

Compliance Assessment Report

Report ID:
CAR_NRW0032337

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	31/12/2017	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	12/04/2018		

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	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
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	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	6	Total compliance score (see section 5 for scoring scheme)	24
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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 4 2017** (1 October – 31 December):

Sinter Plant

1. **S5N/17/112** received on 02/10/17 – A1 Sinter Plant Main Stack
2. **S5N/17/113** received on 02/10/17 – A2 Sinter Plant Secondary De-dust
3. **S5N/17/116** received on 09/10/17 – A1 Sinter Plant Main Stack
4. **S5N/17/117** received on 09/10/17 – A2 Sinter Plant Secondary De-dust
5. **S5N/17/118** received on 23/10/17 – A1 Sinter Plant Main Stack
6. **S5N/17/119** received on 23/10/17 – A2 Sinter Plant Secondary De-dust
7. **S5N/17/122** received on 30/10/17 – A1 Sinter Plant Main Stack
8. **S5N/17/123** received on 30/10/17 – A2 Sinter Plant Secondary De-dust

9. **S5N/17/125** received on 06/11/17 – A1 Sinter Plant Main Stack
10. **S5N/17/126** received on 06/11/17 – A2 Sinter Plant Secondary De-dust
11. **S5N/17/128** received on 13/11/17 – A1 Sinter Plant Main Stack
12. **S5N/17/129** received on 13/11/17 – A2 Sinter Plant Secondary De-dust
13. **S5N/17/130** received on 20/11/17 – A1 Sinter Plant Main Stack
14. **S5N/17/131** received on 20/11/17 – A2 Sinter Plant Secondary De-dust
15. **S5N/17/133** received on 28/11/17 – A1 Sinter Plant Main Stack
16. **S5N/17/135** received on 01/12/17 – A1 Sinter Plant Main Stack
17. **S5N/17/138** received on 11/12/17 – A1 Sinter Plant Main Stack
18. **S5N/17/141** received on 18/12/17 – A1 Sinter Plant Main Stack
19. **S5N/17/142** received on 18/12/17 – A2 Sinter Plant Secondary De-dust
20. **S5N/17/143** received on 02/01/18 – A1 Sinter Plant Main Stack
21. **S5N/17/144** received on 02/01/18 – A2 Sinter Plant Secondary De-dust

Ironmaking

1. **S5N/17/115** received on 02/10/17 – A5A Blast Furnace 5 bleeders
2. **S5N/17/140** received on 12/12/17 – A5A Blast Furnace 5 bleeders

Surface waters

1. **S5N/17/114** received on 02/10/17 – W1 Long Sea Outfall
2. **S5N/17/121** received on 23/10/17 – W1 Long Sea Outfall
3. **S5N/17/124** received on 01/11/17 – W1 Long Sea Outfall
4. **S5N/17/127** received on 06/11/17 – W1 Long Sea Outfall
5. **S5N/17/134** received on 29/11/17 – W1 Long Sea Outfall
6. **S5N/17/137** received on 11/12/17 – W1 Long Sea Outfall
7. **S5N/17/139** received on 11/12/17 – W3 Abbey Beach Outfall
8. **S5N/17/145** received on 08/01/18 – W1 Long Sea Outfall

Coke Ovens

1. **UR/17/132** received on 23/10/17 – A54 Morfa Coke Oven Batteries
2. **UR/17/136** received on 24/11/17 – A54 Morfa Coke Oven Batteries
3. **UR/18/02** received on 08/01/18 – A54 Morfa Coke Oven Batteries

Compliance assessment

Sinter Plant

S5N/17/112: Schedule 1 Part A received 02 October 2017 (by email)

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

25/09/2017: 42.82mg/m³
 27/09/2017: 61.85mg/m³
 28/09/2017: 64.88mg/m³
 29/09/2017: 73.64mg/m³
 30/09/2017: 58.52mg/m³
 01/10/2017: 77.50mg/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 new £1.1M ESP control system has been installed and is operational. Significant optimisation work is now required to establish the optimum system settings for plant operations, which should improve the system's performance.

- New software also needs to be installed which will allow easier operation of the system.

- There is a planned five day plant outage in July for the replacement of the final section of external wind main ducting.

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.

Field's and Conveyors:

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 01/10/2017 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 4 (October – December) 2017 under a single CCS3 score for **S5N/17/112** 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 4 are listed below:

S5N/17/116 received on 09/10/17
S5N/17/118 received on 23/10/17
S5N/17/122 received on 30/10/17
S5N/17/125 received on 06/11/17
S5N/17/128 received on 13/11/17
S5N/17/130 received on 20/11/17
S5N/17/133 received on 28/11/17
S5N/17/135 received on 01/12/17
S5N/17/138 received on 11/12/17
S5N/17/141 received on 18/12/17
S5N/17/143 received on 02/01/18

S5N/17/113: Schedule 1 Part A received 02 October 2017 (by email)

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

25/09/2017: 30.24mg/m³
26/09/2017: 42.60mg/m³
27/09/2017: 77.51mg/m³
28/09/2017: 90.04mg/m³
29/09/2017: 65.68mg/m³
30/09/2017: 41.97mg/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.

