TATA

The Member Secretary,
Odisha State Pollution Control Board,
A/118, Nilakanthanagar, Unit-VIII,
Bhubaneswar – 751 012, Odisha.

KPO/Env/C-05/ 36 /2018
Sept 25, 2018.

Dear Sir,

Sub: Environmental Statement for the Year 2017-18 for 6 MTPA Steel Plant at Kalinganagar Industrial Complex, Tata Steel Limited.

We are enclosing the "Environmental Statement" duly filled in Form V, for the year 2017-2018 for 6 MTPA Steel Plant at Kalinganagar Industrial Complex by Tata Steel for your kind consideration.

We trust that you will find the above in order.

Thanking you and assuring you of our best attention.

Yours faithfully,

For **Tata Steel Limited**

Head, Environment
Tata Steel Kalinganagar.

Encl: a/a.

Copy to: Regional Officer, OSPCB, KNIC

TATA STEEL KALINGANAGAR
Jajpur 755 026 India
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001
Tel 91 22 66658282 Fax 91 22 66657724

ENVIRONMENTAL STATEMENT
FOR THE YEAR 2017-18

6 MTPA STEEL PLANT OF TATA STEEL AT

KLAINGANAGAR INDUSTRIAL COMPLEX, ODISHA

ENVIRONMENTAL DEPARTMENT
TATA STEEL KALINGANAGAR
Kalinga Nagar Industrial Complex,
Duburi- 755026, Dist- Jajpur, Odisha

ENVIRONMENTAL STATEMENT FORM-V
(See rule 14)

Environmental Statement for the financial year 2017-18 ending with 31st March

Tata Steel Limited
6.0 MTPA Steel Plant at Kalinganagar Industrial Complex, Odisha

PART-A

i)	Name and address of the owner/ occupier of the industry, operation or process	:	Rajiv Kumar VP, Operations Tata Steel Limited, Block-2, General Admin office Kalinga Nagar Industrial Complex Duburi-755026 Orissa
ii)	Industry Category Primary/(STC code) Secondary (STC code)	:	Large Metallurgical Industry —
iii)	Production Capacity	:	6.0 MTPA Crude Steel
iv)	Year of Establishment	:	2016
v)	Date of Last Environmental /Audit Report submitted	:	25/09/2017

PART-B

WATER AND RAW MATERIAL CONSUMPTION

i) **Water Consumption in m^3/day**

Process : 24945
Cooling : 8185
Domestic : 2911

Name of the products	**Process water consumption per unit of products**	
	During the previous Financial Year 2016-2017	**During the Current Financial Year 2017-2018**
Crude Steel	5.43 cum/ MT	4.75 cum/ MT

ii) Raw material consumption:

Name of Raw Material	**Name of the Products**	Consumption of raw material per unit of output (MT/ TCS)	
		During the previous Financial Year 2016-2017	**During the Current Financial Year 2017-2018**
Coal	Crude Steel	0.78	0.83
Iron Ore		1.53	1.44
Lime stone		0.29	0.13
Dolomite		0.11	0.10
Metal & Ferro Alloys		0.01	0.01

PART-C

POLLUTION DISCHARGED TO ENVIRONMENT/ UNIT OF OUTPUT (PARAMETERS AS SPECIFIED IN THE CONSENT ISSUED)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons*
	Kg/day	mg/Nm^3	
a) Water	No discharge of Process waste water. CETP is in operation.		
b) Air			
1. Stack attached to Bag filter for Coke Oven-1			
PM	127.60	36	-28.00
2. Stack attached to Bag filter for Coke Oven-2			
PM	137.46	38	-24.00
3. Stack attached to Boiler of CPP1			
PM	92.55	12	-76.00
4. Stack attached to Blast Furnace Stove			
PM	356.4	33	-34.00
5. Stack attached to ESP-1 of Blast furnace Cast house ESP1			
PM	549.12	26	-48.00
6. Stack attached to ESP-2 of Blast furnace Cast house ESP2			
PM	443.52	21	-58.00
7. Stack attached to ESP of Blast Furnace Stock house			
PM	629.28	38	-24.00
8. Stack attached to De-dusting ESP Sinter Plant 1			
PM	205.63	17	-66.00
9. Stack attached to Waste gas ESP Sinter Plant			
PM	1169	41	-18.00
10. Stack attached to HSM Recuperator 1			
PM	20.43	7	-93.00
11.Stack attached to HSM Recuperator 2			
PM	17.65	6	-94.00
12. Stack attached to ESP for Secondary emission of SMS			
PM	1123.20	39	-22.00
13.Stack attached to Bag filter attached to Lime Kiln 1			
PM	17.28	8	-94.67
14.Stack attached to Bag filter attached to Lime Kiln 2			
PM	12.96	6	-96.00
15. Stack attached to CDQ			
PM	53.08	28	-44.00

