RELEASES INTO AIR

Operational Summary for the month Dec-2016

Operator: Tata Steel UK Ltd **Permit:** BL7108 / RP3730BV

Location: Port Talbot Works **Release Point:** A1

					Sinter Blend			Particulate Matter (mg/m3)								
									4 hour rolling average				Hourly average			
Day	% max throughput	% data capture	% EP availability	% UIT availability	Mean sulphur % w/w	Mean chloride % w/w	Mean reverts % w/w	Daily average	Maximum	Mean	Minimum	Standard deviation	Maximum	Mean	Minimum	Standard deviation
01-Dec-16	42	100%	100%	82%	0.025	0.018	12.6	42	95	45	18	26	155	42	0	38
02-Dec-16	44	100%	100%	83%	0.025	0.018	12.6	28	48	29	15	9	89	28	7	16
03-Dec-16	43	100%	100%	83%	0.029	0.19	12.78	11	23	12	8	5	39	11	6	7
04-Dec-16	49	100%	100%	78%	0.029	0.19	12.78	11	12	11	9	1	14	11	9	1
05-Dec-16	44	100%	100%	72%	0.029	0.19	12.78	18	32	18	9	6	55	18	0	11
06-Dec-16	48	100%	100%	17%	0.029	0.19	12.78	17	29	16	9	6	41	17	7	8
07-Dec-16	48	100%	100%	35%	0.029	0.19	12.78	9	34	11	0	12	43	9	0	13
08-Dec-16	45	100%	100%	55%	0.029	0.19	12.78	6	10	6	0	4	13	6	0	5
09-Dec-16	47	100%	100%	100%	0.028	0.02	13.11	18	30	16	8	7	34	18	4	9
10-Dec-16	55	100%	100%	100%	0.028	0.02	13.11	20	25	21	17	2	27	20	15	3
11-Dec-16	49	100%	100%	100%	0.028	0.02	13.11	14	18	14	12	1	19	14	10	2
12-Dec-16	45	100%	100%	100%	0.028	0.02	13.11	13	20	13	5	4	36	13	0	6
13-Dec-16	56	100%	100%	100%	0.028	0.02	13.11	14	16	14	13	1	19	14	12	2
14-Dec-16	55	100%	100%	98%	0.028	0.02	13.11	19	25	18	15	2	32	19	9	5
15-Dec-16	11	100%	100%	98%	0.028	0.02	13.11	5	19	5	0	7	45	5	-1	12
16-Dec-16	47	100%	100%	100%	0.029	0.016	13.28	33	75	34	14	20	88	33	0	25
17-Dec-16	58	100%	100%	100%	0.029	0.016	13.28	13	16	13	8	2	17	13	8	3
18-Dec-16	61	100%	100%	100%	0.029	0.016	13.28	27	52	22	16	7	139	27	15	25
19-Dec-16	47	100%	100%	98%	0.029	0.016	13.28	11	55	16	6	15	28	11	0	5
20-Dec-16	56	100%	100%	100%	0.029	0.016	13.28	14	18	14	11	2	19	14	10	2
21-Dec-16	49	100%	100%	100%	0.029	0.016	13.28	21	41	21	11	9	52	21	0	14
22-Dec-16	41	100%	100%	100%	0.032	0.01	14.41	18	43	17	5	14	66	18	0	18
23-Dec-16	56	100%	100%	100%	0.032	0.01	14.41	23	46	24	15	11	55	23	14	12
24-Dec-16	46	100%	100%	100%	0.032	0.01	14.41	15	28	16	11	5	55	15	10	9
25-Dec-16	34	100%	100%	99%	0.032	0.01	14.41	14	30	13	0	6	72	14	0	15
26-Dec-16	51	100%	100%	89%	0.032	0.01	14.41	23	48	22	9	13	73	23	8	18
27-Dec-16	53	100%	100%	100%	0.032	0.01	14.41	18	35	19	10	6	29	18	9	6
28-Dec-16	45	100%	100%	54%	0.033	0.016	14.25	20	34	20	4	8	72	20	0	15
29-Dec-16	52	100%	100%	6%	0.033	0.016	14.25	27	57	26	12	12	92	27	11	21
30-Dec-16	47	100%	100%	14%	0.033	0.016	14.25	28	71	31	9	22	105	28	0	30
31-Dec-16	55	100%	100%	97%	0.033	0.016	14.25	26	29	21	10	6	42	22	3	8
Month ave	47	100%	100%	83%	0.03	0.05	13.4	19	-	19	-	-	-	18	-	-
Month max.	61	-	-	-	**0.03**	0.19	14.4	**42**	**95**	-	-	-	155	-	-	-
Limit	-	-	-	-	**0.06**	-	-	**40**	**-**	-	-	-	-	-	-	-

* No data available.

