Ref. No: TSG/EMD/ES/FY'24 19.09.2024

To,
The Member Secretary,
Jharkhand State Pollution Control Board,
Town Administration Building,
HEC Campus, PO - Dhurwa
Ranchi – 834004 (Jharkhand)

Subject: Submission of Environmental Statement report for the financial year 2023-24 of Tata Steel Limited, Gamharia, Adityapur Industrial Area, District – Saraikela - Kharsawan

Ref: CTO vide letter no:
1. JSPCB/HO/RNC/CTO-17991399/2024/584 dated 31-03-2024
2. JSPCB/HO/RNC/CTO-17658758/2023/2034 dated 07-12-2023
3. JSPCB/HO/RNC/CTO-18478214/2024/810 dated 07-05-2024
4. JSPCB/HO/RNC/CTO-17527598/2024/624 dated 05-04-2024
5. JSPCB/HO/RNC/CTO-18235930/2024/623 dated 05-04-2024

Sir,

This has reference to above captioned subject and cited reference. We are herewith submitting Environmental Statement Report for the financial year 2023-24 in form-V as a part of compliances to the conditions of the above-mentioned consent to operate letter.

This is for your information and necessary records please.

Thanking you,

For Tata Steel Limited, Gamharia

V. Karthikeyan
Head – Environment & Sustainability

Encl: Form-V duly filled and signed.

Cc: 1. The Regional Officer, JSPCB, Jamshedpur
2. The Regional Officer, MoEF & CC, Ranchi

TATA STEEL LIMITED
Tata Steel Gamharia Seraikela Kharsawan Jamshedpur 832 108 India
Tel 065771 02349
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India
Tel 91 22 6665 8282 Website www.tatasteel.com
Corporate Identity Number L27100MH1907PLC000260

Environment Audit Statement

FORM – V

(See rule 14 of The Environment Protection Act, 1986)

Environmental Audit Report for the financial year ending the 31st March 2024.

PART – A		
General Information		
1.	**Name & Address of the owner/occupier of the industry, operation or process**	TV Narendran CEO & MD Tata Steel Limited, Gamharia (Main Plant-1 & Main Plant-2) Adityapur Industrial Area, Dist: Saraikela-Kharsawan, Jharkhand- 831001
2.	**Industry Category Primary (STC Code), Secondary (STC Code)**	Red
3.	**Production capacity-Units**	Installed capacity- Integrated Steel Plant- 1.2 MTPA
4.	**Year of establishment**	1974 and 2004
5.	**Date of last statement**	18.09.2023

PART – B		
Water & Raw material Consumption		
B-1 : Total Water Consumption (m^3/d)		
	Total Water Consumption (m^3/d)	
Category	**During the current financial year**	
Process (m^3/d)	444	
Cooling (m^3/d)	14875	
Domestic (m^3/d)	296	

B-2 : Water Consumption per unit of the product (m^3/MT)		
Name of the Products	**Process Water Consumption per unit of product (m^3/MT)**	
	During the previous financial year	**During the current financial year**
1. Crude Steel	1.123	1.193
2. Hot Metal	0.741	0.697
3. Wire Rod & RCS	0.743	0.852
4. DRI	0.884	0.951
5. Power	4.90 KL/MWH	4.76 KL/MWH
6. Sinter	0.104	0.106
7. Pellet	Nil. (No fresh water. Only treated water from ETP is being used)	Majorly treated water from ETP and partially (0.75) fresh water is being used
8. Coke	Nil. (No fresh water. Only treated water from ETP is being used)	Nil. (No fresh water. Only treated water from ETP is being used)

B-3 : Raw Material Consumption		
Name of Raw materials	**Name of**	**Raw material Consumption per unit of**