PART-D

HAZARDOUS WASTES

(AS SPECIFIED UNDER HAZARDOUS WASTES (MANAGEMENT, HANDLING AND TRANS BOUNDARY MOVEMENT RULES, 2016)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year 2016-17	During the current financial year 2017-18
1. From Process		
Sludge and filters Contaminated with Oil (*Schedules-I Stream-3.3)*	Nil	Nil
Used or spent oil *(Schedules-I Stream-5.1)*	Nil	60300
Wastes / Residues containing oil (Schedules-I Stream-5.2)	45430	20590
Used grease / Greased sludge *(Schedules-I Stream-5.2)*	66960	60360
Oil soaked jute / cotton *(Schedules-I Stream-5.2)*	8830	10760
Acid from used Batteries *(Schedules-I Stream-9.3)*	Nil	Nil
Acid & Alkaline residues, spent acid and Alkali *(Schedules-I Stream-12.1 & 12.2)*	Nil	Nil
Coal Tar sludge (*Schedules-I Stream-13.4)*	154720	206770
Tar tank, Storage sludge / residues *(Schedules-I Stream-13.5)*	Nil	Nil
CO gas pipe line waste & residue from CO gas tap *(Schedules-I Stream-13.6)*	Nil	Nil
Cleaning solvent sludge *(Schedules-I Stream-20.4)*	Nil	Nil
Empty containers of hazardous chemical *(Schedules-I Stream-33.1)*	#442 Nos.	#648 Nos.
Exhaust air or gas cleaning residue *(Schedules-I Stream-35.1)*	Nil	Nil
Spent Ion exchange resins *(Schedules-I Stream-35.2)*	Nil	Nil
2.From Pollution control facilities		
sludge from waste water treatment *(Schedules-I Stream-35.3)*	Nil	204180
Oil and grease skimming residue *Schedules-I Stream-35.4*	Nil	2480
Waste cartridge from CETP,WWTP *Schedules-I Stream-36.2*	Nil	Nil
Evaporation residue from CETP *(Schedules-I Stream-37.3)*	Nil	Nil

Oil/ grease containers generated were used for storage of same material and the hazardous wastes (used oil/used grease/ waste oil etc.) were sold to authorised parties along with the containers.

PART-E
SOLID WASTE

Sl. No.	Solid waste	Total Quantity (Kg)	
		During the previous financial year 2016-17	During the current financial year 2017-18
a.	From process	627587 MT BF Slag	1035333 MT BF Slag
b.	From Pollution Control facilities	7300 MT Flue Dusts	26969 MT Flue Dusts
c.	1)Quantity recycled/reutilised within the unit	154.72 MT coal tar sludge utilised in house	206.77 MT Coal tar sludge utilised in house
		1330 MT Flue Dusts utilised in house	28693 MT Flue Dusts utilised in house
	2) Sold	615707 MT BF Slag	920255 MT BF Slag
	3) Disposed	Nil	Nil

PART-F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous/ Solid Wastes	Characteristics	Method of disposal
Wastes / Residues containing oil (Hazardous Waste)	Oily	Sold to authorised recycler/ Disposed through CHWTSDF Sukinda
Used grease / Greased sludge (Hazardous Waste)	Oily	Sold to authorised recycler/ Disposed through CHWTSDF Sukinda
Waste Water Sludge / Filter cake from CETP	Solid	Disposed through CHWTSDF Sukinda
BF Slag (Solid Waste)	Solid	Sold to cement industries

PART-G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

- Pollution control equipment are effective and efficiently operated at all units.
- By-product gases generated in coke plant, Blast Furnace and Steel melting are recovered and clean gas is used as fuel in power generation and other units, thus reducing coal consumption.
- For collection of surface runs off during monsoon through different drains and recovery of water through pumps, a reservoir of 39,000 m^3 capacity has been constructed.
- Centralised effluent treatment Plant (CETP) in operation to maximize reuse and recovery of treated waste water from different plant units.
- Mechanised road sweeping machine engaged to maintain housekeeping of plant roads.
- Water sprinkling through mobile water tankers to suppress fugitive dusts on roads and other areas.
- Tree plantation is being undertaken in & around site. Till 2017-18, 3.41 Lakh of trees planted in and around the site
- Investment of more than Rs. 1500 Crores has been made for pollution control equipments and other environmental protection measures

PART-H

Additional measures/investment proposal for environmental protection including abatement of pollution.