04-11/10 Sinter Plant on stop

Signed on behalf of the Operator

Dated 27/01/2017

Form Sinter CEMS

RELEASES TO AIR

Operational summary for quarter ending 31-Dec-16

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108 / BL7108IM (V009)

Operational parameters: Raw materials - Gas production and usage

Release point	Month	Gas flared (GJ)	Gas vented (GJ)	Gas produced (GJ)
A12A BOS convertor 1 gas flare	Month 1	9714		
	Month 2	7375		
	Month 3	9911		
A13A BOS convertor 2 gas flare	Month 1	19428		
	Month 2	14751		
	Month 3	19821		
A33 Blast furnace gas flare stack no.1	Month 1	81576		
	Month 2	128153		
	Month 3	168298		
A33C Blast furnace gas flare stack no.2	Month 1	129346		
	Month 2	135649		
	Month 3	214354		
A33A Blast furnace gas main number 4 bleeder	Month 1		14	
	Month 2		8	
	Month 3		119	
A33B Blast furnace gas main number 5 bleeder	Month 1		47	
	Month 2		94	
	Month 3		31	
A59 Coke oven gas triple flare	Month 1	5572		
	Month 2	31025		
	Month 3	116619		
Blast furnaces 4 and 5	Month 1			1496879
	Month 2			1278223
	Month 3			1768609
Coke ovens	Month 1			458995
	Month 2			399975
	Month 3			573237
BOS Plant	Month 1			197537
	Month 2			162859
	Month 3			217478

Signed on behalf of the Operator

Dated 27/01/17

WASTE PRODUCTION

Operational summary for quarter ending 31-Dec-16

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108

Release point	Month	Steel slag (tonnes)	Desulph slag (tonnes)	Hazardous waste * (tonnes)	Non hazard waste * (tonnes)	BF slag (tonnes)	Oil used in coke ovens (tonnes)	Waste oil reductant (tonnes)
BOS	Oct	21484	1317					
	Nov	28430	3761					
	Dec	37939	7507					
Iron and steel installation	Oct			0.0	1035			
	Nov			1.7	797			
	Dec			0.0	674			
BF4 tapholes	Oct					29802		
	Nov					32716		
	Dec					32349		
BF5 tapholes	Oct					34602		
	Nov					28757		
	Dec					32779		
BF5	Oct							0.00
	Nov							0.00
	Dec							0.00
Coke ovens	Oct						152	**
	Nov						134	**
	Dec						116	**

* Disposal to Morfa landfill site non-hazardous and hazardous cells.

** WID compliant Oil.

Signed on behalf of the Operator .....

Dated 27/01/17 **Form Waste 1**

RELEASES INTO AIR

Operational summary for quarter ending 31-Dec-16

Operator: Tata Steel UK Ltd
Location: Port Talbot Works
Permit: BL7108 / RP3730BV

Iron Ore Sintering - Record of strand stoppages > 30 minutes

Date	Time		Planned/	Reason
	Start	Duration (mins)	Unplanned	
01-Oct-16	09:39	24m	Unplanned	Cutting stringer from 1002
01-Oct-16	10:37	1h 28m	Unplanned	Cleaning trays & return rollers 1002
01-Oct-16	14:39	26m	Unplanned	Pallet change / cooler wheel detection alarm dip rail entrance checked and reset. 23 on 118 off.
01-Oct-16	21:09	16m	Unplanned	Mixer lumps on 1004 conveyor
02-Oct-16	22:05	152h 55m	Planned	Planned maintenance
08-Oct-16	19:00	12h 0m	Planned	Planned maintenance period expected restart of plant pm 11/10/16
11-Oct-16	21:14	50m	Unplanned	Fan tripped on low oil level.
11-Oct-16	22:25	3h 39m	Unplanned	Fan tripped on low oil issue with no1 lube motor/ pump same changed.
12-Oct-16	02:21	43m	Planned	Stop to sinter through after pm outage and unsettled strand condition on start up due to mixer lumps etc.
12-Oct-16	03:14	51m	Unplanned	Main gate not closing after lumps issue with coupling see shift operator comments bottom of report.
12-Oct-16	06:00	2h 24m	Planned	Planned outage to cool sinter from start up.
12-Oct-16	09:26	55m	Unplanned	Delay empty product system and inspect 1020 for possible loose plate, also inspected 1021 joint, carried out cleaning on incline.
12-Oct-16	13:10	29m	Unplanned	Delay to investigate 1003 blocked chute
13-Oct-16	05:05	30m	Unplanned	Pallet change 40 on 39 off
13-Oct-16	09:40	1h 27m	Unplanned	1048 Chain conveyor blocked and required cleaing
13-Oct-16	11:11	1h 1m	Unplanned	Mixer contactor fault in sub
13-Oct-16	18:48	32m	Unplanned	Delay taken to cool hot sinter
13-Oct-16	20:20	1h 5m	Unplanned	Delay taken to alow/cool hot sinter
14-Oct-16	13:01	42m	Unplanned	Hot material on product system
14-Oct-16	18:47	6h 23m	Unplanned	Delay to repair cooler due to de-railmant
15-Oct-16	08:33	46m	Unplanned	Cooler tray 12 de-railed by south drive / barrow wheel. Cooler ratio increased to 116 later
15-Oct-16	19:15	55m	Unplanned	Pallet change carried out no number off 24 on---Checking 1023 screen also SWGF tripped south VSD Drive when starting up
09-Oct-16	07:00	62h 6m	Planned	Planned Maintenance
17-Oct-16	14:16	4h 38m	Unplanned	3 cooler wheels derailed around no5 fan.
18-Oct-16	17:13	37m	Unplanned	1021/1027 temps high
19-Oct-16	09:21	1h 10m	Unplanned	Delay to replace damaged rollers on 1021
20-Oct-16	00:44	30m	Unplanned	Hole in pallet
20-Oct-16	01:20	40m	Unplanned	Hole in pallet. same rebarred. 15 mins sintering through.
20-Oct-16	21:30	27m	Unplanned	Hole in grate bars.
21-Oct-16	01:30	25m	Unplanned	Shaft detector u/s.
21-Oct-16	14:48	28m	Unplanned	No17 off and No127 on. hole in North side of pallet
22-Oct-16	00:10	1h 10m	Unplanned	Loss of phaze to 1028 with no hi-line route available
22-Oct-16	11:43	1h 36m	Unplanned	7 holding down bolts for south side upper clamping strip sheered
24-Oct-16	02:47	20m	Unplanned	Hole on north side of pallet, No126 off No70 on
24-Oct-16	13:08	32m	Unplanned	No48 off / No17 On
25-Oct-16	05:14	33m	Unplanned	Pallet change No2 off No48 on
26-Oct-16	08:10	7h 16m	Unplanned	No 4 BF on stop with stockpile almost full. Opportunity maint. carried out during same mainly on cold screens.
26-Oct-16	19:55	22m	Unplanned	Pallet 70 off /84 on when checking pallet notch on insulation worn
27-Oct-16	01:00	27m	Unplanned	Pallet No 6 off /79 on
27-Oct-16	13:34	25m	Unplanned	Pallet change for hole

