Ref. No.: FAMD/FAPB/ 47 /FY-25 **Date: 25.09.2024**

To
The Member Secretary
Odisha Pollution Control Board
A/118, Nilakantha Nagar
Bhubaneswar--751012

Sub: Submission of Environmental Statement for the period of 2024-25 for Ferro Alloys Plant, Bamnipal of Tata Steel Limited.

Dear Sir,

Kindly find the attach here with Environment Statement in the prescribed format (Form-V) as per Environment (Protection) Amendment Rules 1992 of our FAP Jajpur for your kind perusal.

Thanking you,

Yours faithfully,
For : TATA STEEL LTD.

Head(Ferro Alloys Production)
TATA STEEL LIMITED
Ferro Alloy Plant,Baminipal
Keonjhar,Odisha,Pin-758082

HEAD, (F A PRODUCTION)
FERRO ALLOYS PLANT, BAMNIPAL

Copy to -Regional Officer, OPCB, At-Baniapatt, College Road, Keonjhar - with enclosure.

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TATA STEEL LTD
Ferro Alloys Plant, Bamnipal-758082, Dist. Keonjhar, Odisha, India
Tel : 09238118601,9238118603
Regd. Office : Bombay House, 24 Homi Mody Street, Mumbai – 400 001
Tel. 91 22 66658282, FAX 91 22 666577724
Corporate Identity No - L27100MH1907PLC000260, Website : www.tatasteel.com

ENVIRONMENT STATEMENT

FOR THE FINANCIAL YEAR 2024-25

Submitted to SPCB under Rule 14 of The Environment (Protection) Rules 1986

TATA STEEL LIMITED

FERRO ALLOYS PLANT, BAMNIPAL
(TATA STEEL LIMITED)

ENVIRONMENTAL STATEMENTS

FORM-V

Environmental Statement for the financial year ending the 31st March 2025

PART-A

1	Name and address of the owner/ occupier of the industry, operation or process	:	Adarsh Agrawal Head FAP Bamnipal, Tata Steel Limited, Dist: Keonjhar, Odisha-758082
	Nominated Owner	:	Sushanta Kumar Mishra EIC FAMD, Tata steel Limited, Bhubaneswar Dist: Khordha, Odisha-751015 Mr T V Narendran, Managing Director & CEO, Tata Steel Limited, PO: Jamshedpur, Dist.: East Singhbhum, Jharkhand-831001
2	Industry Category	:	Ferrous and Nonferrous Metal Processing
3	Production capacity	:	Charge Chrome/ Silico Manganese/Ferro Manganese: 65,000 TPA
4	Year of establishment	:	1986
5	Date of last Environmental Statement submitted.	:	28th September 2024, vide letter no. FAMD/FAPB/012/FY25 for the year 2023-24.

PART - B

Water and Raw Material Consumption:

Water Consumption: Water is used inside the Plant for the following purposes

a) Industrial Cooling
b) Process and
c) Domestic Purpose

Water consumption under all the three heads for the assessment year are as follows: -

Consumption Head	**Water consumption in M^3/Year**	
	During FY 23-24 (in M^3/Year)	**During FY 24-25 (in M^3/Year)**
Industrial Cooling	467296	485182
Process	237212	15127
Domestic	237727	221004
Name of Product	**Process Water Consumption per Unit of Products (M^3/T)**	
High Carbon Fe. Cr.	18.71	27.68

B. Raw material Consumption:-

SN	**Name of Product**	**Name of Raw Material**	**Consumption of raw material per unit of output**	
			During the previous financial year 2023-24 (T/T of Product)	**During the current financial year 2024-25 (T/T of Product)**
1	High Carbon Ferro Chrome (Electric Arc Closed Furnace 30 MVA)	Chrome Ore	2.071	2.09
		Coke	0.522	0.53
		Electrode Paste	0.008	0.012
		Quartzite	0.076	0.159
		Magnesite	0.0007	0.0052
		Lime	0.0013	0.0042

PART - C

Pollution discharged to environment / unit of output

(Parameter as specified in the Consents issued)

Basically the plant produces air pollution and the causes can be attributed to the process which has been briefed as follows:-

Brief description of the process producing FeCr:

During the smelting process, oxides of Chromium, Iron, Silicon, Sulphur and Phosphorous are reduced and the reactions involved in the above process are as follows:-

$Cr_2O_3 + 3C = 2Cr + 3CO$
$Fe_2O_3 + 3C = 2Fe + 3CO$
$SiO_2 + 2C = Si + 2CO$
$P_2O_5 + 5C = 2P + 5CO$

The Sulphur goes into the Slag and also escapes to the atmosphere through the stack as SO_2.

Sources of Pollution:

The sources of pollution can be in the form of:
1. Water Pollution
2. Air Pollution

1. Water Pollution:-

The water used for cooling several parts of the Furnaces, making slurry in GFPS, slag granulation, scrubbing in GCP is re-circulated to the system and is not discharged outside the Plant.

