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TSL/SPCB/TS-30/2024-03/494

September 27, 2024

**The Member Secretary**

State Pollution Control Board, Odisha  
Parivesh Bhawan, A/118,  
Nilakantha Nagar, Unit-VIII,  
**Bhubaneswar-751012**

**Subject:**Environmental Statement for the financial year 2023-24 for Residential Township of M/s. Tata Steel Limited Meramandali, Dhenkanal

**Reference:**Consent Order No.5425/IND-I-CON-6826 dated 31.03.2022

Dear Sir,

In reference to the captioned subject and letter cited above, we are submitting herewith the "Annual Environmental Statement (Form-V)" duly filled in the prescribed format for the Residential Township of Tata Steel Limited at Narendrapur, Via: Meramandali, Dist. Dhenkanal, Odisha, for the financial year 2023-24.

This is for your kind information and necessary record please.

Thanking you

Yours faithfully,

**For Tata Steel Limited**

**Anoop Srivastava**  
**Chief Environment -TSM**

**Encl:** As above

**Copy to:**

1. Deputy Director General of Forests (C) Ministry of Environment Forest and Climate Change, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar 751023.
2. Regional Officer, State Pollution Control Board, Odisha, Angul.
3. The Member Secretary, SEIAA, Odisha, Qr.No.5RF-2/1, Unit-IX, Bhubaneswar-751022



**TATA STEEL LIMITED**

Narendrapur Kuspanga Meramandali Dhenkanal 759 121 Odisha India Tel 91 6762 352000  
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India Tel 91 22 66658282 Fax 91 22 66657724  
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com



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**[FORM-V]**  
**(See rule 14 of The Environment Protection Act, 1986)**  
**Environment Statement for the financial year ending 31<sup>st</sup> March 2024**

**PART – A**

<b>General Information</b>		
	Name of the Company	<b>Tata Steel Limited, Meramandali</b>
1.	Name & Address of the owner/occupier of the industry, operation, or process	Sri Thachat Viswanath Narendran CEO& MD Tata Steel Limited, Meramandali At: Narendrapur, PO: Kusupanga Via: Meramandali, Dist.: Dhenkanal, Pin: 759121, Odisha
2.	Industry Category	B (As per EIA Notification 2006)
	Primary (STC Code)	-
	Secondary (STC Code)	-
3.	Production capacity-Units	Township
4.	Year of establishment	2021
5.	Date of last environment statement submitted	September 30, 2022, vide letter no. TSL/SPCB/BS-30/2022-06/250

**PART – B**

<b>Water &amp; Raw material Consumption</b>		
<b>1: Total Water Consumption (m<sup>3</sup>/d)</b>		
<b>Water Consumption</b>	<b>During the previous Financial Year (2022-23)</b>	<b>During the current Financial Year (2023-24)</b>
Domestic Consumption	1868	1556
<b>2: Water Consumption per unit of the product</b>		
<b>Name of the Products</b>	<b>Process Water Consumption per unit of product</b>	
-	<b>2022-23</b>	<b>2023-24</b>
It is a Residential complex.		

<b>3: Raw Material Consumption (Residential Township):</b>			
<b>Name of Raw materials</b>	<b>Name of Products</b>	<b>Consumption of raw material per unit of product</b>	
		<b>During the previous Financial Year (2022-23)</b>	<b>During the current Financial Year (2023-24)</b>
There are no products as it is a Residential complex.			

## PART – C

### Pollution discharged to Environment per unit of Output (Parameters as specified in the Consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants discharged (mass/volume)	% of variation from prescribed standards with reasons
<b>(a) Water</b>			
TSS	Zero discharge is maintained. 100% of treated STP water is being reused in horticulture, landscaping and low-end application of Integrated Steel Plant.		
COD			
Ammonia as N			
BOD			
Phenols			
Cyanide as CN <sup>-</sup>			
<b>(b) Air</b>			
It is a residential township of Tata Steel Limited, Meramandali. Power is being sourced from Captive Power Plant, A stand by DG of capacity 250 KVA was installed to meet the emergency.			