Signed on behalf of the Operator ..... G Brooks J Mungo

Dated 27/01/17

Form Sinter Operational

Operational summary for quarter ending 31-Dec-16

Operator: Tata Steel UK Ltd
Location: Port Talbot Works
Permit: BL7108 / RP3730BV

Iron Ore Sintering - Record of strand stoppages > 30 minutes

Date	Time		Planned/	Reason
	Start	Duration (mins)	Unplanned	
27-Oct-16	21:18	37m	Unplanned	Isolation piece damaged causing grate bars to dislogde.
28-Oct-16	13:00	49m	Unplanned	Opportunity stop taken due to issues with no4 furnace to carry out repairs on 1025 screen.
29-Oct-16	04:42	27m	Unplanned	Pallet change end of shift.
30-Oct-16	02:55	17m	Unplanned	Pallet change for hole, bars missing from middle of back row, insulation pieces are very loose, pallet 31 off and 6 on.
01-Nov-16	10:40	36m	Unplanned	Maintenance on 1022 conveyor, Allen west sub and checks on 1025 deck.
01-Nov-16	16:35	17m	Unplanned	Cooler wheel hit 12 o'clock limit.
03-Nov-16	09:45	2h 42m	Unplanned	Safety pause
04-Nov-16	11:28	37m	Unplanned	Plant stop to remove the large blank from the north wind main.
04-Nov-16	13:33	23m	Unplanned	Stop to change pallet on the strand
04-Nov-16	13:56	25m	Unplanned	South WG fan tripped on restart, vanes required closing in hand control, and electrical required for reset before fan restarted.
05-Nov-16	10:22	1h 5m	Unplanned	Stop to clear blockage 1048 head end onto DDV.
06-Nov-16	08:12	27m	Unplanned	Pallet change 84 off 31 on -- SWGF also tripped x 2.
07-Nov-16	12:53	23m	Unplanned	NWGF tripped on vibration, SWGF stopped as a precaution to stop windmilling.
07-Nov-16	16:44	1h 46m	Unplanned	Load Management
08-Nov-16	16:50	1h 27m	Unplanned	Load management as required
08-Nov-16	09:07	1h 10m	Unplanned	Stop to check 1020 feeder.
09-Nov-16	05:11	11h 34m	Planned	Planned maintenance period
09-Nov-16	16:45	1h 30m	Unplanned	Load Management requirement
09-Nov-16	18:15	2h 30m	Unplanned	Roll feeder issues traced to u/s card.
09-Nov-16	21:50	28m	Planned	Stop to partially sinter through after 12 hour PM period.
10-Nov-16	16:45	1h 34m	Unplanned	Load management
11-Nov-16	10:55	21m	Unplanned	North fan tripped anti windmill.
11-Nov-16	14:29	28m	Unplanned	14:29 - 14:57 north fan tripped anti windmill.
11-Nov-16	15:26	22m	Unplanned	Pallet change 51 on 57 off.
09-Nov-16	04:45	19m	Unplanned	04.45 - 05.04 stopped to fill raw mix hopper with dregs from ixer & rollfeeder tripped
14-Nov-16	10:00	2h 0m	Unplanned	Opportunity stop for safety pause,
14-Nov-16	12:00	2h 43m	Unplanned	1025 screen repairs.
16-Nov-16	21:28	26m	Unplanned	Stopped to clean under conveyor due to scraper issues
18-Nov-16	09:05	4h 31m	Unplanned	Stop taken to reduce stock.Repairs to 1008 and 1020. Weld fracture on Cooler rail
21-Nov-16	13:30	3h 0m	Unplanned	Delay to carry out planned safety pause.
21-Nov-16	16:30	1h 26m	Unplanned	Load management called 16:30 - 17:30
24-Nov-16	16:46	1h 43m	Unplanned	Load management called for 17:00 - 18:00
24-Nov-16	09:04	7h 47m	Unplanned	Stop taken in line with one furnace operation, aop and stock levels
26-Nov-16	13:45	20m	Unplanned	Pallet change. Pallet 69 on pallet 28 off.
26-Nov-16	23:42	1h 9m	Unplanned	North drive issue with coil / timer coil changed and timer freed.
28-Nov-16	16:48	1h 27m	Unplanned	Load management called 17:00 - 18:00
29-Nov-16	08:49	2h 16m	Unplanned	Delay to inspect and reset inverter on 1066 drive
29-Nov-16	16:14	2h 1m	Unplanned	Load management called for 16:30 - 18:00