2. Air Pollution:

30 MVA Arc Furnace produces the following air pollutants which is released to atmosphere through GCP.SPM, SO_2, NO_2 & CO

1.1 Pollutants from Stack :

Sl No	Pollutants	Quantity of pollutants discharged. (Ton/Day) 2024-2025	Quantity of pollutants discharged (mg/Nm3) 2024-2025	Percentage of variation from prescribed standards with reasons
1	Stack attached to Arc Furnace	0.013	31.92	Nil

PART – D
HAZARDOUS WASTES

(AS SPECIFIED UNDER THE HAZARDOUS WASTES)

HAZARDOUS WASTES	TOTAL QUANTITY GENERATED	
	DURING THE PREVIOUS YEAR (2023-24)	DURING THE CURRENT YEAR (2024-25)
I) FROM PROCESS a. Used Oil	a) 300 Ltrs	b) 3000 Ltrs
II) FROM POLLUTION CONTROL FACILITY (GCP) a) Flue gas cleaning residue	a) 191.8 Mt (as sludge)	a) 165 Mt (as sludge)

PART - E
SOLID WASTES

SOURCES	TOTAL QUANTITY	
	DURING THE CURRENT YEAR (2023- 2024)	DURING THE CURRENT YEAR (2024- 2025)
a. From Process Slag	37637 MT	20981 MT
b. From Pollution Control Facility.	--	--
c. i. Quantity recycled or Reused within the unit (Fe. Cr. Slag)	--	
ii. Quantity sold		170552.34 MT Slag
iii. Quantity disposed	--	--

PART - F

Hazardous Wastes/ Solid Wastes	Characteristics of	Method of Disposal
Fe Cr Slag	Cr_2O_3 = 8% to 15% SiO_2 = 28% to 30% MgO = 25% to 28% Al_2O_3 = 22% to 25% Fe_2O_3 = 3% to 4% CaO = 2% to 3%	During smelting operation of High Carbon Fe Cr., slag is generated as a byproduct, which is disposed inside leased area or used in NHAI Road Construction Projects or in Land filling purposes in plant project sites
GCP Sludge	Cr2O3 = 9% to 10% SiO2 = 28% to 32% Al2O3 = 22% to 25% CaO = 2% to 4% MgO = 25% to 28% FeO = 05 to 07%	The sludge after being conveyed to the imperviously lined sludge drying beds from the thickener is allowed to dry sufficiently and the dry sludge is then transported to the earmarked sludge dumping site inside the plant premises & sent to the authorized recycler M/s RAMKY, Jajpur
Used Transformer Oil	Hydrocarbons	The waste oil generated at various sources is collected in leak proof barrels and then are kept on an impervious floor with oil catch pit. It is also ensured that the caps of the barrels remain intact and horizontal. The storage area is properly fenced and caution board displayed. During transfer of waste oil to barrels, a trough is placed underneath in order to prevent land contamination due to oil spillage. Then at a fixed interval, these barrels are returned to stores for final disposal through auction to the authorized recycler after due intimation to State Pollution Control Board. After dispatch of same, intimation of auction along with copy of manifest is also being sent to State Pollution Control Board.
Waste Batteries	Lead & Used Batteries	Waste Batteries are generated in Electrical section and Garage. These batteries with diluted acid and caps intact are kept under a shed having impervious floor. Then at a fixed interval, these batteries are returned to Stores for final disposal. All storage areas are having sheds have been suitably barricaded and caution board displayed. Then at a fixed interval, these batteries are disposed through auction to the authorized recycler after due intimation to State Pollution Control Board. After dispatch of same, intimation of auction along with copy of manifest is also being sent to State Pollution Control Board.

PART - G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of producton:

Environmental Management System in concurrence with the requirements of ISO-14001 standards has been implemented very effectively thro' the following efforts:-

a. Effective solid wastes management.
b. 100% recycling of wastewater.
c. Scheduled water sprinkling of haul roads.
d. Waste dump plantation.
e. Discharging the canteen wastewater to Soak Pits thro' settling tank.
f. Imparting EMS training to all the employees.
g. Proper handling and management of Hazardous Wastes.
h. Optimization of consumption of natural resources like water & minerals.

PART – H

Additional measures/investment proposal during 2024-25 for environment protection including abatement of pollution prevention of pollution.

Necessary pollution control equipment has been installed at site and steps are being taken to implement environmental protection measures. An operational environment expenditure of rupees 7.5 Crores towards various projects for FY 2024-25 has been spent as below:

a) Annual maintenance of both the GCPs including power consumption of GCP costs 1.7 Crore.
b) Annual maintenance of DFDS system of Rs 7 Lakh.
c) Plantation in and around the Plant for which the annual expenditure of Rs. 12 lakhs was incurred.
d) Rs. 5 lakhs every year for water sprinkling on haul roads.
e) Environmental Monitoring & Measurement every month by third party at annual cost of Rs. 20 lakhs.
f) Bio medical waste are disposed of at common bio medical waste treatment & dispose facility operated by M/s SANI Clean Pvt limited of an amount Rs 4.5 Lakh
g) Slag Shifting from Dump Yard to Project Sites – 5.1 Crore

PART – I

Any other particular for improving the quality of the environment protection and abatement of pollution.

a) Community awareness development programs on environmental protection are also undertaken through celebration of World Environment Day and showing films on

Environmental Protections in captive channel. Involvement of school children, spouse, family members and Road show (Drama) to develop awareness on world Environment Day.

b) Also took integrated mosquito control program to eradicate malaria cases in the colony.
c) TSRDS has done several mobile treatment programs in different villages regarding diseases and their remedial measures with full checkup.
d) The Plant has been certified to the coveted ISO-14001:2004 (EMS) Certification by IRQS, Kolkata.
e) We have undertaken extensive CSR activities like plantation program at nearby schools etc.
f) Only PUC certified vehicles are engaged inside plant premise.

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