	Products	product (MT/MT)	
		During the previous financial year	During the current financial year
1. MBF	Hot Metal		
Iron Ore (Lump)		0.607	0.521
Sinter		1.000	0.929
Coke (Net and Nut coke)		0.503	0.476
PCI Coal		0.114	0.116
2. SMS	Crude steel		
Hot metal /Pig Iron		0.827	0.786
Sponge Iron		0.323	0.356
3.WRM	Wire Rod		
Billet		1.018	1.027
4. Blooming Mill	Bloom		
Billet/Bloom		1.041	1.026
5. DRI	DRI		
Iron Ore		1.755	1.693
Coal		0.943	0.886
Pellet		Nil	Nil
6. Sinter	Sinter		
Iron Ore Fines		0.873	0.885
Coke Fines		0.068	0.048
Coal		0.022	0.006
7.Captive Power Plant	Electricity		
Coal		1.084	1.071
8. Pellet Plant	Pellet		
Iron Ore		1.150	1.121
Coal		0.070	0.050
9. Coke Oven Plant	Coke		
Coking Coal		1.502	1.454
PCI		Nil	0.002

PART – C

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

C-1 : Water Pollution

Pollutant Parameter	Prescribed Standard	Quantity discharge (kg/d)	Concentration discharge (mg/l)	Percentage of variation from prescribed standards with reasons
-	-	Nil	Nil	-

It is to be noted that zero discharge of effluent is maintained and hence not applicable. We have achieved zero discharge by installing ETP for proper treatment of effluent and complete recycling back to process for reuse.

C-2 : Air Pollution

Pollutant Parameter	Stack No. / Name	Quantity discharge (kg/day)	Concentration discharge (mg/Nm^3)	Percentage of variation from prescribed standards with reasons
Stack emission	WHRB - 1 (DRI-1) & 40 TPH	107.5	34.16	None
	WHRB - 2 & 3 (DRI-2&3)	153.7	35.61	

(Particulate matter)	WHRB - 4 & 5 (DRI-4&5)	119.6	33.37
	25 MW CPP	337.9	63.62
	30 MW CPP	125.6	21.37
	Coke Oven WHRB - 1	65.3	17.00
	Coke Oven WHRB - 2	62.4	17.44
	MBF - 1 stove	10.8	8.74
	MBF - 1 Cast House	34.3	22.17
	MBF - 1 Stock House	12.9	18.58
	MBF - 1 Ground Hopper	12.4	18.09
	MBF - 2 stove	35.3	21.11
	MBF - 2 Cast House	102.9	22.44
	MBF - 2 Stock House	17.0	19.46
	MBF - 2 PCI	67.6	21.32
	MBF - 2 RMHS	14.7	19.36
	SMS - 1 & 2	197.6	21.03
	SMS - 3	261.4	23.67
	Pellet Plant	297.1	22.65
	Blooming Mill	33.8	26.55
	Wire Rod Mill	20.7	26.74
	Sinter Process	588.1	49.14
	Sinter De-dusting	197.2	29.38

PART – D

Hazardous Wastes
(As specified under The Hazardous Waste Management, Handling & Transboundary Movement Rules, 2016)

D-1 : Generation from Process

Name	Total Quantity (MT/KL)	
	During the previous financial year	During the current financial year
1. Used Oil / Spent Oil	75.63 KL	70.16 KL
2. Waste or Residue Containing Oil (cotton Waste)	14.24 MT	13.93 MT
3. Discarded Empty barrels/ containers/ liners contaminated with hazardous chemicals / wastes	1455 Nos	480 Nos

D-2 : Generation from Pollution Control Facilities

Name	Total Quantity	
	During the previous financial year	During the current financial year
-	Nil	Nil

PART – E

Solid Wastes

E-1 : Generation from Process

Name	Total Quantity (MT)	
	During the previous financial year	During the current financial year
1. Granulated Slag (Blast Furnace)	263880	257089
2. Mill Scale	7318	6885

3. Steel Slag (EAF Slag)	174128	207737
4. Char	93568	81797
5. DSC Dust	16338	14014

E-2 : Generation from Pollution Control Facilities

Name	Total Quantity (MT)	
	During the previous financial year	During the current financial year
1. Dust from gas cleaning plant of MBF	8320	6246
2. Dust from Fumes Extraction system of SMS	10807	12029
3. DE Dust from DRI plants	20050	23210
4. Fly Ash	331180	294739
5. PG Ash from Pellet Plant	1348	2899
6. ESP Dust of pellet Plant	26792	10387

