

RELEASES INTO AIR

Operational summary for the year ending 31/12/2018

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	05-Jun-18 11:07	30-May-18 13:35	29-May-18 12:46	-	05-Jul-18 10:44	03-Jul-18 11:41	-	06-Dec-18 09:35	07-Dec-18 10:58
Flowrate (Nm3/hr)	451170	425105	407155	-	109,474	124465	-	23717	21192
Particulate measured conc. (mg/Nm3)	2	8	12	-	7	5	-	4	14
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	BS EN 13284
Analytical method used	Gravimetric	Gravimetric	Gravimetric	-	Gravimetric	Gravimetric	-	Gravimetric	Gravimetric
Partic CEM result over monitoring period	9	2	14						
Fuel usages over the sampling period									
Natural gas (%)					90	54			
BF gas (%)									
Coke oven gas (%)					10	46			
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

07/01/2019

Form I&S DCM Part 2

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd
Location: Port Talbot Works

Permit: BL7108

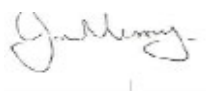
Energy Source	Annual Energy Consumption		
	Primary energy produced on site (MWh) *	Primary energy imported (MWh) **	CO2 released (tonnes)
Electricity	458598	438353	154300
Natural gas		1590741 5726668	335483
Coal ***		14802900	
Oil		20874	5719
Coke***	7217293	1244473	
Steam	3283353		
Energy Source	Secondary energy produced on site (MWh)	Secondary energy imported (MWh)	CO2 released (tonnes)
Coke oven gas	1629148		228494
Blast furnace gas	4443378		3836286
Coke (breeze)	595136		235674
BOS gas	575934		400510

* 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 17/01/2019

Form Energy 1

RELEASES INTO AIR

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd

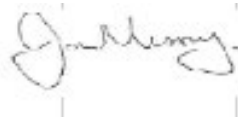
Location: Port Talbot Works

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	17-Aug-18 09:43	30-Nov-18 10:04	04-Dec-18 09:55	29-Aug-18 10:32	18-Oct-18 10:13	30-Oct-18 10:36	06-Sep-18 09:33
Flowrate (Nm3/hr)	727,123	405,262	362,034	791,501	483,251	241,753	10675
Particulate measured conc. (mg/Nm3)	36	1.9	0.7	4.5	2.0	0.2	1.0
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	31	1.8	0.2	11.1	3.3	0.8	

Signed on behalf of the Operator



Dated 07/01/2019

Form I&S DCM Part 1

RELEASES INTO AIR - NATIONAL PLAN REPORT

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

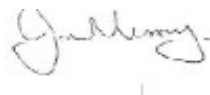
Permit: BL7108 / NP3938GZ

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	1390	605	526	363	3.7	48
A51 Boiler A5					4.3	
A52A Boiler 6	489	605	385	363	5.1	30
A52B Boiler 7	412	605	309	363	12.3	30
A53 Mitchell Boiler					4.4	
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	30.7	314	86.7	348	9.3	17

Signed on behalf of the Operator

Dated 25/01/2019



Form LCPD Annual Concentration

RELEASES INTO AIR

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

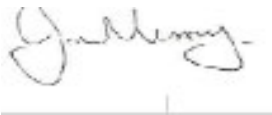
Permit: BL7108 / BL7108 IM (V008)

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	26-Nov-18 16:28	17-May-18 13:26	13-Dec-18 13:05	19-Dec-18 09:25		26-Nov-18 14:33
Flowrate (Nm3/hr)	81,107	114,760	252,638	177,333		180,735
Particulate measured conc. (mg/Nm3)	2.1	0.8	0.5	6.1		1.4
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
Analytical method used	Gravimetric	Gravimetric	Gravimetric	Gravimetric		Gravimetric
Continuous hourly monitoring result over the period	0.0	0.8	1.3	0.8		1.4
Fuel usages over the sampling period						
Natural gas (%)	0%	0%	0%	0%		0%
BF gas (%)	38%	95%	83%	72%		100%
Coke oven gas (%)	62%	5%	17%	28%		
Heavy fuel oil (%)	0%	0%	0%	0%		

Unable to sample the Mitchell boiler due to acces and saftey issue.

Signed on behalf of the Operator



Dated 21/01/2019

Form LCPD DCM Parts

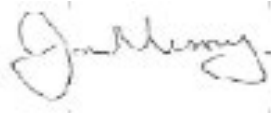
Operational summary for the year ending 31/12/2018