As these results were obtained during the previous calendar quarter, NRW has consolidated this notified exceedance of the particulates ELV at A2 under a single CCS3 score for **S5N/17/65**. Our assessment is recorded in **CAR_NRW0031835**.

S5N/17/117: Schedule 1 Part A received 09 October 2017 (by email)

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

02/10/2017: 30.62mg/m³
 04/10/2017: 30.22mg/m³
 05/10/2017: 30.83mg/m³
 06/10/2017: 36.63mg/m³
 08/10/2017: 31.68mg/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

Sinter Bed Collapse

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.

ESP Equipment Integrity

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, this exceedance remains within the permitted limit of 30.00mg/m³. No non-compliance (CCS) score has been applied to this event.

S5N/17/119: Schedule 1 Part A received 23 October 2017 (by email)

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

22/10/2017: 39.34mg/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.

Please see above for Schedule 5 Part A and Part B operator comments in relation to notified exceedances at A2 during Quarter 4 2017.

We have discussed the emission limit for particulates at A2 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 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, the exceedance recorded at A2 on 22/10/2017 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 4 (October – December) 2017 under a single CCS3 score for **S5N/17/119** 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 4 are listed below:

S5N/17/123 received on 30/10/17

S5N/17/126 received on 06/11/17

S5N/17/129 received on 13/11/17

S5N/17/131 received on 20/11/17

S5N/17/142 received on 18/12/17

S5N/17/144 received on 02/01/18

Ironmaking

S5N/17/115: Schedule 5 Part A received 02 October 2017 (by email).

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

01/10/2017 06:22hrs, 23:07hrs, 23:16hrs

02/10/2017 00:36hrs, 01:57hrs, 02:51hrs

A5A: Blast Furnace 5 bleeders

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

Part A operator comment:

Bleeder opening

BF5 was taken off-line in an un-planned stop for 15hrs and a further 2.5hrs. The burden descent was irregular and resulted in multiple bleeder opening.

Snort opened to reduce pressure and close bleeders

Burdened for all coke operations to recover process

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

On the 30th September blast furnace 5 was shut down to change no.29 tuyere large cooler (TLC) after it was found to have failed. The furnace was shut down for 15 hours and returned to blast at 05:15am on the 1st October but was taken off blast again at 11:15 due to the failure of no.11 down leg bagging for a further 4 hours returning to blast at 15:15. The furnace recovery from these shutdowns was difficult as regular burden descent was not achieved with high differential pressure across the burden and with a severe deterioration in the thermal condition. The disruption to the furnace process and the checking practice resulted in x7 bleeder openings and having to burden for all coke to recover the furnace process and thermal level and to regain.

Therefore the furnace thermal level was not recovered until enough of the extra cokes were through to compensate for the total loss of fuel from the two shutdowns and the checking practice. Only when the thermal level improved was regular burden descent achieved.

The liquid temperature was increased also by increasing the flame temperature by increasing the hot blast temperature and removing the process steam.

The low liquid temperatures also resulted in the poor removal of slag from the furnace and only when the thermal condition improved did slag with higher levels of alumina leave the furnace. Seven bleeder opening events occurred during the checking practice and the bleeder valves functioned correctly by opening at the correct limits to relieve furnace top pressure.

Next Steps

Update the unplanned shutdown procedure to include actions to take including burdening for a safe coke rate if there are two consecutive shutdowns before the furnace has been thermally compensated.

Update and distribute the out of control furnace process procedure to include actions for a severe thermal dip.

Change all the downleg baggings at the next available opportunity to avoid further unplanned shutdowns.

We have discussed blast furnace bleeder valve releases with Tata Steel during a separate compliance intervention in 2017. NRW's findings are detailed in **CAR_NRW0031694**. Similar compliance interventions are undertaken periodically to examine the root cause of any notifiable bleeder valve releases. This event will be scrutinised further during our next visit to the blast furnaces.

S5N/17/140: Schedule 5 Part A received 12 December 2017 (by email).

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

10/12/2017 08:50hrs, 12:40hrs, 13:20hrs, 14:20hrs, 15:25hrs

A5A: Blast Furnace 5 bleeders

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

Part A operator comment:

The Furnace was taken off-wind at 18.15 on 09/12/17 due to a power failure. After bringing the furnace back on-wind at 00:45 on 10/12/17, there was a period of instability which caused a number of bleeder openings.

Snort opened to reduce pressure and close bleeders.