E-3: Quantity Recycled / Reutilized /sold

Name	Total Quantity (MT)	
	During the previous financial year	During the current financial year
1. Mill Scale	7318	6885
2. Metallic from SMS slag	37605	34035

Reutilized and reuse, sold and disposal: Dust from the FES of SMS and GCP of MBF is partially utilized in sinter making at the sinter plant. Mill scale is also partially utilized in the sinter plant. Metallics from SMS slag are recycled within the SMS. Bag filter dust from the pellet plant and ESP dust from the pellet plant are utilized in the process. Coke breeze is used in sinter making. Fly ash is primarily used in brick making and cement manufacturing processes. Char is sold to an outside party and partly used in the power plant.

PART – F

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

F-1 : Hazardous Wastes

Description	Composition	Method of disposal
Used Oil / Waste Oil	Polycyclic aromatic hydrocarbon	Disposal to Authorized Recycler of JSPCB

F-2 : Solid Wastes

Description	Composition	Method of disposal
Granulated Slag of MBF	CaO, SiO_2, Al_2O_3, MgO	Sold to outside vendor
Mill Scale of Mills	Mostly Fe (t)	In-house utilization in sinter making
EAF slag of SMS	FeO, Fe, Cao, SiO_2	Metallic portion charged in EAF, Portion of slag used in sinter
Char of DRI	Ash (SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO), Volatile Matter, Fixed Carbon	Sold outside, used in captive power plant
DSC Dust	Fixed Carbon, Fe	Sold to the outside vendor
Flue dust of MBF	FeO, Fe, Cao, SiO_2	In-house utilization in sinter making
FES Dust of SMS	Fe, SiO_2, Al_2O_3, CaO, MgO	In-house utilization in sinter making
DE Dust of DRI	CaO, SiO_2	Sold to the outside vendor
Fly Ash	SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO	Used in Brick making and cement manufacturing process
PG Ash of Pellet Plant	Fixed Carbon	Filling of lowland area
ESP dust of pellet plant	Fe, SiO_2, Al_2O_3	Inhouse utilization in Pellet making

PART – G
Impact of pollution control measure taken on conservation of natural resources and cost of production
1. Pollution control equipment like Bag filters, gas cleaning plants at MBF have been installed to control emissions. Flue gas dusts are recycled at sinter plant for sinter making. 2. Separate Fume extraction system (FES) are provided at SMS 1,2 and 3. Collected FES dusts are recycled at sinter plant. 3. Water flow meters have been installed to monitor water consumption. 4. ESP is provided at waste heat recovery boiler of DRI for control of particulate emission. 5. ESP is provided at coal based CPP for control of particulate emission. 6. ESP and bag filters are provided at sinter plant and pellet plant to collect dusts which are recycled in the process. 7. Treatment of Industrial wastewater in the effluent treatment plant (ETP) and recycling the treated effluent back into process. 8. Installation of online CAAQMS, CEMS and EQMS for monitoring of ambient air, stack and treated effluent on real time basis.

PART – H
Additional measures / investment proposal for environmental protection including abatement of pollution, prevention of pollution
Several projects were undertaken in the last 3 years under the operating / capex budget of departments. The major activities include - Refurbishment of Air pollution control systems, new sheeting for fugitive dust containment, Construction of RCC roads, concreting of Raw material yards, strengthening of plant housekeeping through industrial vacuum cleaner etc. The major work undertaken for fugitive emission control include: 1. Installation of 6 mist beam in Raw material yard (RMH) of blast furnace 2. Construction of 4 Nos Coal Storage Shed at MBF, DRI, CPP and Coke Oven 3. Installation of 4 mist beam at MRP (Metal Recovery Plant) 4. 65 rain guns were installed in material handling area to control dust during its handling. 5. New drag chain conveyors installed at flux crusher, screening, and ESP hopper of Sinter Plant to handle fine dust through close circuit for eliminating fugitive emission. 6. Fixing of 'Telescopic Chutes" (also referred as bulk unloading spout) in product separation building of Sponge Iron plant. 7. Dry Fog Dust Suppression (DFDS) system installed at all dust generation points in coal circuit of Power plants and ground hoppers of sinter plant. 8. Over 100,000 M2 of fresh sheeting across the plant of process buildings for dust control. 9. 6.30 Km of new RCC roads constructed to reduce dust caused by vehicular movement. 10. Concreting of material storage yards to the extent of over 12000 M2. 11. Introduction of mechanized housekeeping by deploying IVCs, automated road sweepers etc. 12. Massive tree plantation.

