



Dr. Amit Ranjan Chakraborty
Chief Environment Management

EMD/C-23/407/20
September 18th, 2020

The Member Secretary

Jharkhand State Pollution Control Board
T.A. Division Building, HEC Campus, Dhurwa
RANCHI - 834004

**Subject: Environmental Statement 2019-2020 for Tata Steel Limited –
Jamshedpur Township, Jamshedpur**

Dear Sir,

This has reference to the captioned subject. Please find enclosed the **“Environmental Statement”** for Tata Steel Limited– Jamshedpur Township, Jamshedpur for the year 2019-2020 duly filled in the prescribed format is enclosed for your kind consideration.

Thanking you

Yours faithfully,
For Tata Steel Limited

Dr. Amit Ranjan Chakraborty
Chief, Environment Management

Encl: As Above

Copy to: Regional Officer, Jharkhand State Pollution Control Board,
Adityapur, Jamshedpur – 831 013

TATA STEEL LIMITED

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**ENVIRONMENTAL STATEMENT
FOR THE YEAR 2019-2020**

**Township
TATA STEEL LIMITED**

**Submitted by:
ENVIRONMENTAL MANAGEMENT DEPARTMENT
TATA STEEL LIMITED
JAMSHEDPUR-831001
JHARKHAND**

Environmental Statement for 2019-20

[Form V]

Environmental Statement for the Financial Year ending 31st March 2020

Part A

(i)	Name & address of the owner/occupier of the industry operation or process:	Mr. T.V. Narendran Managing Director Tata Steel Limited Jamshedpur-831001 Jharkhand
(ii)	Industry Code	SIC Code: 4941, 4950 & 4953
	Primary STC Code:	Water Treatment & Supply, Sanitary Services, Sewage Treatment and Municipal Solid Waste Handling within Tata Steel Leasehold Area
	Secondary SIC Code	-
(iii)	Production Capacity	List of services provided and Major Installations within Tata Steel Leasehold Area for Township Operations is enclosed as Annexure I
(iv)	Year of Establishment	1907
(v)	Date of last Environment Statement submitted	September 20 th , 2019 vide letter no. EMD/C-23/206/19

Environmental Statement for 2019-20

Part B

WATER & RAW MATERIAL CONSUMPTION

i) Water Consumption (m³/day)

Water Consumption	During the previous Financial year (2018-19)	During the current Financial year (2019-20)
Domestic Consumption (as drinking water Supplied to township)	2,05,430 m ³ /day	2,05,100 m ³ /day

Name of the product	Process water consumption/unit of product output	
	During the current Financial year (2018-19)	During the current Financial year (2019-20)
Township Services		
Water Treatment at WTP	62,47,126 m ³ /month	62,55,550 m ³ /month

ii) Raw Material Consumption (Water Treatment Plant):

Name of Raw Material	Name of the Products/Services	Consumption of Raw material (Tonnes)	
		During the previous financial year (2018-2019)	During the Current Financial year (2019-2020)
Solid Alum	Water Treatment	215.748	818.04
Liquid PAC		785.609	631.01
Liquid Chlorine		238.762	271.55
Powder PAC		56.125	89.45
Bleaching Powder		14.175	1.9
Polyelectrolyte		2.73	27.9

Environmental Statement for 2019-20

Part C

Pollution Discharged to Environment / Unit of Output (Parameter As Specified In the Consent Issued)

Township Ambient Air Quality (2019-20):

Parameter	UoM	Standards	River Pump House			Southern Sewage Treatment Plant			Golmuri			Jugsalai / TATA Pigments		
			max	min	avg	max	min	avg	max	min	avg	max	min	avg
Particulate Matter, PM10	µg/m ³	100	330	61	162	343	34	170	337	34	189	336	46	200
Particulate Matter, PM2.5	µg/m ³	60	129	16	75	141	14	71	127	5	78	144	5	78
Sulphur Dioxide (SO ₂)	µg/m ³	80	44	3	18	43	4	19	48	6	18	48	7	21
Nitrogen Dioxide, (NO ₂)	µg/m ³	80	147	11	53	167	14	51	122	26	55	97	15	59
Carbon Monoxide(CO)	mg/m ³	2	0.53	0.3	0.39	0.56	0.32	0.39	0.41	0.24	0.34	0.5	0.32	0.43
Ammonia (NH ₃)	µg/m ³	400	268	3	85	148	3	77	248	4	94	125	4	70
Ozone (O ₃)	µg/m ³	100	69	4	19	29	6	17	37	9	20	31	9	18
Nickel (Ni)	ng/m ³	20	14.7	0.2	7	12.4	0.2	6.3	16.3	0.2	8.4	16.2	0.3	8
Arsenic (As)	ng/m ³	6	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Lead (Pb)	µg/m ³	1	0.53	0.02	0.19	0.5	0.05	0.22	0.42	0.02	0.19	0.33	0.02	0.17
Benzene (C ₆ H ₆)	µg/m ³	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo alpha Pyrene (BaP)	ng/m ³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Town Sewage Treatment Plant Monitoring (2019-20):

