TATA

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

TSK/Env/C-05/ 28 /2019
Sept 25, 2019.

Dear Sir,

Sub: Environmental Statement for the Year 2018-19 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 2018-2019 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**

25.09.2019

Head, Environment
Tata Steel Kalinganagar.

Encl: a/a.

Copy to: Regional Officer, OSPCB, KNIC

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No..... Dt.....
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26 SEP 2019
S.P.C. BOARD
BHUBANESWAR-12

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
Corporate Identity Number L27100MH1907PLC000260 Website www tatasteel com

ENVIRONMENTAL STATEMENT
FOR THE YEAR 2018-19

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 2018-19 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	:	27.09.2018

PART-B

WATER AND RAW MATERIAL CONSUMPTION

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

Process	:	19075
Cooling	:	17349
Domestic	:	3021

Name of the products	**Process water consumption per unit of products**	
	During the previous Financial Year 2017-2018	**During the Current Financial Year 2018-2019**
Crude Steel	4.75 cum/ MT	4.27 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 2017-2018	During the Current Financial Year 2018-2019
Coal	Crude Steel	0.83	0.43
Iron Ore		1.44	1.59
Lime stone		0.13	0.43
Dolomite		0.10	0.18
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	Coke Oven Battery No.1		
PM	295.1	40.9	-18.17
2	Coke Oven Battery No. 1 De-dusting Chimney		
PM	52.0	7.9	-84.20
3	Coke Oven Battery No. 2		
PM	269.7	39.2	-21.53
4	Coke Oven Battery No. 2 De-dusting Chimney		
PM	67.6	10.5	-79.08
5	CPP Boiler-1		
PM	103.3	7.2	-85.58
6	CPP Boiler-2		
PM	125.9	8.8	-82.38
7	BF Cast House-1		
PM	660.0	32.3	-35.33
8	BF Cast House-2		
PM	649.3	34.5	-31.05
9	BF Stock House		
PM	527.1	28.9	-42.28
10	Blast Furnace Stove		
PM	277.2	20.5	-59.07
11	Lime Calcination Kiln-1		
PM	26.4	7.7	-94.85
12	Lime Calcination Kiln-2		
PM	29.9	8.8	-94.11
13	Sinter Plant Waste gas Chimney		
PM	2087.9	41.6	-16.78
14	Sinter Plant De-dusting		
PM	632.0	33.2	-33.62
15	Stack attached to CDQ		
PM	153.8	25.2	-49.68
16	Stack attached to HSM Recuperator 1		
PM	55.3	8.2	-91.76
17	Stack attached to HSM Recuperator 2		
PM	65.8	9.6	-90.40
18	SMS		
PM	2449.0	34.8	-30.42

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 2017-2018	During the Current Financial Year 2018-2019
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)*	60300	99550
Wastes / Residues containing oil (Schedules-I Stream-5.2)	20590	–
Used grease / Greased sludge *(Schedules-I Stream-5.2)*	60360	68930
Oil soaked jute / cotton *(Schedules-I Stream-5.2)*	10760	Approx. 8000
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)*	206770	213000
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)*	#648 Nos.	#787 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)*	204180	316590
Oil and grease skimming residue *Schedules-I Stream-35.4*	2480	Nil
Waste cartridge from CETP, WWTP *Schedules-I Stream-36.2*	Nil	Nil
Evaporation residue from CETP *(Schedules-I Stream-37.3)*	Nil	Nil

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

PART-E
SOLID WASTE

Sl. No.	Solid waste	Total Quantity (Kg)	
		During the previous financial year 2017-18	During the current financial year 2018-19
a.	From process	1035333 MT of BF Slag	1237826 MT of BF Slag 621001 MT of LD Slag
b.	From Pollution Control facilities	26969 MT of Flue dust	31720 MT Flue dust
c.	1)Quantity recycled/reutilised within the unit	206.77 MT of Coal tar sludge utilised in house	213 MT of Coal tar sludge utilised in house
		28693 MT of Flue Dusts utilised in house	29958 MT of Flue Dusts utilised in house. 488635 MT of LD Slag used within.
	2) Sold	920255 MT of BF Slag	1086818 MT of BF slag 132366 MT of LD Slag sold outside.
	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 Financial Year 2018-19, 3.75 Lakh of trees planted in and around the site
- Investment of more than Rs. 1500 Crores has been made for pollution control equipment 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 2019-20.

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	2014-15:	35437
2010-11:	1130	2015-16:	78730
2011-12:	4800	2016-17:	77335
2012-13:	12622	2017-18:	100701
2013-14:	29888	2018-19:	33116

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 30539 Sq. meter of Garden has been developed in FY 19.
- 1.5 Lakh sq. meter of garden landscape are being maintained in & around KLNR
- In FY 2019, 740 Kgs of plastic wastes collected, segregated and disposed through Co-processing in cement kiln of ACC, Bargarh.
- In FY 2019, Total 7110 Nos. of e- wastes (6892 Nos. of Category CEEW5, 110 Nos. of Category ITEW6 and 108 Nos. of category ITEW12) were collected and deposited to authorised e- waste collection centre of M/s Sani clean Pvt ltd., Bhubaneswar.
- In FY 2019, 16.35 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	59.65	30.7	8.1	12.5	0.36
Coke Plant	71.2	33.5	10.1	13.1	0.31
SMS	66.5	30.55	7.2	11.33	0.35
HSM	75.18	35.4	7.85	11.48	0.28
Gate No. 4	70.58	33.2	9.35	12.63	0.25
Power Plant	64.6	29.4	10.8	14.9	0.28
CDQ Area	80.1	38.4	7.3	10	0.23
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	7.3	39.8	0.59	21.6	161.1	0.14	9.1	2.2

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Some Photographs of Tata Steel Kalinganagar

First Slab casted in TSK

First Coil rolled in TSK

Concrete road and road side plantation

Road sweeping with mechanised sweeping machine

Garden development in plant area

Landscaping in Office area

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