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

Inputs		
Coal - Cokemaking	1.30	t/t coke
Coal - Steel Making	242.50	kg/t LS
Sinter/Pellets/Lump ores	1457	kg/t LS
Coke	499	kg/t LS
Lime	49	kg/t LS
Limestone/Magstone	106	kg/t LS
Dolomet/Doloflux	17.7	kg/t LS
Scrap	214	kg/t LS
Water abstracted	5.8	m3/t LS
Energy	24.0	GJ/t LS
Ferrous Cargo Delivery	4,542,580	Tonnes
Carbon Cargo Delivery	2,317,900	Tonnes
Recycled		
Reverts to Sinter Plant	209	kg/t LS
BF Slag	217	kg/t LS
BOS Slag	124	kg/t LS
Scrap (internal arisings)	169	kg/t LS
Briquettes (BOS)	0	kg/t LS
Millscale	14	kg/t LS
Recovered oil	0.0003	kg/t LS
Outputs		
Coke	849,837	Tonnes
Liquid Steel	3,221,561	Tonnes
<i>To Air:</i>		
Particulate *		kg/t LS
Sulphur dioxide *		kg/t LS
Oxides of nitrogen *		kg/t LS
<i>To Water:</i>		
Volume	10.35	m3/t LS
Suspended solids	475.6	g/t LS
Oil & grease	20.76	g/t LS
Total cyanide	0.05	g/t LS
Phenols	0.20	g/t LS
Ammonia	137.6	g/t LS
Metals [total] (Fe,Zn,Pb & Cr)	29.72	g/t LS
<i>To Land:</i>		
Slag (BOS & Desulph)	5.4	kg/t LS
BF slurry	0.01	kg/t LS
BOS slurry	0.02	kg/t LS
Refractories	0	kg/t LS
Demolition waste	0.02	kg/t LS
Filter cake	0.3	kg/t LS
General rubbish	0.7	kg/t LS

* Figures in compilation for Pollution Inventory. Sheet to be reissued when complete.

Signed on behalf of the Operator

Dated  5/01/2019

Form Site Operational

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd

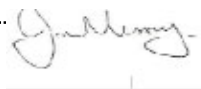
Location: Port Talbot Works

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	0.73	0.78
2	0.71	0.72
3	0.71	0.75
4	0.75	0.82
5	0.74	0.76
6	0.73	0.77
7	0.74	0.79
8	0.77	0.82
9	0.71	0.72
10	0.72	0.77
11	0.71	0.76
12	0.75	0.78
Average KPI	0.73% 0.75%	- -

Signed on behalf of the Operator



Dated 03/01/2019

Form Coke Operational 1

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd

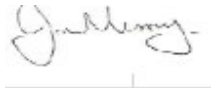
Location: Port Talbot Works

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	86.35	154	9.12	24	123.03	182
Feb	121.00	181	4.63	24	142.92	195
Mar	119.58	171	2.27	11	134.77	193
Apr	145.80	210	3.43	16	164.86	235
May	129.83	206	2.11	9	144.41	224
Jun	133.80	194	2.07	5	149.06	208
Jul	133.45	202	2.89	28	150.22	222
Aug	118.70	173	4.49	13	140.48	193
Sep	85.14	152	13.21	22	106.79	174
Oct	135.97	223	12.42	20	156.87	245
Nov	156.62	208	9.14	13	174.86	225
Dec	119.69	175	11.00	15	140.13	192
Average	124	-	6	-	144	-
Maximum	-	223	-	28	-	245

Signed on behalf of the Operator



Dated 07/01/2019

Form I&S Operational 2

RELEASES INTO AIR - NATIONAL PLAN REPORT

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd

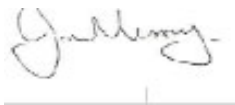
Location: Port Talbot Works

Permit: BL7108

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

Release Point	Sulphur dioxide (Tonnes)	Oxides of Nitrogen (Tonnes)	Particulate Matter (Tonnes)
A50A	147	37	0
A50B	35	37	0
A51	49	16	0
A52A	434	104	1
A52B	302	83	1
A53	59	34	0
All LCPD release points above	1026	312	2
Annual limits (A50-A53)	5000	900	150
A62	4.56	22.90	0.34

Signed on behalf of the Operator



Dated 15/01/2019

Form LCPD Annual 1

RELEASES INTO AIR - NATIONAL PLAN REPORT

Operational summary for the year ending 31/12/2018

Operator: Tata Steel UK Ltd

Location: Port Talbot Works

Permit: BL7108

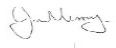
Release Points: A50, A51, A52A, A52B, A53 & A62

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	42.1	42.1	42.1	42.1	42.1	42.1	42.1	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)	47	42	19	218	173	45	257	0	0	5	39	24	7	-	487	566	78	682	529	80	-	338	291	510	2386	2150	1242	1307	-	-	6	290	270	0	17	12103
Total annual energy input (TJ)	802							75							2422							8223							582							
	6.6%							0.6%							20%							68%							5%							

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

Form LCPD Annual 2

Signed on behalf of the Operator



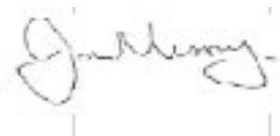
Dated 03/01/2019

EMISSION INVENTORY - ANNUAL REPORT TO THE NRW

Operating year: 2018
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	47	160
Air	Polonium 210	62	185

Dated



21/01/2019

Schedule 9