Signed on behalf of the Operator

Dated 27/01/17

RELEASES INTO AIR Form Sinter Operational Cont.

Iron Ore Sintering - Record of strand stop 00-Jan-00

Operator: Tata Steel UK Ltd
Location: Port Talbot Works
Permit: BL7108 / RP3730BV

Iron Ore Sintering - Record of strand stoppages > 30 minutes

Date	Time		Planned/	Reason
	Start	Duration (mins)	Unplanned	
01-Dec-16	02:43	27m	Unplanned	13 off 56 on, hole on North side, back row.
01-Dec-16	09:45	33m	Unplanned	Fit large blank
01-Dec-16	10:18	46m	Unplanned	Stopped to remove large lump from 1005 conveyor.
01-Dec-16	16:14	2h 4m	Unplanned	Load Management
02-Dec-16	14:22	1h 43m	Unplanned	Removing large and small blank from main after repairs to 952 chain conveyor carried out by Schenk
03-Dec-16	01:08	19m	Unplanned	92 off and 66 on, hole in North side of pallet.
05-Dec-16	02:51	24m	Unplanned	Grate missing from 3rd row south side. Pallet 64 off 13 on
05-Dec-16	03:57	29m	Unplanned	1001 snub drum built up due to spillage feeder not working
05-Dec-16	16:15	2h 7m	Unplanned	Load Management request,
07-Dec-16	12:37	28m	Unplanned	Pallet change for hole, 52 off and 63 on, Bars missing from front row, North side, bars fairly new
07-Dec-16	20:38	20m	Unplanned	2 return rollers changed under wendy house
08-Dec-16	11:22	40m	Unplanned	Changing rollers on 1022 and 1027 conveyor.
08-Dec-16	21:04	1h 8m	Unplanned	Delay to carry out cooler rail suport
08-Dec-16	23:05	42m	Unplanned	Delay to carry out cooler rail support
09-Dec-16	12:18	1h 21m	Unplanned	Patching holes on discharge end of mixer
12-Dec-16	10:46	18m	Unplanned	Gapping cooler in preperation of repair to outer dipping rail entry.
12-Dec-16	12:32	2h 33m	Unplanned	Repairs to cooler outer dip rail.
15-Dec-16	03:52	19h 3m	Planned	Commence run off for PM
16-Dec-16	08:46	1h 54m	Unplanned	1047 conv blocked solid, DBI used to gulp out conv. Upper dome vavle had a "crust" of material over the top of the dome slowing the process of emptying thus causing a backlog of dust.
16-Dec-16	13:04	28m	Unplanned	Stopped to carry out essential hole repair on 1st bin downleg on 1015 conv (north side)
18-Dec-16	23:32	38m	Unplanned	North fan tripped as low oil tank level. Fan was windmilling even with vanes closed, south fan stopped to slow north fan. Brake applied on North fan then plant restarted on south fan whilst oil levels topped up on the North.
19-Dec-16	16:40	1h 54m	Unplanned	Load Management requirement
21-Dec-16	03:30	27m	Unplanned	Trailing wheel came adift from shaft on pallet 31 replaced with pallet 105
21-Dec-16	10:46	1h 35m	Planned	Plant taken off line to carry out essential maintenance to sinter rail and mixer hole.
22-Dec-16	11:25	18m	Unplanned	Delay to gap tray's 25 - 27 on cooler
22-Dec-16	12:35	2h 22m	Unplanned	Delay to replace damaged wheel on tray 26, and inspect wheels on tray 27
22-Dec-16	15:30	25m	Unplanned	Delay when North fan tripped on vibration and on coming to a stop went into reverse.
28-Dec-16	10:00	30m	Unplanned	Pallet change 64 ON - 7 OFF
28-Dec-16	11:00	3h 45m	Unplanned	Protection plate over north exciter u/s. Packers put in place with impact plate welded. Please monitor closely. 1020 strap also re-secured..
29-Dec-16	16:13	25m	Unplanned	Low lube level. Required to stop SWGF due to windmilling
30-Dec-16	19:37	40m	Unplanned	1008 Shaft detector, alarm see report for further info
30-Dec-16	00:32	33m	Unplanned	Low level alarm stopped fan 00:18 then at 00:32 after vanes had been checked and closed in manual, south fan tripped
30-Dec-16	09:45	1h 28m	Unplanned	Delay taken to carry out repairs to 1025 screen
30-Dec-16	21:51	1h 2m	Unplanned	Inspection of weld repair come away on x member
31-Dec-16	10:08	1h 26m	Unplanned	Delay to carry out repairs to 1025 screen
31-Dec-16	14:15	30m	Unplanned	Delay when hood tripped
31-Dec-16	23:45	1h 0m	Unplanned	Screen heavily blinded over

