



o/c

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

WBD/EMC/4016/083/18  
Date: 20.09.2018

**Subject: Submission of Environmental Statement of Washery-II 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 Washery-II unit of West Bokaro Division, Tata Steel Ltd. for the year 2017-18.

Kindly acknowledge the same & oblige.

Thanking you,  
Yours sincerely,

A handwritten signature in blue ink, followed by the date '20.9.18' written in blue ink.

**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

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

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

**UNIT: WASHERY - II, WEST BOKARO DIVISION, TATA STEEL LIMITED**

**PART - A**

- 1 Name and address of the owner/ occupier of the industry, operation or process : Mr. B.V. Sudhir Kumar  
Chief (Coal Beneficiation),  
West Bokaro Division,  
TATA Steel Limited, P.O.- Ghatotand  
Dist. Ramgarh, Jharkhand-825314
- 2 Industry Category : Major (Coal Beneficiation)
- 3 Production Capacity : 2.5 MTPA Raw Coal Throughput
- 4 Year of Establishment : 1982
- 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 : 682.27  
Cooling/ Spraying in mine pits : Not Applicable  
Colony : This is included in the Environmental Statement of West Bokaro Colliery

Name of the product	Process water consumption per product output (m3/ton)	
	During the Previous Financial Year (2016-17)	During the current Financial Year (2017-18)
Clean Coal	0.25	0.23

**ii. Raw Material Consumption:**

Name of Raw materials	Name of the product	Consumption of Raw Material per unit of output	
		During previous financial year (2016-17)	During current financial year (2017-18)
Raw Coal	Clean Coal	2.060 t/t of clean coal	2.140 t/t of clean coal
Magnetite	Middling	0.71 kg/t of coarse coal	0.80 kg/t of coarse coal
Synthetic Collector		0.54 kg/t of fine raw coal	0.54 kg/t of fine raw coal
Frother		0.085 kg/t of fine raw coal	0.08 kg/t of fine raw coal
Flocculent		0.021 kg/t of fine raw coal	0.018 kg/t of fine raw coal

**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	68.53	51.60	72.29	100
	PM2.5	26.05	32.64	42.75	30.72	46.09	60
	SO2	13.44	14.19	16.78	13.94	16.86	80
	Nox	28.89	27.96	27.46	28.80	28.46	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)	1600 kg	600 kg
b) From Pollution control facilities: Used lubricating Oil	4200 litres	2950 litres



**PART-E**  
**SOLID WASTE**

Solid Wastes	Total Quantity	
	During the current financial year (2016-17)	During the current financial year (2017-18)
(a) From Process: • Rejects (by products) • Tailings	• 290094 ton • 488022 ton	• 275673 ton • 514530 ton
(b) From pollution control facilities	Nil	Nil
(c) I. Quantity recycled or reutilized within the unit • Coal Reject*	• 2.26 lakh ton used in captive power plant (Rejects are being used in FBC power plant, disposed off to outside agencies & stacked in specified locations).	• 2.03 lakh ton used in captive power plant (Rejects are being used in FBC power plant, disposed off to outside agencies & stacked in specified locations).
II. Sold (to reuse as fuel) • Coal Reject*  • Tailings*	• 7.68 lakh ton to institutionalized customer operating power plant. • 8.16 lakh ton to Brick Klin and power plant operator.	• 8.13 lakh ton to institutionalized customer operating power plant. • 13.71 lakh ton to Brick Klin and power plant operator.
III. Disposed	Nil	Nil

Note: \* Since the Coal reject and tailings of Washery-II & Washery-III are being maintained combinedly at a single location so the above mentioned quantity in item (c) includes coal reject and tailings of both Washery-II and washery-III.

**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. Rejects	Coal of -13mm size (Solid)	275673 ton	Used in FBC power house and disposed off to outside parties operating power plant / stacked.
2. Tailings	Coal of -0.5mm size (Solid)	514530 ton	Disposed off to outside agencies (Brick klin manufacturer, institutionalized customer).
<b>Hazardous Waste</b>			
1. Used Oil	Used Oil (Liquid)	2950 litres	Disposed off to authorized recycler.
2. Oil soaked cotton/jute	Used Cotton (Solid)	600 kg	Safely collected and stored.



## PART - G

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

- Adequate fixed type dust suppression arrangement is working inside Washery roads.
- Dry fog system is operational in coal handling plant.
- In addition to above, modifier has been introduced in froth-flotation process for additional recovery of clean coal, which is not only increases the yield of process reduces the raw coal quantity for the same quantity of clean coal thus conserves the natural resources.
- Fixed type water spraying system inside washery complex are being used for dust suppression.
- 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**

- Dry fog dust suppression system is also extended to raw coal screen area to minimize fugitive emission.
- Efficient LED lights are introduced in canteen areas.
- ₹ 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. Mechanical Tailing dewatering plant is in operation to recover tailings and ensure recycling of water to wash plant. This has reduced the use of tailing ponds, a commitment towards continual improvement of environmental performance.

*Wkay*

*B.V. Sudhir Kumar*

**Mr. B. V. Sudhir Kumar, Chief (Coal Beneficiation)  
West Bokaro Colliery, TATA Steel Limited,  
P.O. - Ghatotand, Dist.- Ramgarh, Jharkhand - 825314**