PART – I
Any other particulars undertaken for improving the quality of environment
Celebration of Tata Sustainable month and different campaign for creating awareness among employees.

V. Karthikeyan
Head - Environment & sustainability
For Tata Steel Limited, Gamharia

Environment Audit Statement

FORM – V

(See rule 14 of The Environment Protection Act, 1986)

Environmental Audit Report for the financial year ending the 31st March 2024.

PART – A		
General Information		
1.	**Name & Address of the owner/occupier of the industry, operation or process**	TV Narendran CEO & MD Tata Steel Limited, Gamharia (Oxygen Plant) Adityapur Industrial Area, Dist: Saraikela-Kharsawan, Jharkhand- 831001
2.	**Industry Category Primary (STC Code), Secondary (STC Code)**	Green
3.	**Production capacity-Units**	Installed capacity- Oxygen Plant- 220 TPD
4.	**Year of establishment**	2008
5.	**Date of last statement**	18.09.2023

PART – B			
Water & Raw material Consumption			
B-1 : Total Water Consumption (m^3/d)			
		Total Water Consumption (m^3/d)	
Category		**During the current financial year**	
Process (m^3/d)		114	
Cooling (m^3/d)			
Domestic(m^3/d)			
B-2 : Water Consumption per unit of the product (m^3/MT)			
Name of the Products		**Process Water Consumption per unit of product (m^3/MT)**	
		During the previous financial year	**During the current financial year**
1. Oxygen (Gaseous and Liquid)		0.59	0.58
B-3 : Raw Material Consumption			
Name of Raw materials	**Name of Products**	**Raw material Consumption per unit of product (MT/MT)**	
		During the previous financial year	**During the current financial year**
1. Oxygen Plant			
Air	Oxygen	5.0	5.0

PART – C				
Pollution discharged to Environment per unit of Output (Parameters as specified in the Consent issued)				
C-1 : Water Pollution				
Pollutant Parameter	**Prescribed Standard**	**Quantity discharge (kg/d)**	**Concentration discharge (mg/l)**	**Percentage of variation from prescribed standards with reasons**
-	-	Nil	Nil	-
It is to be noted that zero discharge of effluent is maintained and hence not applicable.				
C-2 : Air Pollution				
Pollutant Parameter	**Stack No. / Name**	**Quantity discharge (kg/day)**	**Concentration discharge (mg/Nm^3)**	**Percentage of variation from prescribed standards with reasons**
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

PART – D		
Hazardous Wastes (As specified under The Hazardous Waste Management, Handling & Transboundary Movement Rules, 2016)		
D-1 : Generation from Process		
Name	**Total Quantity (MT/KL)**	
	During the previous financial year	**During the current financial year**
1. Used Oil/ Spent Oil	Nil	Nil
2. Empty barrels/ containers/ liners contaminated with hazardous chemicals / wastes	Nil	Nil
D-2 : Generation from Pollution Control Facilities		
Name	**Total Quantity**	
	During the previous financial year	**During the current financial year**
	Nil	Nil

PART – E		
Solid Wastes		
E-1 : Generation from Process		
Name	**Total Quantity (MT)**	
	During the previous financial year	**During the current financial year**
Not Applicable	Not Applicable	Not Applicable
E-2 : Generation from Pollution Control Facilities		
Name	**Total Quantity (MT)**	
	During the previous financial year	**During the current financial year**
Not Applicable	Not Applicable	Not Applicable

E-3 : Quantity Recycled/Reutilized /sold		
Name	**Total Quantity (MT)**	
	During the previous financial year	**During the current financial year**
Not Applicable	Not Applicable	Not Applicable

