TATA

The Regional Officer,
Orissa State Pollution Control Board
JCDL Campus, Pankapal,
Kalinganagar Industrial Complex,
Dist- Jajpur, Odisha- 755026

KPO/Env/C-05/ 31 /2017
Sept 22, 2017.

Dear Sir,

Reg: Environmental Statement for the Period 2016-17 for 6 MTPA Steel Plant at Kalinganagar Industrial Complex, Tata Steel Limited

We are enclosing the "Environmental Statement" in Form V, duly filled in, for the year 2016-2017 for 6 MTPA Steel Plant at Kalinganagar Industrial Complex by Tata Steel for your kind consideration.

The commercial production of TSK started in June 2016.

We wish to mention that necessary control measures have been installed and adopted to minimize the impact on environment.

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**

Received
State Pollution Control Board (Odisha)
RECEIVED
No.
Date
Regional Office

Head, Environment
Tata Steel Kalinganagar.

Encl: a/a.

Copy to : Member Secretary, OSPCB, BBSR

ENVIRONMENTAL STATEMENT
FOR THE YEAR 2016-17

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

FORM-V

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR 2016-17

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	:	21.09.2016

PART-B

WATER AND RAW MATERIAL CONSUMPTION

i) **Total Water consumed** (m^3/day)

Process : 25336.53
Cooling : 9430.59
Domestic : 3351.00

Name of the product	**Process water consumption per unit of product Output**	
	During the previous Financial Year 2015-2016*	**During the Current Financial Year 2016-2017**
Crude Steel	_	5.43 cum/ MT

Note: * - Commercial production from plant started in June 2016

ii) Raw material consumption:

Name of Raw Material	**Name of the Products**	**Consumption of raw material**	
		During the previous Financial Year 2015-2016	**During the Current Financial Year 2016-2017**
Coal	Crude Steel	392574	1728987
Iron Ore		217992	3413900
Lime stone		9759	638191
Dolomite		14926	239957
Metal & FA		94	12738

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
a) **Water**	• Water treatment plants at different units are in operation for treatment of effluents generated. • CETP is in operation and waste water from various sources is further treated for recovery and reuse.		
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	
b) Air			
Stack attached to Bag filter for Coke Oven-1			
PM	46.07	13.00	-74.00
Stack attached to Bag filter for Coke Oven-2			
PM	64.78	18.00	-64.00
Stack attached to Boiler of CPP1			
PM	52.67	6.00	-88.00
Stack attached to Blast Furnace Stove			
PM	230.04	21.30	-57.40
Stack attached to ESP-1 of Blast furnace Cast house ESP1			
PM	115.59	9.00	-82.00
Stack attached to ESP-2 of Blast furnace Cast house ESP2			
PM	148.29	11.47	-77.06
Stack attached to ESP of Blast Furnace Stock house			
PM	336.15	25.20	-49.60
Stack attached to De-dusting ESP Sinter Plant 1			
PM	467.28	13.00	-74.00
Stack attached to Waste gas ESP Sinter Plant			
PM	425.03	12.00	-76.00
Stack attached to HSM Recuperator 1			
PM	21.99	7.00	-93.00
Stack attached to HSM Recuperator 2			
PM	22.79	6.00	-94.00
Stack attached to GCP of SMS			
PM	1443.42	35.60	-28.80
Stack attached to Bag filter attached to Lime Kiln 1			
PM	38.60	19.00	-87.33
Stack attached to Bag filter attached to Lime Kiln 2			
PM	20.39	10.00	-93.33

PART-D

HAZARDOUS WASTES

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

Sl. No as per Schedule-I	Hazardous Wastes	Total Quantity (Tonne/year)	
		2015-16	2016-17
Schedules-I Stream-3.3	Sludge and filters Contaminated with Oil	Nil	Nil
Schedules-I Stream-5.1	Used or spent oil	Nil	Nil
Schedules-I Stream-5.2	Wastes / Residues containing oil	9.9	45.43*
Schedules-I Stream-5.2	Used grease / Greased sludge	Nil	66.96*
Schedules-I Stream-5.2	Oil soaked jute / cotton	Nil	10 MT (approx.) by volume
Schedules-I Stream-9.3	Acid from used Batteries	Nil	Nil
Schedules-I Stream-12.1 & 12.2	Acid & Alkaline residues, spent acid and Alkali	Nil	Nil
Schedules-I Stream-13.4	Coal Tar sludge	Nil	154.72
Schedules-I Stream-13.5	Tar tank, Storage sludge / residues	Nil	Nil
Schedules-I Stream-13.6	CO gas pipe line waste & residue from CO gas tap	Nil	Nil
Schedules-I Stream-20.4	Cleaning solvent sludge	Nil	Nil
Schedules-I Stream-33.1	Empty containers of hazardous chemical	Nil	442
Schedules-I Stream-35.1	Exhaust air or gas cleaning residue	Nil	Nil
Schedules-I Stream-35.2	Spent lon exchange resins	Nil	Nil
Schedules-I Stream-35.3	sludge from waste water treatment	Nil	Nil
Schedules-I Stream-35.4	Oil and grease skimming residue	Nil	Nil
Schedules-I Stream-36.2	Waste cartridge from CETP,WWTP	Nil	Nil
Schedules-I Stream-37.3	Evaporation residue from CETP	Nil	Nil