Signed on behalf of the operator
Dated: **27-Jan-17**

RELEASES INTO AIR

Operational summary for quarter ending 31-Dec-16

*

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108 / RP3730BV / BL7108IM (V009)

Release Points: A10A & A63

PARTICULATE MATTER (mg/Nm3) - CONTINUOUS EMISSIONS MONITORING											
Release point	Month	Limit	Maximum daily mean	Minimum daily mean	Standard deviation of daily means	Maximum hourly mean	Minimum hourly mean	Standard deviation of hour means	Monthly mean	abatement availability %	% data capture over month
A10A	Oct	15	0.1	0.0	1.6	13.3	0.0	0.1	0.0	100%	100%
	Nov	Daily	8.5	0.0	1.3	16.1	0.0	4.9	1.4	100%	100%
	Dec	mean	8.6	2.8	1.1	23.1	4.8	3.3	5.6	100%	100%
A63*	Oct	25	Inconsistent data during the period - to be investigated.								
	Nov	Hourly									
	Dec	mean									

Signed on behalf of the Operator

Dated 27/01/17

Form I&S CEMS Part 3

RELEASES INTO AIR

Operational summary for quarter ending 31-Dec-16

Operator: Port Talbot Works

Location: Port Talbot Works

Permit: BL7108 / RP3730BV

	NOx (tonnes)	Lead (tonnes)	PM10 (tonnes)	CO2 (k tonnes)
Morfa	436			
Iron & Steel	821	9.7	517	1499
Total	1258	9.7	517	1499

Signed on behalf of the Operator

Dated 27/01/17

Form KPI

RELEASES INTO AIR

Operational Summary for quarter ending 31-Dec-16

Operator: Tata Steel Strip Products UK

Location: Port Talbot Works

Permit: BL7108 / RP3730BV

Release Points:

PARTICULATE MATTER (DISCONTINUOUS MONITORING)		
Release Point	A6	A7
Time and date of sampling	01-Nov-16 12:03	18-Oct-16 09:02
Flowrate (Nm3/hr)	106,858	138,884
Particulate measured conc. (mg/Nm3)	4.1	4.4
Particulate limit (mg/Nm3)	10	10
Sampling method used	BS EN 13284	BS EN 13284
Analytical method used	Gravimetric	Gravimetric
Partic CEM result over monitoring period		
Natural gas (%)	27%	0%
BF gas (%)	48%	100%
Coke oven gas (%)	0%	0%
BOS (%)	25%	

Signed on behalf of the Operator

Dated 27/01/2017

Form Blast Furnace DCM Part

RELEASES INTO AIR

Operational summary for the six months to 31-Dec-16

Operator: Tata Steel UK Ltd **Release Point:** A1

Location: Port Talbot Works **Permit:** BL7108

Release Point	**Sinter Main (A1)**							
	Chloride (mg/Nm3)	Fluoride (mg/Nm3)	Lead (mg/Nm3)	VOC's (mg/Nm3)	PAH's * (ug/Nm3)	Dioxins** (ng/Nm3)	Dioxins *** (ng/Nm3)	Mercury (ug/Nm3)
Permit limit						0.4		0.05
Measured conc. according to condition 10.1.3b	0.90 (+/- 0.5)	0.12 (+/-0.2)	0.7 (+/-0.2)	25.7 (+/-3.4)	86.5 (+/- 18.4)	0.47 (+/- 0.08)	0.49 (+/- 0.05)	0.01 (+/-0.003)
Measured oxygen (%)	2.1	18.0		17.0	17.0	17.0	17.0	17.0
Measured conc. according to condition 10.1.3a (17%O2)	0.2	0.2	0.1	25.7	86.5	0.5	0.5	0.01
Cogeners<LoD at zero						0.47	0.49	
Cogeners<LoD at LoD						0.47	0.49	
Analytical method used	IC	IC	ICP MS	BS EN 12619	BS ISO 11338	BS EN 1948	BS EN 1948	BS EN 13211
Date of sampling	20-Sep-16	20-Sep-16	19-Sep-16	16-Nov-16	15-Nov-16	15-Nov-16	15-Nov-16	16-Nov-16
Sample start time	09:40	09:40	12:55	10:35	10:36	10:36	10:36	09:33
Sample end time	10:40	10:40	13:29	11:35	16:14	16:14	16:14	12:20
Limit of detection	0.1	0.01	0.1	0.016	0.6	0.001	0.001	0.090
Continuous particulate result during sampling (hourly mean)	15	15	14	7	8	8	8	12
Process status at time of sampling								
Mean sulphur content of sinter blend in use (%)	0.033	0.033	0.033	0.039	0.039	0.039	0.039	0.039
Reverts content of sinter blend in use (%)	10.0	10.0	10.0	12.92	12.9	12.9	12.9	12.9
Mean chloride content of sinter blend in use (%)	0.02	0.02	0.02	0.014	0.014	0.014	0.014	0.014
Throughput during sampling period (% of maximum)	39	39	52	46	50	50	50	46