PART – F		
Please specify the characterizations (in terms of composition in quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both this categories of wastes		
F-1: Hazardous Wastes		
Description	**Composition**	**Method of disposal**
Used Oil / Waste Oil	Polycyclic aromatic hydrocarbon	Disposal to Authorized Recycler approved by JSPCB
F-2: Solid Wastes		
Description	**Composition**	**Method of disposal**
Not Applicable	Not Applicable	Not Applicable

PART – G
Impact of pollution control measure taken on conservation of natural resources and cost of production
Oxygen plant is a non-polluting unit in which Oxygen is separated from atmospheric air

PART – H
Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution
No significant pollution from Oxygen plant

PART – I
Any other particulars undertaken for improving the quality of environment
None

V. Karthikeyan
Head - Environment & Sustainability
For Tata Steel Limited

Environment Audit Statement

FORM – V

(See rule 14 of The Environment Protection Act, 1986)

Environmental Audit Report for the financial year ending the 31st March 2024.

PART – A		
General Information		
1.	Name & Address of the owner/occupier of the industry, operation or process	TV Narendran CEO & MD **Tata Steel Limited, Gamharia** Straight Bar & Wire Mill Division, Unit-1 Phase-IV, Adityapur industrial Area, Gamharia, Dist- Saraikela Kharsawan, Jharkhand, India
2.	Industry Category Primary (STC Code), Secondary (STC Code)	Orange
3.	Production capacity-Units	Installed capacity - 425 MT/Day
4.	Year of establishment	1978
5.	Date of last statement	18.09.2023

PART – B			
Water & Raw material Consumption			
B-1 : Total Water Consumption (m^3/d)			
		Total Water Consumption (m^3/d)	
Category		**During the current financial year**	
Process (m^3/d)		66.12	
Cooling (m^3/d)			
Domestic (m^3/d)			
B-2 : Water Consumption per unit of the product (m^3/MT)			
Name of the Products		**Process Water Consumption per unit of product (m^3/MT)**	
		During the previous financial year	**During the current financial year**
Straight Bar		0.529	0.215
B-3 : Raw Material Consumption			
Name of Raw materials	**Name of Products**	**Raw material Consumption per unit of product (MT/MT)**	
		During the previous financial year	**During the current financial year**
Billet	Straight Bar	1.041	1.04

PART – C
Pollution discharged to Environment per unit of Output (Parameters as specified in the Consent issued)
C-1 : Water Pollution

Pollutant Parameter	Quantity discharge (kg/d)	Concentration discharge (mg/l)	Percentage of variation from prescribed standards with reasons
-	Nil	Nil	-
It is to be noted that since we are maintaining zero discharge of effluent hence the above discharge load is also zero.			
Pollutant Parameter	**Quantity discharge (kg/d)**	**Concentration discharge (mg/Nm^3)**	**Percentage of variation from prescribed standards with reasons**
Stack emission	17.9	23.74	None

PART – D		
Hazardous Wastes (As specified under The Hazardous Waste Management, Handling & Transboundary Movement Rules, 2016)		
D-1 : Generation from Process		
Name	**Total Quantity (MT/KL)**	
	During the previous financial year	**During the current financial year**
1. Used Oil / Spent Oil	Nil	4.84 KL
2. Waste or Residue Containing Oil (cotton Waste)	0.32 Ton	0.14 Ton
3. Discarded Empty barrels/ containers/ liners contaminated with hazardous chemicals / wastes	Nil	Nil
D-2 : Generation from Pollution Control Facilities		
Name	**Total Quantity (MT/KL)**	
	During the previous financial year	**During the current financial year**
	N/A	N/A

PART – E		
Solid Wastes		
E-1 : Generation from Process		
Name	**Total Quantity (MT)**	
	During the previous financial year	**During the current financial year**
Mill Scale	717.34	1745
Reutilized and reuse, sold and disposal: Mill scale is being used in-house at sinter plant and partially sold to outside vendors.		

