3 breach** has been recorded in response to this non-compliance. Tata Steel has since put measures in place to ensure this situation does not happen again and no further similar non-compliances during 2017 have been identified by NRW.

A **Warning** has been issued to the operator in response to the **seven CCS3 breaches** identified in this CAR form.

Following submission of compliance plans to NRW on 01/08/16, we have decided to **suspend two additional CCS Category 3 compliance scores** for ELV breaches during Quarter 1 2017 at emission point **A54 (DLCF and TLCF).** The compliance situation for Coke Ovens doors and tops has since been reviewed by NRW – see **CAR_NRW0031453**.

It is recognised that the impact of the EC Industrial Emissions Directive (IED) and the introduction

of new, tighter BAT-AELs for Sinter plant and BOS plant point source emissions has resulted in increased breaches of daily mean ELVs for particulates. Morfa Coke Ovens faces a similar challenge to consistently meet the prescribed BAT-AEPLs for fugitive emissions from coke oven battery doors and tops.

The 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 in Wales but we remain committed to working with Tata Steel to improve the environmental performance of Port Talbot steelworks.

Weekly notifications have been agreed with Tata Steel for any exceedances of the ELVs at A1, A2 and A14 (particulates daily mean). Monthly notifications have been agreed for any exceedances at W1 (suspended solids weekly average).

Our findings in respect of the ELV exceedance for particulates at emission point A50 (Service Boilers 4 & 5) have been recorded in **CAR_NRW0032918**. No CCS score has been applied to the exceedance identified in this report.

NRW will inspect the steelworks to review the root cause of the issue identified in **S5N/17/21** (BF4 GCS Cooling Tower sewer misconnection) and assess permit compliance. Tata Steel should update the Part B notification accordingly and submit this to NRW before our inspection takes place.

Further information will be cascaded to Tata Steel during 2018 as NRW develops its position on suspended solids discharges into the sea. NRW is also assessing an application from Tata Steel to derogate against the permitted limit for suspended solids at emission point W1. NRW's decision will be communicated to Tata Steel and placed on the public register at the end of the determination period for permit variation V016.

[ENDS]

Cyfoeth Naturiol Cymru Natural Resources Wales	**EPR Compliance Assessment Report**	**Report ID: CAR_NRW0031359**

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

Site	Port Talbot Steel Works EPR/BL7108IM	Permit Ref	BL7108IM
Operator/Permit holder	Tata Steel UK Limited	Date	31/03/2017

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			
E3	C3	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2018
E1	C3	Compliance Plan submitted: score suspended. IGNORE ACTION DATE - not applicable.	28/02/2018
E1	C3	Compliance Plan submitted: score suspended. IGNORE ACTION DATE - not applicable.	28/02/2018
E1	C3	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2018
E3	C3	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2018
G4	C3	Ensure regulator is notified about permit breaches in accordance with requirements outlined in Conditions 4.3.1 and 4.3.2. IGNORE ACTION DATE - not applicable	28/02/2018
E1	C3	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2018
E1	C3	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2018
E3	C3	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2018
G4	X	Update Part B notification for S5N/17/21 and submit to NRW.	31/03/2018

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.