



o/c

The Member Secretary,  
Jharkhand State Pollution Control Board,  
T.A. Division (Ground Floor),  
H.E.C. Dhurva, Ranchi – 834004  
Jharkhand

WBD/EMC/4016/085/18  
Date: 20.09.2018

**Subject: Submission of Environmental Statement of Power House unit of West Bokaro Division, Tata Steel Limited for the year 2017-18**

Dear Sir,

Please find enclosed herewith the duly filled “Environmental Statement” (Form-V) of **Power House** unit of West Bokaro Division, Tata Steel Ltd. for the year 2017-18.

Kindly acknowledge the same & oblige.

Thanking you,  
Yours sincerely,

  
20.9.18  
**Head (E&F)**  
**West Bokaro Division**  
**Tata Steel Ltd.**

Encl: As Above

**Copy to : The Regional Officer, Jharkhand State Pollution Control Board, PTC Chowk, Matwari, Hazaribagh – 825301 (Jharkhand)**

**TATA STEEL LIMITED**

West Bokaro Division Ghatotand Jharkhand 825 314 India  
Tel 91 6545 262356 (O) Fax 91 6545 262221 262172  
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](http://www.tatasteel.com)

**FORM - V**  
(See Rule -14)

**ENVIRONMENT STATEMENT FOR THE FINANCIAL YEAR ENDING THE 31<sup>st</sup> MARCH, 2018**

**UNIT: POWER HOUSE, WEST BOKARO DIVISION, TATA STEEL LIMITED**

**PART - A**

- 1 Name and address of the owner/ occupier of the industry, operation or process : Mr. Kajal Hota  
Chief (Engineering Services),  
West Bokaro Division,  
TATA Steel Limited, P.O.- Ghatotand  
Dist. Ramgarh, Jharkhand-825314
- 2 Industry Category : Captive Power House
- 3 Production Capacity : 2 X 10 MW Thermal Power Plat & 2x2.5MW DG Set
- 4 Year of Establishment : 1994
- 5 Date of last Environmental Statement submitted. : 25<sup>th</sup> September 2017

**PART - B**

**WATER AND RAW MATERIAL CONSUMPTION**

**i. Water Consumption (m3/d):**

- Process : 2397.07  
Cooling/ Spraying in mine pits : 3883.37 (Boiler Feed + Cooling)  
Colony : This is included in the Environmental Statement of West Bokaro Colliery

Name of the product	Process water consumption per product output (m3/KWH)	
	During the Previous Financial Year (2016-17)	During the current Financial Year (2017-18)
Electricity	0.016	0.021

**ii. Raw Material Consumption:**

Name of Raw materials	Name of the product	Consumption of Raw Material per unit of output (kg/kwh)	
		During previous financial year (2016-17)	During current financial year (2017-18)
Coal (Washery Rejects)	Electricity	2.21	1.85

**PART - C**

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

Pollutants	Quantity of pollutants discharged (mass /day)	Concentration of pollutants in discharges (mass / volume)	Percentage of variation from prescribed standards with reason
Water	Zero Effluent Discharge is maintained.		

Pollutants	Quantity of pollutants discharged (mass /day)	Concentration of pollutants in discharges (mass / volume)	Percentage of variation from prescribed standards with reason
Air	Air quality is monitored and found within prescribed limit. Details for FY'18 are as follows: <b>AAQ Report: Core Zone</b>		
	<b>Parameter</b>	<b>Washery Complex</b>	<b>Standard</b>
	SPM	429.00	700
	RPM	148.58	300
	PM10	72.33	100
	PM2.5	46.08	60
	SO2	20.08	120
	Nox	43.75	120
	All values are in ( $\mu\text{g}/\text{m}^3$ )		
	<b>AAQ Report: Buffer Zone</b>		
	<b>Parameter</b>	<b>Pundi</b>	<b>Banji</b>
			<b>Chainpur</b>
			<b>Duni</b>
			<b>Mukunda Beda</b>
			<b>Standard</b>
	PM10	51.08	54.92
	PM2.5	26.05	32.64
	SO2	13.44	14.19
	Nox	28.89	27.96
			27.46
			28.80
			28.46
			80
			80
	All values are in ( $\mu\text{g}/\text{m}^3$ )		
	Due to absence of stationary source, it is difficult to measure pollutants load. So, the quantity of air pollutants discharged in Kg/day cannot be ascertained. The above data shows the average ambient air quality during 2017-18.		