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

On the 10th December x5 bleeder opening events occurred as the process deteriorated into a checking practice. The semi-clean bleeder opened for 16secs at 08:46, the north and semi-clean for 17secs at 12:43, the semi-clean for 16secs at 13:21, the semi-clean, north and south for 18secs at 14:20 and the semi-clean, north and south for 16secs at 15:29. The furnace differential pressure increased resulting in the loss of burden descent and a checking practice. During the checking practice there was a surge of blast furnace gas up the furnace walls increasing the furnace top pressure opening the bleeders releasing blast furnace gas to atmosphere. The sinter quality has been variable while operating on low fan speeds due to the fan condition with visibly un sintered raw mix material being charged to the furnace during the periods of process disruption.

The fines in the LKAB KPBO cargo are being managed by screening out the fines from the worst areas of the stock pile while reclaiming the better areas directly to the furnace. The wetter material is being managed through reclaiming the material from the drier areas of the pile and avoiding reclaiming off the floor. Investigations are still ongoing into why the sinter is not sintering properly with concerns over both the sinter blend and the operating parameters of the sinter plant since having to run with lower fan speed.

Next Steps

Continue to manage the higher fines loading through screening the material and reclaim management of the piles – Raw materials team.

Continue to investigate sinter quality issues to understand the root cause of the poor sinter – Technical team.

Speak to LKAB pellets about the high fines loading in the current cargo – Technical team.

We have discussed blast furnace bleeder valve releases with Tata Steel during a separate compliance intervention in 2017. NRW's findings are detailed in **CAR_NRW0031694**. Similar compliance interventions are undertaken periodically to examine the root cause of any notifiable bleeder valve releases. This event will be scrutinised further during our next visit to the blast furnaces.

Surface waters

S5N/17/114: Schedule 5 Part A received 02 October 2017 (by email)

Weekly average for suspended solids recorded at emission point W1:

27/08/2017 – 02/09/2017: 29.71mg/l

03/09/2017 – 09/09/2017: 25.71mg/l

10/09/2017 – 16/09/2017: 36.86mg/l

17/09/2017 – 23/09/2017: 29.14mg/l

24/09/2017 – 30/09/2017: 54.60mg/l

S5N/17/124: Schedule 5 Part A received 01 November 2017 (by email)

Weekly average for suspended solids recorded at emission point W1:

01/10/2017 – 07/10/2017: 33.43mg/l

08/10/2017 – 14/10/2017: 76.30mg/l

15/10/2017 – 21/10/2017: 58.00mg/l

22/10/2017 – 28/10/2017: 37.70mg/l

S5N/17/137: Schedule 5 Part A received 11 December 2017 (by email)

Weekly average for suspended solids recorded at emission point W1:

29/10/2017 – 04/11/2017: 32.00mg/l

05/11/2017 – 11/11/2017: 75.40mg/l

12/11/2017 – 18/11/2017: 110.60mg/l

19/11/2017 – 25/11/2017: 33.10mg/l

S5N/17/145: Schedule 5 Part A received 08 January 2018 (by email)

Weekly average for suspended solids recorded at emission point W1:

26/11/2017 – 02/12/2017: 60.00mg/l

03/12/2017 – 09/12/2017: 33.71mg/l

10/12/2017 – 16/12/2017: 25.14mg/l

17/12/2017 – 23/12/2017: 34.00mg/l

24/12/2017 – 30/12/2017: 28.30mg/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/17/121: Schedule 1 Part A received 23 October 2017 (by email)

Weekly average for total inorganic nitrogen recorded at emission point W1:

03/09/2017 – 09/09/2017: 71.40mg/l

10/09/2017 – 16/09/2017: 70.20mg/l

17/09/2017 – 23/09/2017: 57.90mg/l

W1: Long Sea Outfall

Permitted limit for discharge is 50.00mg/litre

The operator has specified that the following measurement uncertainty factors for the constituent compounds of total inorganic nitrogen are associated with the reported result:

Substance	Uncertainty (+/-)
Nitrate (NO-3)	0.1mg/l
Nitrite (NO-2)	0.05mg/l
Ammonia (NH3)	0.056mg/l

We have applied the uncertainty factor for nitrate (NO-3) to the measured result. The proportions of [ammonia to nitrite to nitrate] within the effluent generated by Tata Steel and discharged at W1 are not known. The on-site effluent treatment plant utilises biological treatment, therefore it is assumed that nitrification of ammonia has already taken place before treated effluent is discharged at W1. Therefore, we have used the compound with the widest uncertainty factor (NO-3) and which is the most likely to be present in the treated effluent because of nitrification.

As these results were obtained during the previous calendar quarter, NRW has consolidated this notified exceedance of the total inorganic nitrogen ELV at W1 under a single CCS3 score for **S5N/17/92**. Our assessment is recorded in **CAR_NRW0031835**.