* PAH's as B[a]P ** Dioxins and furans as iTEQ *** Dioxins and furans as WHO TEQ

- Data not available from labs as samples were not received for analysis. This has been investigated and an improvement has been put in place to resolve this issue.

Nb: Dioxins and Furans iTEQ ng/m3 Limit on average of all extractive spot sample carried out by the operator during a single calendar year.

Average of all extractive spot samples in 2016 - 0.3875ng/Nm3

Signed on behalf of the Operator .....

Dated 27/01/2017

Form Sinter DCM 2

RELEASES INTO AIR

Operational summary for the six months to 31/12/2016

Operator: Tata Steel Strip Products UK

Location: Port Talbot Works

Permit: BL7108 / RP3730BV

Release Points: A39

PARTICULATE MATTER (DISCONTINUOUS MONITORING)		
Release Point	A39 HY1	A39 HY2
Time and date of sampling	25-Jan-16 11:04	20-Jul-16 10:15
Flowrate (Nm3/hr)	30031	38016
Particulate measured conc. (mg/Nm3)	3	10
Particulate limit (mg/Nm3)	25	25
Sampling method used	BS EN 13284	BS EN 13284
Analytical method used	Gravimetric	Gravimetric

Form GCI DCM Part

Signed on behalf of the Operator

Dated 27/01/2017

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108

Operational parameters: Raw materials - coal and coal blends

Month	Mean sulphur content of coal blend used to make coke (%)	Max sulphur content of the coals used to make coke (%)
1	0.84	0.87
2	0.81	0.83
3	0.80	0.83
4	0.77	0.78
5	0.80	0.82
6	0.84	0.88
7	0.86	0.90
8	0.78	0.80
9	0.79	0.80
10	0.83	0.88
11	0.75	0.71
12	0.77	0.75
Average **KPI**	0.80% **0.75%**	- -

Signed on behalf of the Operator .....

Dated 27/01/2017

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108

Operational parameters: Raw materials - Blast Furnace blends

Month	Mean Zn load of sinter (g Zn per tonne iron produced)	Max Zn load of sinter (g Zn per tonne iron produced)	Mean Zn load of iron ore blend (g Zn per tonne iron produced)	Max Zn load of iron ore blend (g Zn per tonne iron produced)	Mean Zn load to Blast Furnaces (g Zn per tonne (iron produced)	Max Zn load to Blast Furnaces (g Zn per tonne (iron produced)
Jan	119.55	218	17.10	37	146.38	241
Feb	146.85	211	13.15	16	169.69	235
Mar	141.56	185	37.19	120	187.52	286
Apr	202.93	263	19.13	30	231.37	293
May	161.17	253	24.40	31	194.87	292
Jun	149.13	201	25.47	31	184.17	234
Jul	149.14	208	20.14	28	178.50	240
Aug	158.81	243	18.41	23	187.11	271
Sep	115.55	150	27.36	42	151.95	194
Oct	130.37	305	30.20	43	169.20	348
Nov	172.61	227	17.79	24	199.14	252
Dec	157.16	212	18.32	24	184.52	239
Average	150	-	22	-	182	-
Maximum	-	305	-	120	-	348

Signed on behalf of the Operator .....

Dated 27/01/2017

Form I&S Operational 2

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd
Location: Port Talbot Works

Permit: BL7108

Energy Source	Annual Energy Consumption		
	Primary energy produced on site (MWh) *	Primary energy imported (MWh) **	CO2 released (tonnes)
Electricity	494406	769635	332815
Natural gas		1456429	286747
Coal ***		15341368	
Oil		12834	3516
Coke***	7234537	2428995	
Steam	3654581		
Energy Source	Secondary energy produced on site (MWh)	Secondary energy imported (MWh)	CO2 released (tonnes)
Coke oven gas	1667940		229227
Blast furnace gas	5038673		4497736
Coke (breeze)	751465		314112
BOS gas	635371		447211

* Reported energy use shall cover 95% of all energy used by the installation. An operational record of the energy use calculation shall be maintained.

** Units of imported electricity should be multiplied by a factor of 2.6 to account for the energy lost in generation and transmission.

*** These are not a direct energy sources. 70% of the coal is used to make coke. The remaining 30% of the coal and all of the coke are used as reductants in the BF ultimately producing BFG.

Signed on behalf of the Operator .....

