



Letter No: TSL/FAMD/FAPA/FY25/1112

Date: 23.07.2024

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

Sub: Submission of Environment Statement of "Ferro Alloys Plant M/s Tata Steel Limited, Athagarh" (Formerly Known as Tata Steel Mining Limited), for the year ending 31st March 2024.

Dear Sir,

We are herewith Submitting the "Environmental Statement for the financial year 2023-2024 in Form-V as per rule-14 under Environment (Protection) Rules, 1986.

This is for your necessary reference & perusal.

With best regards,

For Tata Steel Limited.


Authorized Signatory

Factory Manager
Ferro Alloys Plant, Athagarh
Tata Steel Limited



Encl: Form-V

Copy to: The Regional Officer, Cuttack, State Pollution Control Board, Odisha,

The MOEF & CC, Bhubaneswar

TATA STEEL LIMITED

Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India

Tel 91 22 6665 8282 Fax 91 22 6665 7724 Website www.tatasteel.com

Corporate Identity Number L27100MH1907PLC000260



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ENVIRONMENTAL STATEMENTS

FORM-V

(See Rule 14)

The Ministry of Environment & Forest vide its notification dated March, 1992 directed all industries which need to have consent under Water (Prevention & Control of Pollution) 1974 and Air (Prevention & Control of Pollution) 1981 to file the Environmental statement every year. This is to be filed for the period ending March by September every year. The format for the same is as follows:

Environmental Statement for the financial year ending the **31st March 2024**.

PART – A

- | | |
|---|--|
| (i) Name and address of the Owner/occupier of the Industry operation or process | : Shri T.V.Narendran
(Managing Director)
Ferro Alloys Plant of M/s
Tata Steel Limited

Works: At-Anantapur
P.O.-Dhurusia
Tehsil-Athagarh
Dist: Cuttack-754029 |
| (ii) Industry Category Primary – (STC code) : Large
Secondary – (SIC code) | |
| (iii) Production Capacity-Units | : 59, 400 MT/year |
| (iv) Year of establishment | : 2004. |
| (v) Date of the last submission | : 28/07/2023 with vide Letter No.
TSML/FAPA/6305/FY24 |

PART - B

Water and Raw Material Consumption

(i) Water consumption m³/d

Water consumption heads	Water consumption quantity in m ³ /day	Approval Quantity from Central Ground Water Authority, Ministry of Water Resources, Govt. of India
Process	260.28	The approved quantity for surface water withdrawal from river Mahanadi is 0.5 cusec (1224m³/day) . The approval is accorded vide Letter No. 11961/WR Dated: 13/05/2022.
Industrial Cooling	94.51	
Domestic	251.87	
Total Consumption/day	606.66	

Name of product	Process water consumption per unit of product output (M ³ /T).		
	During the previous financial year (2022-2023)	During the current financial year (2023-2024)	
1	2	3	
High Carbon Ferro Chrome.	3.80	3.58	
(ii)	Raw material consumption		
Name of raw material	Name of products	Consumption of raw material for unit of output. (For production of 1 MT of High Carbon Ferro Chrome).	
	High Carbon Ferro chrome	During the previous financial year (2022-2023)	During the current financial year (2023-2024)
Chrome Ore		2350 Kgs	2363Kgs
Coke		500 Kgs	402.13Kgs
Quartz		160 Kgs	163Kgs
power		3.37 MW	3.407MW

* F.C=Fixed Carbon

Polluting Industry may use codes if disclosing details of raw material would violate Contractual obligations, otherwise all industries have to name the raw material used.

PART - C

Discharged to environment / unit of output specified if the consent issued.

Pollutants	Quantity of pollutants Discharged (mass/day)	Concentration of pollutions in discharges (mass / volume)	Percentage of variation from prescribed standards with reasons
a) Water	NIL	NIL	NA
b) Air			
Stack emission of furnace-1. Particulate Matter (PM) in mg/NM ³	-	*43.54 mg/NM ³	Within the prescribes standard
Stack emission Of furnace-2. Particulate Matter (PM) in mg/NM ³	-	*44.92 mg/NM ³	Within the prescribes standard
Stack emission Of Briquetting plant. Particulate Matter (PM) in mg/NM ³	-	70.88mg/NM ³	Within the prescribes standard

***Annual average data**

1. Prescribed standard for Particulate matter emission from stack attached to furnace-1 & 2 is **100 mg/NM³**.

PART - D
HAZARDOUS WASTES

(As specified under the hazardous wastes/management & handling rules, 1989)

Hazardous wastes	Total quantity (Kg)	
	During the current financial year (2022-2023)	During the current financial year (2023-2024)
a) FROM PROCESS		
i) USED TRANSFORMER OIL	1.450 KL	0.840 KL
ii) WASTE OIL	221 Ltr. (Used Gear Oil feed in the Briquette plant Dryer)	31 Ltr. (Used Gear Oil feed in the Briquette plant Dryer)
iii) Waste Containing Oil	221 kg (Oil contaminated cotton waste)	0.61 MT (Oil contaminated cotton waste)
b) FROM POLLUTION CONTROL FACILITY	1032.78 MT (GCP Dust)	797.65 MT (GCP Dust)

PART - E
SOLID WASTES

Sources	Total quantity	
	During the current financial year (2022- 2023)	During the current financial year (2023-2024)
a. From Process		
i) Slag	48696 MT	49142.97 MT
ii) Waste Batteries	Nil	NIL
b. From Pollution Control Facility.	1032.78 MT (as dry)	797.65 MT (as dry)
c. (1) Quantity recycled or reutilized within the unit	1032.78 MT (used in briquette making)	797.65 MT (used in briquette making)
(2) Quantity sold	NIL	NIL
(3) Quantity disposed	NA	NA

PART - F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both the categories of wastes.