**PART-D**  
**HAZARDOUS WASTE**

[as specified under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016]

Hazardous Waste	Total Quantity	
	During the previous financial year (2016-17)	During the current financial year (2017-18)
a) From Process: Oil soaked cotton (jute)	600 kg	100 kg
b) From Pollution control facilities: <ul style="list-style-type: none"> <li>• Used lubricating Oil</li> <li>• Non-Ferrous scrap (Cu -Wires, Zn chips, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• 1600 litres</li> <li>• Nil</li> </ul>	<ul style="list-style-type: none"> <li>• 1600 litres</li> <li>• Nil</li> </ul>

**PART-E  
SOLID WASTE**

Solid Wastes	Total Quantity	
	During the previous financial year (2016-17)	During the current financial year (2017-18)
(a) From Process • Coarse ash (from boiler)	Approx. 81700.56 ton	Approx. 77294.53 ton
(b) From Pollution control facilities • Fly ash (from ESPs)	Approx. 54467.04 ton	Approx. 51529.69 ton
(c) (1) Quantity recycled or reutilized within the unit  (2) Sold (3) Disposed	(1) The ash being dump for filling of low laying area created between the OB dumps.	

**PART - F**

**THE CHARACTERISTICS (in terms of composition and quantum) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES**

Category of Waste	Characteristics	Quantity	Disposal Practice
<b>Solid Waste</b>			
1. Coarse Ash	Burnt coarse coal particles (Solid)	~77294.53 ton	Being used in filling low lying area between OB dumps, partially utilized in bricks making.
2. Fly Ash	Burnt fine coal particles (Solid)	~51529.69 ton	
<b>Hazardous Waste</b>			
1. Used Oil	Used Oil (Liquid)	1. 1600 litres	1. Disposed off to authorized recycler.
2. Oil soaked cotton/jute	Used Cotton (Solid)	2. 100 kg	2. Safely collected and stored.

**PART - G**

**IMPACT OF POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION**

- FBC based power plant used high ash content (58-62%) reject coal as fuel and produces power in efficient way. A four field BHEL make Electrostatic Precipitator has been installed with various associated auxiliary system which limits the emission well below the permissible norm.
- Online stack monitoring system is installed for monitoring & recording of stack emission level for both the stacks and data transmission facility has been extended to JSPCB office, Ranchi.
- The combined impact due to implementation of pollution prevention and control measures on cost per tonne of ROM coal, of entire west Bokaro division (Washery, PH, Mines, Eng. services, Logistic, etc.) is Rs. 71.74 (Rupees seventy-one and seventy-four paise only).

In addition to the above Tata Steel Rural Development Society (TSRDS) is engaged in peripheral developmental activities in villages around the mine. The projects of the Society include irrigation and agricultural extension projects, plantation programmes, installation of solar street lights and illuminate villages on through low cost, construction of ponds in support to provision of irrigation water and for other domestic use and in recharging

groundwater by arresting the flow of rainwater in downstream, creation of SAVE FOREST groups, civic amenities development, medi-care and health education, rural sports, skill development and promotion of rural cultural activities.

#### PART-H

#### **ADDITIONAL MEASURES/ INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT OF POLLUTION, PREVENTION OF POLLUTION**

- All ESP of power house are adequately maintained and all online stacks monitoring system is smoothly working in power house. Regular maintenance of all equipments is done for enhancement of efficiency of PH.
- Zero discharge is being maintained strictly with close circuit recycling of water.
- ₹ 100.00 lakhs have been planned to be spent towards buying scientific equipment and strengthening the environmental laboratory.

#### PART-I

#### **ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT**

EMS ISO 14001 & OHSAS 18001 are being monitored and practiced strictly to protect and preserve the environment by eco-friendly operations and prevent any potential hazard to become risk posing serious threat to environment in a proactive manner. Reduction in water consumption by ensuring its use in judicious manner, further, working on to reduction of power consumption by improving / replacing various energy efficient equipments.



*wjay*  
Mr. Kajal Hota, Chief (Engineering Services)  
West Bokaro Colliery, Tata Steel Limited,  
P.O. - Ghatotand, Dist. - Ramgarh, Jharkhand - 825314