* 532 Nos. of containers of waste oil and grease were used for storing the same waste and the waste were sold to registered recyclers along with containers.

PART-E
SOLID WASTE

Sl. No.	Solid waste	Total Quantity Generated	
		2015-2016	2016-2017
a.	From process	Nil	627587 MT BF Slag
b.	From Pollution Control facilities	Nil	7300 MT Flue Dusts
c.	1)Quantity recycled within the unit	Nil	154.72 MT coal tar sludge utilised in house 1330 MT Flue Dusts utilised in house
	2) Sold	Nil	615707 MT BF Slag
	3) Disposed	Nil	Nil

PART-F

Characteristics of Hazardous as well as Solid wastes and their method of disposal:

Hazardous/ Solid Wastes	Characteristics	Method of disposal
Wastes / Residues containing oil (Hazardous Waste)	Oily	Sold to authorised recycler
Used grease / Greased sludge (Hazardous Waste)	Oily	Sold to authorised recycler
BF Slag (Solid Waste)	Solid	Sold to cement industries
Old SMF batteries (Battery Waste)	Old Batteries	Sold to authorised recycler

PART-G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production	• Operation of Highly efficient pollution control equipments at all the units • By-product gases generated in coke plant & Blast Furnace are recovered and used as fuel in power generation and other units, thus reducing coal use. • 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 mechanised water sprinkler to suppress fugitive dusts on roads and other areas. • Tree plantation is being undertaken in & around site. Till 2016-17, 2.41 Lakh of trees planted in and around the site

.

PART-H

Additional investment proposal for environmental protection including abatement of pollution

- Investment of more than Rs. 1500 Crores has been made for pollution control equipments and other environmental protection measures.
- Investment in Environmental Laboratory facility is being done.
- Online monitoring system for ambient air quality at 3 additional location is under progress in 2017-18.
- Metal Recovery from plant slag is being constructed in 2017-18.

PART-I

(ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT)

- Tree plantation is undertaken in and around the site

Details of tree saplings planted:

2009-10: 792 nos.	2013-14: 29888 nos.
2010-11: 1130 nos.	2014-15: 35437 nos.
2011-12: 4800 nos.	2015-16: 78730 nos.
2012-13: 12622 nos.	2016-17: 77335 nos.

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

- To maintain housekeeping of plant roads mechanised road sweeping system and water sprinkling system is operated.
- Regular Environmental Monitoring is carried out. Please refer to Annexure-I**.**
- Four Online AAQM stations commissioned along with Environmental Display Board and data linkage provided for continuous display of data (photograph of digital display board installed at Main gate- enclosed)
- Consent to Operate (CTO) for 3 MTPA integrated steel plant including 5X8.769 MW DG sets granted by OSPCB on 21.03.2017.
- About 7400 Sq. meter of Garden has been added at various locations inside project site such as HSM, SMS, MRSS, Training Center, Blast Furnace, etc.
- 40880 sq. meter of garden landscape are being maintained in & around KLNR
- 17 nos. of CEMS, 4 nos. of CAAQMS and 3 nos. of WQMS have been installed and connected to the server of the OSPC Board.

---X---

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	42.4	17.8	5.2	8.6	0.37
Coke Plant	62.0	29.1	8.3	13.6	0.39
SMS	58.8	28.9	5.9	9.0	0.45
HSM	54.7	23.5	7.1	10.7	0.41
Gate No. 4	62.1	30.4	6.9	11.7	0.47
Power Plant	57.0	27.2	9.5	14.5	0.21
CDQ Area	43.0	19.3	6.4	10.9	0.37
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	6.89	38.0	0.48	23.0	70.0	0.12	1.48	2.60

---x---