Dated 27/01/2017

Form Energy 1

RELEASES INTO AIR

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108 / BL7108 IM (V008)

Release Points: A50, A51, A52A, A52B, A53 & A62

PARTICULATE MATTER (DISCONTINUOUS MONITORING)						
Release Point	A50A & A50B Service 4 & 5	A51 A5	A52A No.6	A52B No.7	A53 Mitchell	A62 No.3
Time and date of sampling	07-Dec-16 13:39	12-Apr-16 12:32	21-Jun-16 12:30	20-Sep-16 12:38	12-Apr-16 15:11	22-Nov-16 14:45
Flowrate (Nm3/hr)	68,724	65,736	251,424	216,648	126,432	317,124
Particulate measured conc. (mg/Nm3)	1.7	0.7	0.4	0.5	2.1	1.1
Particulate limit (mg/NM3)	24		30	30		60
Sampling method used	BS EN 14181	BS EN 14181	BS EN 14181	BS EN 14181	BS EN 14181	BS EN 14181
Analytical method used	Gravimetric	Gravimetric	Gravimetric	Gravimetric	Gravimetric	Gravimetric
Continuous hourly monitoring result over the period	0.0	2.9	3.4	4.4	16.7	9.2
Fuel usages over the sampling period						
Natural gas (%)	84%	0%	2%	2%	2%	1%
BF gas (%)	14%	92%	80%	88%	91%	99%
Coke oven gas (%)	1%	8%	17%	10%	7%	
Heavy fuel oil (%)	0%	0%	0%	0%	0%	

Signed on behalf of the Operator

Dated 27/01/2017 **Form LCPD DCM Parts**

RELEASES INTO AIR - NATIONAL PLAN REPORT

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108 / NP3938GZ

Release Points: A50, A51, A52A, A52B, A53 & A62

Release Point	**Sulphur dioxide**		**Oxides of Nitrogen**		**Particulate Matter**	
	Annual 95th percentile of valid daily means	Limit	Annual 95th percentile of valid daily means	Limit	Annual 95th percentile of valid daily means	Limit
A50A & A50B Service Boilers	602	605	94	363	50.0	24
A51 Boiler A5		605		363	2.7	24
A52A Boiler 6	241	605	152	363	2.8	30
A52B Boiler 7	212	605	225	363	2.5	30
A53 Mitchell Boiler		605		363	3.0	24
Release Point	Annual 95th percentile of valid hour means	Limit	Annual 95th percentile of valid hour means	Limit	Annual 95th percentile of valid hour means	Limit
A62 Boiler 3	5.2	18.4	80.1	368	73.8	347

Signed on behalf of the Operator

Dated 27/01/2017

Form LCPD Annual Concentration

RELEASES INTO AIR - NATIONAL PLAN REPORT

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108

Release Points: A50, A51, A52A, A52B, A53 & A62

Release Point	**Sulphur dioxide** (Tonnes)	**Oxides of Nitrogen** (Tonnes)	**Particulate Matter** (Tonnes)
A50A	93	41	4
A50B	93	41	4
A51	22	21	0
A52A	219	120	2
A52B	254	118	1
A53	54	43	1
All LCPD release points above	736	385	11
Annual limits (A50-A53)	**5000**	**900**	**150**
A62	7.97	8.14	1.16

Signed on behalf of the Operator

Dated 27/01/2017 **Form LCPD Annual 1**

RELEASES INTO AIR - NATIONAL PLAN REPORT

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108

Release Points: A50, A51, A52A, A52B, A53 & A62

Release Point	A50A	A50B	A51	A52A	A52B	A53	A62	A50A	A50B	A51	A52A	A52B	A53	A62	A50A	A50B	A51	A52A	A52B	A53	A62	A50A	A50B	A51	A52A	A52B	A53	A62	A50A	A50B	A51	A52A	A52B	A53	A62	Total of release points (A50-A53) + A62
Parameter	**Natural gas**							**Liquid fuels**							**Coke oven gas (COG)**							**Blast furnace gas (BFG)**							**Steel Plant gas (BOS)**							**All Fuels**
Net CV of fuel burnt (GJ/T)	46.0	46.0	46.0	46.0	46.0	46.0	46.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	42.7	42.7	42.7	42.7	42.7	42.7	42.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Annual energy usage (TJ)	31	0	48	487	431	72	92	3	7	4	13	24	4	-	274	356	30	558	637	101	-	393	592	707	2777	2621	1417	1000	-	-	2	312	291	0	4	13287
Total annual energy input (TJ)	1161 8.7%							54 0.4%							1956 15%								9508 72%							608 5%						

Biomass and other solid fuels are not burnt on these combustion plant.

Form LCPD Annual 2

Signed on behalf of the Operator .....