Parameter	UoM	Standards	Northern STP (Bara) Treated Outlet			Southern STP (Kharkai) Treated Outlet		
			Max	Min	Avg	Max	Min	Avg
Biochemical Oxygen Demand(BOD)	mg/L	30	9.80	1.60	4.65	9.70	3.20	6.09
Total Suspended Solids (TSS)	mg/L	100	16.0	4.0	10.63	27.0	4.0	11.57
Chemical Oxygen Demand(COD)	mg/L	250	107.0	14.0	35.18	63.0	20.0	40.04

Part D

Hazardous Waste

(As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2016)

Hazardous Waste	Total Quantity (Tonnes)*	
	During the previous Financial Year (2018-19)	During the current Financial year (2019-20)
(a) From Process		
	NA	NA
(b) From Pollution Control Facilities		
	NA	NA

*unless mentioned otherwise

Part E

Solid Waste

Total Quantity Generated

Name of the Waste	Total Quantity Generated (tonnes)	
	During the previous Financial Year (2018-19)	During the current Financial year (2019-20)
(a) From Process		
Municipal Solid Waste	97,467	97,567
(b) From Pollution Control Equipment (cubic meter)		
STP Sludge	1100	840

(c)(1). Total Quantity Recycled/ Reutilized within the unit

Name of the Waste	Total Quantity Recycled/ Re utilized within the unit (tonnes)	
	During the previous Financial Year (2018-19)	During the current Financial year (2019-20)
Organic Compost from Municipal Solid Waste	4,672	8,957

Environmental Statement for 2019-20

(c)(2). Total Quantity Sold

Name of the Waste	Total Quantity Sold (tonnes)	
	During the previous Financial Year (2018-19)	During the current Financial year (2019-20)
Organic Compost from Municipal Solid Waste	714	1171

(c)(3). Total Quantity Disposed

Name of the Waste	Total Quantity Disposed (tonnes)	
	During the previous Financial Year (2018-19)	During the current Financial year (2019-20)
Inert Municipal Solid Waste	89,621	85,413

Part F

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

A. Physical Analysis

Sl. No.	Waste Stream Materials	% Content	Qty MT out of 400TPD
01.	Short Term Bio-degradable: Leafy matter, food waste, remains of fruits, vegetables	50.20	200.60
02.	Remains of fish, meat, poultry	2.80	11.20
03.	Tree twigs, banana stump, hardnuts, coconut shells, palm leaves	4.00	16.00
04.	Cotton, jute, wool, rags, textiles, yarn	4.50	18.00
05.	Rubber and leather products	1.80	7.20
06.	Bamboo products, wooden materials, coir, cane, furniture etc.	4.80	19.20
07.	Diapers, napkins, bandages etc.	1.50	6.00
08.	Paper products of all kinds	3.70	14.8
09.	Plastic products of all kinds	4.80	19.20
10.	Glass & Metals	1.20	4.60
11.	Stone, earth, street sweeping dust	12.00	48.00

Environmental Statement for 2019-20

12.	Cattle dung and others	8.70	34.60
Total		100.00	400.00

B. Waste Suitability Analysis for Product Recovery

Sl. No.	Items	%	Qty. MT
1.	Easily Compostable matter incl. food waste, fish, meat waste and cattle dung	58.00	232.00
2.	Combustible materials with high C.V. to be recovered as refused derived fuels	18.30	73.20
3.	Recyclable plastic	4.00	16.00
4.	Construction material	12.00	48.00
5.	Non-usable inert for SLF	7.70	30.80
Total		100.00	400.00

C. Calorific Value Analysis:

- Gross Calorific Value of mixed sample 1130 K.Cal/Kg
- Gross Calorific Value of combustibles 2320 K.Cal/Kg

D. Chemical Analysis

Sl. No.	Parameter	Observed Values
1.	pH	6.2
2.	Organic Carbon %	35.00
3.	Nitrogen %	0.84
4.	Phosphorus %	0.46
5.	Potassium %	0.42
6.	Calcium %	1.40
7.	Magnesium %	0.36
8.	Sulphates %	0.40
9.	C : N Ratio	41.6:1