PART – F		
Please specify the characterizations (in terms of composition in quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both this categories of wastes		
F-1 : Hazardous Wastes		
Description	**Composition**	**Method of disposal**
Used Oil	Poly aromatic hydrocarbon	Disposal to Authorized Recycler approved by JSPCB

PART – G
Impact of pollution control measure taken on conservation of natural resources and cost of production
Water sprinkles are installed to control the fugitive emission during vehicle movement

PART – H
Additional measures/investment proposal (future plan) for environmental protection including abatement of pollution, prevention of pollution
None

PART – I
Any other particulars undertaken for improving the quality of environment
Enhancing green coverage by creating gardens and undertaking mass tree plantation in and around the plant.

V. Karthikeyan
Head - Environment & Sustainability
For Tata Steel Limited

Environment Audit Statement
FORM – V
(See rule 14 of The Environment Protection Act, 1986)
Environmental Audit Report for the financial year ending the 31st March 2024.

PART – A		
General Information		
1.	Name & Address of the owner/occupier of the industry, operation or process	TV Narendran CEO & MD **Tata Steel Limited, Gamharia** Straight Bar & Wire Mill Division, Unit-2 Phase-IV, Adityapur industrial Area, Gamharia, Dist- Saraikela Kharsawan, Jharkhand, India
2.	Industry Category Primary (STC Code), Secondary (STC Code)	Orange
3.	Production capacity-Units	Installed capacity - 2400 MT/month
4.	Year of establishment	1982
5.	Date of last statement	18.09.2023

PART – B			
Water & Raw material Consumption			
B-1 : Total Water Consumption (m^3/d)			
		Total Water Consumption (m^3/d)	
Category		**During the current financial year**	
Process (m^3/d)		12	
Cooling (m^3/d)			
Domestic(m^3/d)			
B-2 : Water Consumption per unit of the product (m^3/MT)			
Name of the Products		**Process Water Consumption per unit of product (m^3/MT)**	
		During the previous financial year	**During the current financial year**
Wires		0.39	0.376
B-3 : Raw Material Consumption			
Name of Raw materials	**Name of Products**	**Raw material Consumption per unit of product (MT/MT)**	
		During the previous financial year	**During the current financial year**
Steel wire rod	Wires	1.01	1.01

PART – C
Pollution discharged to Environment per unit of Output (Parameters as specified in the Consent issued)
C-1 : Water Pollution

Pollutant Parameter	Quantity discharge (kg/d)	Concentration discharge (mg/l)	Percentage of variation from prescribed standards with reasons
-	Nil	Nil	-
It is "Zero discharge" plant in which all process water is treated and reused in plant.			

PART – D		
Hazardous Wastes (As specified under The Hazardous Waste Management, Handling & Transboundary Movement Rules, 2016)		
D-1 : Generation from Process		
Name	Total Quantity (MT/KL)	
	During the previous financial year	During the current financial year
Used / Spent Oil / Waste Oil	Nil	Nil
Waste or Residue containing oil (Cotton waste)	0.15 Ton	0.003 Ton
Acid residues	239.75 KL	2150.14 KL
Spent Pickling Liquor	Nil	135.07 KL
Phosphate Sludge	14.32 Ton	Nil
D-2 : Generation from Pollution Control Facilities		
Name	Total Quantity (MT/KL)	
	During the previous financial year	During the current financial year
NA	NA	NA

PART – E		
Solid Wastes		
E-1 : Generation from Process		
Name	Total Quantity (MT)	
	During the previous financial year	During the current financial year
	Nil	Nil
Reutilized and reuse, sold and disposal: Nil		

PART – F		
Please specify the characterizations (in terms of composition in quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both this categories of wastes		
F-1: Hazardous Wastes		
Description	Composition	Method of disposal
Used/Spent Oil/Waste Oil	Polycyclic aromatic hydrocarbon	Disposal to Authorized Recycler approved by JSPCB
Acid residues	HCl	
Spent Pickling Liquor	HCl	

PART – G
Impact of pollution control measure taken on conservation of natural resources and cost of production
None

PART – H
Additional measures/investment proposal (future plan) for environmental protection including abatement of pollution, prevention of pollution
None

PART – I
Any other particulars undertaken for improving the quality of environment
None

V. Karthikeyan
Head - Environment & Sustainability
For Tata Steel Limited