### 1. Surface Water Quality

Parameter	Unit	Kisinda Nalla	
		U/S	D/S
pH Value	-	6.88-7.8	6.62-7.60
Colour	Hazen	BDL(DL:1.0)	BDL(DL:1.0)
Temperature	Deg C	25-28	25-30
Total Suspended Solids	mg/l	4-25.40	3.10-30.10
Ammoniacal Nitrogen	mg/l	BDL (DL:0.1)	BDL (DL:0.1)
Arsenic as As	mg/l	BDL(DL:0.005)	BDL(DL:0.005)
BOD, 3days at 27°C	mg/l	BDL(DL:2.0)	BDL(DL:2.0)
Boron as B	mg/l	BDL(DL:0.25)	BDL(DL:0.25)
Cadmium as Cd	mg/l	BDL(DL:0.001)	BDL(DL:0.001)
Calcium as Ca	mg/l	11.76-88	23.52-76
Chlorides as Cl	mg/l	19.59-88.17	19.59-74.23
COD	mg/l	7.70-26.90	7.70-19.20
Copper (as Cu)	mg/l	BDL(DL:0.02)	BDL(DL:0.02)
Cyanide as CN	mg/l	BDL(DL:0.01)	BDL(DL:0.01)
Fluoride as F-	mg/l	0.89-10.1	0.25-4.91
Free Ammonia	mg/l	BDL(DL:0.1)	BDL(DL:0.1)
Hexa Chromium as Cr <sup>+6</sup>	mg/l	BDL(DL:0.01)	BDL(DL:0.01)

Iron as Fe	mg/l	0.18-3.10	0.08-1.80
Lead (as Pb)	mg/l	BDL(DL:0.005)	BDL(DL:0.005)
Manganese (as Mn)	mg/l	BDL(DL:0.02)	BDL(DL:0.02)
Mercury (as Hg)	mg/l	BDL (DL:0.0002)	BDL (DL:0.0002)
Nickel (as Ni)	mg/l	BDL(DL:0.01)	BDL(DL:0.01)
Nitrate as N	mg/l	0.58-2.87	0.45-2.01
O&G	mg/l	BDL(DL:1.4)	BDL(DL:1.4)
Phenolic Comp	mg/l	BDL(DL:0.001)	BDL(DL:0.001)
Phosphate as P	mg/l	0.08-0.31	0.08-0.28
RFC	mg/l	0.1-5.37	0.1-8.98
Selenium (as Se)	mg/l	BDL(DL:0.005)	BDL(DL:0.005)
Sulphate mg/l	mg/l	BDL(DL:0.02)	BDL(DL:0.02)
TKN	mg/l	BDL(DL:0.3)	BDL(DL:0.3)
Total Chromium (as Cr)	mg/l	BDL(DL:0.01)	BDL(DL:0.01)
Total Nitrogen Content	mg/l	0.95-3.01	0.74-2.84
Vanadium (as V)	mg/l	BDL(DL:0.05)	BDL(DL:0.05)
Zinc (as Zn)	mg/l	BDL(DL:0.02)	BDL(DL:0.02)

**NB:** U/S: Upstream; D/S: Downstream; BDL: Below Detection Limit

## 2. Township Sewage Treatment Plant -Treated outlet quality

Parameter	UOM	Standard	Colony STP		
			Min	Max	Avg
pH Value	-	5.5-9.0	6.79	7.52	7.07
Total Suspended Solid (TSS)	mg/l	100	5.40	56	22.83
Biochemical Oxygen Demand (BOD) (27 ° C for 3 days)	mg/l	30	8.5	10.9	8.8

## 3. Ambient Air Quality

Parameters	UoM	Norm	CAAQMS-1		
			Min	Max	Avg
PM <sub>10</sub>	µg/m <sup>3</sup>	100	30.82	198.00	90.93
PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	19.40	93.61	45.41
SO <sub>2</sub>	µg/m <sup>3</sup>	80	10.53	21.30	14.09
NO <sub>2</sub>	µg/m <sup>3</sup>	80	11.81	30.49	20.49
CO	mg/m <sup>3</sup>	2	0.65	0.71	0.68

CAAQMS 1: Near Township

Values are derived from 24 hourly average data except CO values are derived from 8 hourly average data.

**PART – D**

<b>Hazardous Wastes (As specified under The Hazardous and Other Wastes (Management &amp; Transboundary Movement) Rules, 2016)</b>		
<b>Hazardous waste</b>	<b>Total Quantity (MT)</b>	
	<b>During the previous Financial Year (2021-22)</b>	<b>During the current Financial Year (2022-23)</b>
No Hazardous Waste Generated (Transformer Oil)		

**PART – E**

**Solid Wastes**

**Total Quantity Generated**

<b>Name of the Waste</b>	<b>Total Quantity Generated (MT)</b>	
	<b>During the previous Financial Year (2022-23)</b>	<b>During the current Financial Year (2023-24)</b>
Municipal Solid Waste (Wet & Dry)	1460	900