E. Heavy Metal Analysis:

Sl. No.	Parameter	Observed Values (PPM)
1.	Lead	60.00
2.	Cadmium	Below Detectable Limits
3.	Nickel	8.50
4.	Chromium	4.00
5.	Mercury	Below Detectable Limits
6.	Copper	30.00
7.	Zinc	70.00

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Part G

Sl. No.	Pollution abatement Measures taken in 2019-20	Impact on conservation of natural resources & others
1	Tree plantation 2018-19 = 7019 nos.	Increase in green cover
2	Tree Plantation 2019-20= 101095 nos.	Increase in green cover

Part H

Additional Measures Investment Proposal of Environmental Protection Including Abatement of Pollution

- Bio-Methanization: Modular Biogas 16 installations.
- Scientific capping of old Bara dumpsite – Profiling work Initiated, HDPE, Geo membranes.
- Installation of OWC at flat complex's completed.
- Home composting at 500 Locations completed and further 500 locations planned.
- Door to door Source Segregation at 50,000 household and establishments. Capturing of bulk generators
- Bioremediation and Biomining activity under progress.
- Begunadih Landfill Site ToR received. EC Clearance in process.

Part I

Any other particulars for improving the quality of environment

- Development of new parks: 2 nos within Jamshedpur town in FY'20 (Vijaya heritage, River view Park)
- Tree bank developed at Bistupur and Nildih

Note: Compost produced :1171 MT and Sold 100%

List of services provided and Major Installations within Tata Steel Lease Hold Area for Township Operations

<p>I. Type of services provided</p> <ol style="list-style-type: none">1. Power Supply to Company accommodations and adjoining area.2. Drinking Water Supply to Company accommodations and adjoining area.3. Repair and Maintenance of roads of lease area.4. Maintenance and operation of Sewage network of command area (Sewage pumping stations and Sewage Treatment Plant)5. Fleet Management Services – Maintenance of company vehicles.6. Municipal Solid Waste Management – Collection, transportation, processing and Disposal from township.7. Horticulture and green cover of township.
<p>II. Office Installations</p> <ol style="list-style-type: none">i. Chamaria Guest Houseii. Tubes Guest Houseiii. Directors Bungalow - 1iv. Directors Bungalow - 2v. Tata Workers Unionvi. JUSCO Shramik Unionvii. Security Training Centre.viii. Urban Servicesix. Corporate Communication TSLx. Centre for Excellence,xi. JUSCO Corporate Officexii. Town Electrical Officexiii. Horticulture Officexiv. ICS Centres (South Park, Central, Kadma, Sakchi, Sidhghora)xv. Public Health Centres (RDB, NT, Kasidih, Baridih, Burma mines)xvi. Tata Zoological Parkxvii. Public conveniences throughout township (Urinals / Public Latrines)
<p>III. Market</p> <ol style="list-style-type: none">i. Bistupur Marketii. Kadma Marketiii. Sakchi Marketiv. Golmuri Marketv. Sidhghora Marketvi. Burmamines Marketvii. Kagal Nagar Marketviii. Gudri Marketix. Airport Market

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IV RESIDENTIAL ACCOMMODATIONS									
SL. NO.	AREA	QTRS	FLAT	BUNG.	SL. NO.	AREA	QTRS	FLAT	BUNG.
	AGRICO					KADMA			
1	NEW BARA FLATS		84		47	KAISER BUNG.(2 ROOMED)			16
2	AGRICO - BARA FLATS		748		48	KAISER BUNG.(3 ROOMED)			75
3	RN1/AGRICO	12			49	NEW TC BHA KADMA-2 ROOMED			24
4	M2/AGRICO	2			50	NEW TC BHA KADMA-3 ROOMED			37
5	L4/AGRICO-H6/GOLMURI	1310			51	TS FLAT (OLD)		60	
6	L5/AGRICO	179			52	T.S.FLAT (NEW)		24	
7	L6/AGRICO	100			53	KF4 FLATS,KADMA		153	
	BARIDIH				54	BELDIH LAKE SUP.FLAT		167	
8	M.SUP.FLAT, TUBES		56		55	GPS FLATS		237	
9	BARIDIH FLATS		725		56	GREEN ENCLAVE, KADMA		181	
10	NEW K2 TYPE	82			57	PRAKRITI VIHAR(NOPR)		167	
11	MODIFIED NB	244			58	ULIYAN FLATS		1892	
12	TJ1/TJ2, BARIDIH	459			59	GREEN ENCLAVE(OPR)		70	
13	K2/TUBES BARIDIH	814			60	PRAKRITI VIHAR, KADMA		140	
14	L4/TUBES BARIDIH	89			61	K/K.D. TYPE		28	
15	L5 & S TYPE TUBES	67			62	DINDLI ENCLAVE, KADMA		70	
16	L6/TUBES BARIDIH	121			63	K.D.FLATS, C.H.AREA		32	
17	NEW BARIDIH	162			64	K.D.FLATS, KADMA		76	
18	MODIFIED TJ TYPE, BARIDIH	35			65	KAISER FLATS, KADMA		8	
	BISTUPUR				66	PROF.FLATS,I.C.ROAD		152	
19	TR/BISTUPUR	206			67	PROF.FLATS, K.S.LINK		300	
20	L4/BISTUPUR	41			68	PROF.FLATS, FARM AREA		80	
21	L5/BISTUPUR	38			69	K.S LINK EXECUTIVE FLATS		24	
22	H2,H3,H4,H6,G1 & G2,BIST.	441			70	GT (ULIYAN FLAT)		90	