Dated 27/01/2017

RELEASES INTO AIR

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108 / RP3730BV

Release Points: A2, A6 ,A7 ,A8A, A8B, A9, A10, A10A, A11, A12 & A13

PARTICULATE MATTER (DISCONTINUOUS MONITORING)							
Release Point	A2	A8A	A8B	A9	A10	A10A	A11
Time and date of sampling	21-Sep-16 09:35	12-Jul-16 09:50	01-Jun-16 10:20	14-Mar-16 11:24	04-Jul-16 10:20	07-Nov-16 10:32	30-Jun-16 09:36
Flowrate (Nm3/hr)	752,945	562,142	539,042	1,505,586	286,405	42,625	27201
Particulate measured conc. (mg/Nm3)	26	0.4	0.6	5.3	8.9	0.7	0.5
Particulate limit (mg/Nm3)	30	15	15	15	15	15	50
Sampling method used	BS EN 13284	BS EN 13284	BS EN 13284	BS EN 13284	BS EN 13284	BS EN 13284	BS EN 13284
Analytical method used	Gravimetric	Gravimetric	Gravimetric	Gravimetric	Gravimetric	Gravimetric	Gravimetric
Partic CEM result over monitoring period	12	2.7	2.3	3.2	0.3	0.0	

Signed on behalf of the Operator

Dated 27/01/2017 **Form I&S DCM Part 1**

RELEASES INTO AIR

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108 / RP3730BV

Release Points: A14, A15, A16, A18, A34A, A34B, A35, A37 & A38

PARTICULATE MATTER (DISCONTINUOUS MONITORING)									
Release Point	A14	A15	A16	A18	A34A *	A34B *	A35 **	A37	A38
Time and date of sampling	14-Jun-16 10:16	25-Oct-16 10:15	13-Jun-16 10:25	- -		11-Oct-16 10:25	-	28-Nov-16 11:00	20-Dec-16 11:40
Flowrate (Nm3/hr)	501784	336192	547749	-		186034	-	17674	8791
Particulate measured conc. (mg/Nm3)	7	2	15	-		19	-	10	5
Particulate limit (mg/Nm3)	15	15	15	25		-	25	20	20
Sampling method used	BS EN 13284	BS EN 13284	BS EN 13284	-		BS EN 13284	-	BS EN 13284	BS EN 13284
Analytical method used	Gravimetric	Gravimetric	Gravimetric	-		Gravimetric	-	Gravimetric	Gravimetric
Partic CEM result over monitoring period	9	2	35						
Fuel usages over the sampling period									
Natural gas (%)						15			
BF gas (%)									
Coke oven gas (%)						85			
Heavy fuel oil (%)									

* Sampling only when COG used - unable to take sample due to plant stoppages and no COG use.

** A35 Remains not operational in 2016 - see email Sent to NRW: Subject: Permit BL7108 - Emissions into Air Monitoring 27/01/2014

A18 Not sampled on safety grounds from 2012 see email Sent to NRW: Subject: Permit BL7108 - Emissions into Air Monitoring 23/01/2013

Signed on behalf of the Operator

Dated 27/01/2017

Form I&S DCM Part 2

Operational summary for the year ending 31/12/2016

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108/RP3730BV

Inputs		
Coal - Cokemaking	1.32	t/t coke
Coal - Steel Making	2420.66	kg/t LS
Sinter/Pellets/Lump ores	25662	kg/t LS
Coke	4223	kg/t LS
Lime	506	kg/t LS
Limestone/Magstone	1468	kg/t LS
Dolomet/Doloflux	478.0	kg/t LS
Scrap	1666	kg/t LS
Water abstracted	Data to follow	m3/t LS
Energy	427.8	GJ/t LS
Ferrous Cargo Delivery	5437000	Tonnes
Carbon Cargo Delivery	2450000	Tonnes
Recycled		
Reverts to Sinter Plant	2390	kg/t LS
BF Slag	2505	kg/t LS
BOS Slag	1288	kg/t LS
Scrap (internal arisings)	1668	kg/t LS
Briquettes (BOS)	0	kg/t LS
Millscale	200	kg/t LS
Recovered oil	0.0032	kg/t LS
Outputs		
Coke	873,338	Tonnes
Liquid Steel	305,702	Tonnes
To Air:		
Particulate	8.03	kg/t LS
Sulphur dioxide	18.34	kg/t LS
Oxides of nitrogen	16.56	kg/t LS
To Water:		
Volume	66.40	m3/t LS
Suspended solids	2559.0	g/t LS
Oil & grease	172.71	g/t LS
Total cyanide	0.94	g/t LS
Phenols	7.83	g/t LS
Ammonia	287.7	g/t LS
Metals [total] (Fe,Zn,Pb & Cr)	184.00	g/t LS
To Land:		
Slag (BOS & Desulph)	22.2	kg/t LS
BF slurry *	151.3	kg/t LS
BOS slurry *	214.6	kg/t LS
Refractories	0.01	kg/t LS
Demolition waste	0.6	kg/t LS
Filter cake	6.6	kg/t LS
General rubbish	5.7	kg/t LS

Signed on behalf of the Operator

Dated 27/01/2017

Form Site Operational

EMISSION INVENTORY - ANNUAL REPORT TO THE NRW

Operating year: 2015

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Authorisation: BA6321/ CB8401

Release Point: Sinter Main

Medium to which released	**Radionuclide**	**Annual Release** (Giga-Becquerels)	**Annual Limit** (Giga-Becquerels)
Air	Lead 210	33	160
Air	Polonium 210	62	185

* Data not received from third party, form will be re submitted upon receipt of report.
See email sent 25/01/2015 subject: Incomplete Dec Returns

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Dated 27/01/2017 **Schedule 9**