Characteristics of FeCr Slag	Characteristics of GCP Dust
Cr ₂ O ₃ = 7% to 8%	Cr ₂ O ₃ = 7% to 10%
SiO ₂ = 28% to 32%	SiO ₂ = 22% to 25%
FeO = 3.5% to 4.0%	FeO = 3% to 5%
CaO = 5.0% to 6.0%	CaO = 6% to 8%
MgO = 24% to 26%	MgO = 24% to 28%
Al ₂ O ₃ = 21% to 23%	Al ₂ O ₃ = 10% to 15%
S = 0.3 % to 0.5 %	C = 3% to 6%
	S = 0.6 % to 0.9 %

	LOI* = 13 % to 17 %
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*LOI = Loss on ignition

The compositions of other hazardous wastes like Waste Oil & Waste Batteries are Hydrocarbons, lead and acids.

Disposal practice:

Slag:-

Furnace # 1 & Furnace # 2 produce Cr₂O₃ slag as a by – product. The slag is mostly utilised for road construction & development and the rest is dumped at earmarked site inside the factory premises.

GCP dust:-

Individual GCPs have been provided to Furnace I & II. Each GCP consists of gas cooler (air to air heat exchanger) and pulse jet bag filter with duct and ID fan of capacity 2, 40,000m³/hr and discharged through a stack of adequate height. The flue gas cleaning residue is properly collected with the help of pneumatic dust collection system provide with silo and stored on a concrete floor under shed and is used in briquette making process.

Waste oil:

The waste oil generated at various sources are collected in leak proof barrels and then are kept on a concrete floor with oil catch pit. It is also ensured that the caps of the barrels remain intact and in upright position. 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 authorized reprocessor.

Waste batteries:

Waste Batteries are generated in Electrical and IT section. These batteries with diluted acid and caps intact are kept under a shed having concrete floor. Then at a fixed interval, these batteries are returned to stores for final disposal. The UPS generated is kept inside the IT room and during purchase of new UPS it is handed over to the party under buy back policy.

Used cotton wastes:

The used cotton wastes generated at various locations are kept in designated barrels and at a fixed interval; these wastes are handed over to the Shift In-charge of the Furnace Section for incinerating in the Electric Arc Furnace at a temperature of more than 1700 degree C.

PART - G

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

M/s TATA STEE LIMITED has spearheaded the pursuit for Environmental Protection by implementing an effective environmental management system. To this effect, the Plant has undertaken the following measures: -

- i. Annual maintenance of both the GCPs including power consumption and GCP dust transportation is 4.37 Crores (Approx.).
- ii. Annual maintenance of dry fog systems including power consumption is 5 lacs (Approx.).
- iii. Misc. Contractual jobs for maintaining environmental management system was Rs.24.00 lakhs (approx.).

So the total annual expenditure incurred towards environmental protection
= (4.37 Crores +5 lacs+24.00 lacs) = Rs 4.66 Crores (approx.)

Annual production of the plant during the year = 52741.48 MT

So, the impact of the pollution abatement measures on the cost of production shall be = Rs 4.66 Crores/52741MT = Rs 883.56/MT

Thus, the plant is incurring an additional expenditure of Rs 883.56/MT of finished product towards pollution control measures.

PART – H

Additional measures/investment proposal for environment protection including abatement of pollution prevention of pollution.

The following measures have been planned to execute in the current year for environment protection and abatement of pollution.

- We have installed tractor mounted water sprinklers for raw material yard and planning for horizontal implementation at dispatch yard and hauling roads.
- Plantation of around 1000 seedlings inside the plant premises for green belt development.
- For energy conservation we have planned to be installed VVVF drive for Skip operation. The energy reduction will be Approx. 20%.

- We have planned to install an automatic water sprinkling system through the piping.
- We have constructed a deep burial and sharp pit for proper disposal of bio medical waste.

PART – I

Any other particular for improving the quality of the environment.

- We have installed Dry Fog system at all the raw material feeding points and water sprinkling is being carried out throughout the plant to suppress the dust.
- Individual GCPs have been provided to Furnace I & II. Each GCP consists of gas cooler (air to air heat exchanger) and pulse jet bag filter with duct and ID fan of capacity 2, 40,000m³/hr and discharged through a stack of adequate height.
- Fume collection system at secondary emission sources like at metal tapping points of Furnace I & II has been provided and are connected to their respective GCPs.
- Pneumatic collection system is provided for extraction of ash & dust from the SAF.
- We are having a Sewage Treatment Plant (STP) of capacity 150 KLD to treat the domestic sewage based on Activated Sludge process and also we have a Effluent Treatment Plant (ETP) of capacity 500 KLD to treat the Effluents.
- We are disposing all the slag materials in earmarked site inside the plant premises and utilizing it in road making.
- We have developed ground water recharge pits based on the contour gradient inside the plant premises.
- We have provided adequate measures for proper handling of hazardous waste in accordance with the provisions of Rules.
- We are maintaining good housekeeping throughout the plant.
- We have adopted different energy conservation measures for conserving thermal & electrical energy.
- 90 KW VVVF drive has been installed for power saving, approximately 65% of energy saved.

- 40 KW VVVF drive installed for skip application, approximately power consumption less by 20%.
- Energy auditing to find out the losses and to take preventive measures.
- We have developed adequate green cover inside the plant & also carried out plantation drive in the periphery villages.
- We have carried out third party hazardous waste audit as per the guideline of Honorable Supreme Court of India.
- We have constructed garland drain around raw material yard for collection and treatment of surface runoff during monsoon period.
- Community awareness development programmes on environmental protection are also undertaken through celebration of World Environment Day.
- We have undertaken extensive CSR activities.