- Environmental Laboratory facilities being upgraded.
- Investment for remote calibration system of OCEMS for gaseous pollutants .
- Greenery development programme will continue in the year 2018-19.

PART-I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution.

- Tree plantation is undertaken in and around the site. Details of tree saplings planted:-

FY	Plantation (Nos.)	FY	Plantation (Nos.)
2009-10:	792 nos.	2014-15:	35437 nos.
2010-11:	1130 nos.	2015-16:	78730 nos.
2011-12:	4800 nos.	2016-17:	77335 nos.
2012-13:	12622 nos.	2017-18:	100701 nos.
2013-14:	29888 nos.		

Avenue plantation is being taken up at Jajpur town, Kalinganagar and Bhubaneswar

- To maintain housekeeping of plant roads mechanised road sweeping system is operated.
- Regular Environmental Monitoring is carried out. Please refer to **Annexure-I.**
- Seven Nos. of Online AAQM stations commissioned along with Environmental Display Board and data linkage provided for continuous display of data.
- 17 nos. of CEMS, 7 nos. of CAAQMS and 2 nos. of WQMS have been installed and connected to the server of the OSPC Board.
- Consent to Operate (CTO) for integrated steel plant granted by OSPCB on 21.03.2017, which is valid till 31.03.2020.
- About 26345 Sq. meter of Garden has been developed in FY 18.
- 1.5 Lakh sq. meter of garden landscape are being maintained in & around KLNR
- 1120 Kgs of plastic wastes collected, segregated and disposed through Co-processing in cement kiln of ACC, Bargarh.
- E-wastes (4978 Nos. of Category CEEW5 and 725 Nos. of Category ITEW6) were collected and deposited to authorised e- waste collection centre of M/s Sani clean Pvt ltd., Bhubaneswar.
- 55 Kgs of Biomedical wastes generated in Plant's First Aid centre were segregated, collected and disposed through Authorised Biomedical waste disposal facility of M/s Sani clean Pvt Ltd, Bhubaneswar.

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Annexure-I

Ambient Air Quality Monitoring at TSK:

Location	PM10 (or size <10 µm) µg/m3	PM2.5 (or size <2.5µm) µg/m3	SO2 (µg/m3)	NOx (µg/m3)	CO (mg/m3)
Gate No. 1	71.1	32.7	8.0	12.5	0.34
Coke Plant	80.6	39.0	9.2	14.2	0.29
SMS	65.7	30.1	6.5	10.8	0.30
HSM	76.5	35.5	7.0	11.4	0.30
Gate No. 4	68.9	31.3	8.0	12.4	0.32
Power Plant	62.6	28.8	8.4	13.7	0.30
CDQ Area	64.9	29.4	6.7	10.8	0.32
Standard	**≤ 100**	**≤ 60**	**≤ 80**	**≤ 80**	**≤ 4.0**

TREATED EFFLUENT QUALITY									
	Frequency:	Daily Average							
Outlet No.	Description of Outlet	pH	TSS (mg/l)	Phenol (mg/l)	BOD (mg/l)	COD (mg/l)	Cyanide (mg/l)	Ammoniacal Nitrogen (mg/l)	O&G (mg/l)
OSPCB Standard		**6.0-8.0**	**100**	**1**	**30**	**250**	**0.2**	**50**	**10**
1	BOD Plant Outlet	7.2	38.1	0.58	22.3	130.7	0.14	2.37	2.51

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Some Photographs of Tata Steel Kalinganagar

Launch of 'Green School Project- Phase II' in Jajpur district by Tata Steel in association with TERI (Aug'18)

Celebration of World Environment Day 2017

Mechanised Road Sweeping Machine

Celebration of Annual Flower Show, 2018

In-House Environmental Laboratory at TSK