S5N/17/134: Schedule 5 Part A received 29 November 2017 (by email)

Weekly average for total inorganic nitrogen recorded at emission point W1:

08/10/2017 – 14/10/2017: 56.10mg/l

15/10/2017 – 21/10/2017: 52.90mg/l

22/10/2017 – 28/10/2017: 57.90mg/l

W1: Long Sea Outfall

Permitted limit for discharge is 50.00mg/litre

The operator has specified that the following measurement uncertainty factors for the constituent compounds of total inorganic nitrogen are associated with the reported result:

Substance	Uncertainty (+/-)
Nitrate (NO-3)	0.1mg/l
Nitrite (NO-2)	0.05mg/l
Ammonia (NH3)	0.056mg/l

We have applied the uncertainty factor for nitrate (NO-3) to the measured result. The proportions of [ammonia to nitrite to nitrate] within the effluent generated by Tata Steel and discharged at W1 are not known. The on-site effluent treatment plant utilises biological treatment, therefore it is assumed that nitrification of ammonia has already taken place before treated effluent is discharged at W1. Therefore, we have used the compound with the widest uncertainty factor (NO-3) and which is the most likely to be present in the treated effluent because of nitrification.

Part A operator comment:

To be investigated.

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

The ongoing, scheduled maintenance of the stills and incinerator, combined with the upgrades to the by-products processing plant have created temporary, unforeseen fluctuations in ammonia, nitrite and nitrate concentrations in treated wastewater.

A full list of capital works for by products and ammonia plant improvements has been received by central Environment, the scheduling has been checked to avoid future conflict.

After applying the appropriate measurement uncertainty factor to the exceedance at W1 which occurred during Quarter 4 2017, the result on 14/10/2017 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/17/127: Schedule 5 Part A received 06 November 2017 (by email)

Weekly average for total hydrocarbons recorded at emission point W1:

29/10/2017 – 05/11/2017: 5.10mg/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.

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

After applying the appropriate measurement uncertainty factor, this exceedance remains within the permitted limit of 5.00mg/m3. No non-compliance (CCS) score has been applied to this event.

S5N/17/139: Schedule 5 Part A received 11 December 2017 (by email)

24-hour average (obtained weekly) for oil and grease recorded at emission point W3:

08/12/2017 – 09/12/2017: 21.85mg/l

W3: Abbey Beach Outfall

Permitted limit for discharge is 20.00mg/litre expressed as a 24-hour average from the beginning of the discharge

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

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

After applying the appropriate measurement uncertainty factor, the exceedance recorded at W3 on 09/12/2017 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/17/132: Schedule 1 Part A received 24 November 2017 (by email)

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

October 2017: 87.83% (Doors)

October 2017: 93.53% (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.

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 October 2017 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.

We have assessed and consolidated all notified exceedances of these ELVs at A54 during Quarter 4 (October – December) 2017 under two CCS3 scores for UR/17/132 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 during Quarter 4 are listed below:

UR/17/136 received on 06/12/17

UR/18/02 received on 12/01/18

Any future Schedule 5 Part A notifications for breaches at A54 could benefit from the addition of a narrative explaining how many doors, door frames, ascension pipes etc. have been replaced during that month and over the year to date. This would provide a context in terms of the number of individual improvements that need to be made. NRW requests that this information is provided in any future notifications to clearly demonstrate what progress is being made.

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 4 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)
- A54 Morfa Coke Oven Batteries (DLCF and TLCF)
- W1 Long Sea Outfall (total inorganic nitrogen)
- W3 Abbey Beach Outfall (oil and grease)

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

It is recognised that the impact of the EC Industrial Emissions Directive (IED) and the introduction of new, tighter BAT-AELs for Sinter 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 and A2 (particulates daily mean). Monthly notifications have been agreed for any exceedances at W1 (suspended solids weekly average).

NRW awaits further information (Schedule 5 Part B) for the following notifications:

- **S5N/17/127** W1 Long Sea Outfall
- **S5N/17/139** W3 Abbey Beach Outfall

Any future Schedule 5 Part A notifications for breaches at A54 could benefit from the addition of a narrative explaining how many doors, door frames, ascension pipes etc. have been replaced during that month and over the year to date. This would provide a context in terms of the number of individual improvements that need to be made. NRW requests that this information is provided in any future notifications to clearly demonstrate what progress is being made.

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]

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0032337**

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	31/12/2017

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
E3	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
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
E1	C3	Bring permitted operations back into compliance with ELV. IGNORE ACTION DATE - not applicable	28/02/2018
G4	X	Future Part A notifications for breaches at A54 (Morfa Coke Ovens) should include a narrative/context confirming the number of components that have been repaired or replaced.	30/06/2018

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.