**PART – F**

**Chemical Composition of majority of waste as produced in process of Tata Steel, Meramandali operation is given below:**

<b>Municipal Solid Wastes</b>	<b>Characteristics</b>	<b>Method of disposal</b>
Municipal Solid Waste (Wet & Dry)	Carbon: 21.2% Nitrogen: 1.1% Moisture Content: 20-25% Hydrogen:17.2% Oxygen:67.6% Sulfur:9.3% VM:35.5% Ash:72.1	Bio-degradable & non-biodegradable wastes are being segregated at source of generation and collected in colour dust bin. The collected Bio-degradable waste is being transported to disposal site by covered trucks. Bio-degradable waste is being treated in organic waste composter and used as manure for plantation. Non-biodegradable waste is being segregated and disposed to recyclers.

**PART – G**

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

<b>SN</b>	<b>Pollution abatement measures taken in 2023-24</b>	<b>Impact of pollution control measure on conservation of natural resources and cost of production</b>
1	Green Belt Development	25% of the township area has been covered with green belt. Vacant area and all along the roadside have been developed into lawns (except pathway).
2	Rainwater Harvesting at Colony	Rainwater harvesting structure of capacity 2500 m <sup>3</sup> at colony has been constructed.
3	Ambient Air Quality	Roads have been concreted/ paver blocked to eliminate fugitive emission and also mechanical sweeping has been adopted to keep the road neat and clean.
		Installed Continuous Ambient Air Quality Monitoring System (CAAQMS) for continuous monitoring of PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> & CO in Ambient Air.
4	Water Quality	<ul style="list-style-type: none"> <li>• STP of 1000 KLD capacity have been installed to treat sewage water generated from township.</li> <li>• Installed 2 KLD ETP for treatment of effluent generated from laboratory.</li> </ul>
5	Reducing of carbon in the environment	All CFL light have been replaced with LED light.
6	Construction and Demolition Waste Management	The construction and demolition wastes generated from the project site are being managed and disposed of as per the provision under “construction & Demolition Wastes Management Rules 2016”
7	Sanitary and Hygienic Measures	<ul style="list-style-type: none"> <li>• All building roads and drains are being cleaned on regular interval.</li> <li>• Mosquito control programme is being carried out at the colony.</li> <li>• Modular toilet blocks have been constructed for workers and is maintained.</li> <li>• Zimmedaar Nagrik app has been adopted to serve the resident for any kind of repairing and sanitary services.</li> </ul>

		<ul style="list-style-type: none"> <li>• First aid and medical facilities are available in the township health center and steel plant OHC.</li> <li>• Designated parking has been allocated at the project site for four-wheelers, two-wheelers, and cycles in the township for the inhabitants.</li> <li>• Signage has been provided along all internal roads like road markings for pedestrian pathway, speed limits etc. for smooth movement of traffic.</li> </ul>
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<b>Cost Estimation of Pollution Control (in Rs. Crores)</b>		
<b>Description</b>		<b>Expenditure 2023-24</b>
Water pollution control system	All the wastewater is being treated in STP of capacity 1000m <sup>3</sup> /day and treated water is being reused in low end application of steel plant. A dedicated laboratory has also been set up at colony for day-to-day monitoring of Water & Wastewater parameters.	0.28
Air pollution control system	Water tankers are being deployed outside the colony for water sprinkling at material transportation to avoid dust emission to atmosphere and to keep PM <sub>10</sub> level within the prescribed limit. Mechanical Road Sweeping is being done periodically in all internal roads	0.37
Solid Waste Management System (MSW)	Segregation, Collection, installation of dust bin and recycled via composter.	1.10
Miscellaneous	Other expense	0.05

### **PART – H**

#### **Additional measures/ investment proposals for environmental protection abatement of pollution, and prevention of pollution.**

- **Grey Water Management:** Grey water generated from baths, sinks, washing machines, and other kitchen appliances of newly constructed building will be treated through wet land treatment system.
- Green building certification.



## PART – I

### **Any other undertaken project for improving the quality of environment.**

- Maintaining Zero effluent discharge by reusing and recycling the treated wastewater.
- Maintaining water testing lab near STP to ensure the quality of treated effluent well within the standard.
- Installation of solar water heater to substitute 3KW geyser.
- Maintained renewable energy installation such as solar panels, solar lights, solar heaters, solar streetlights.
- ISO 14001:2015, ISO 9001:2015 and ISO 45001:2018 certified colony.
- All the statutory compliance applicable to residential township has been followed and compliance report has been submitted on timely basis.