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23	G,H1 & H5,BISTUPUR	60			71	RN1,N2,N1 & RMR,KADMA	35		
24	P & P1 BISTUPUR	27			72	M2 KADMA	96		
	BURMAMINES				73	TR INCLUDING R.D.BHATTA.	549		
25	SECURITY FLAT B.MINES		140		74	MODIFIED TR TYPE,KADMA	140		
26	S-TYPE B/MINES	162			75	L4/XN(R.D.BHATTA)T J4,BHA	975		
27	L,L3,L4 & BML,B/MINES	484			76	L5 KADMA	546		
28	H6 & BMH BURMA MINES	91			77	L6 & G5, KADMA	103		
29	BUNG. BURMA MINES	6			78	H6 KADMA	100		
	DHATKIDIH				79	PC & PCF	20		
30	DHATKIDIH FLATS		96		80	T.C. (OLD)	61		
31	PROTO TYPE FLAT		8		81	MODIFIED M-2 TYPE	8		
32	CS QUARTERS	789				SAKCHI			
	GOLMURI		251		82	SF1, SWARNAREKHA FLAT		198	
33	GF1,GF2,GF3,GF4 FLATS		80		83	SF3, BARADWARI FLAT		190	
34	GF5 FLATS		196		84	NEW SWARNREKHA FLATS		48	
35	GOLMURI FLATS - 6				85	PIPE LINE FLATS, SAKCHI		32	
	NILDIH				86	RN & N1 SAKCHI	78		
36	B TYPE BUNGALOW, NILDIH			2	87	M2/SAKCHI	110		
37	DS/B BUNGALOW, NILDIH			10	88	TR & SM SAKCHI	156		
38	C TYPE BUNGALOW, NILDIH			21	89	L,L1,L2,L3,L4,LH - SAKCHI	784		
39	DSB TYPE FLATS, NILDIH		8		90	SECURITY FLATS SAKCHI	176		
40	C TYPE FLATS, NILDIH		32		91	H6/SAKCHI	189		
41	D TYPE FLATS, NILDIH		28		92	G4/SAKCHI	12		
42	P TYPE FLATS, NILDIH		66		93	MODIFIED TR TYPE SAKCHI	18		
	NORTHERN TOWN					SIDHGORA			
43	N TOWN BUNGALOW			199	94	NEW SR/SIDHGORA	10		
44	VIP BUNGALOW			25	95	SR/SIDHGORA	14		

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45	PARK ROAD OFFICERS' FLATS	48	96	X/XN-SIDHGORA	684		
46	JUBILEE RD.OFFICERS' FLAT	64	97	MODIFIED X-XN,SIDHGORA	151		
TOTAL RESIDENTIAL ACCOMMODATIONS					11036	7049	409

V	Work Installations	
	<u>S.No.</u>	<u>Location</u>
	<u>Premises Type</u>	
	i	Southern STP (Kharkai) 16 MLD
	ii	Bara Sewage Treatment Plant 45 MLD
	iii	Northern SPS (CH Area)
	iv	Sonari SPS
	v	Old Uliyan SPS
	vi	New Uliyan SPS
	vii	Baradwari Sewage Pumping Station
	viii	Burma Mines Sewage pumping station
	ix	Bhuiyandi Sewage Pumping Station
	x	Baridih SPS
	xi	Swarnarekha SPS
	xii	Southern SPS
	xiii	WTP Sakchi (Including Chlorination)
	xiv	Central WT
	xv	Sakchi WT
	xvi	Kadma WT
	xvii	Tata Nagar WT
	xviii	Burma Mine WT
	xix	Sidhghora WT
	xx	Sonari WT
	xxi	River Pump House
	xxii	Dimna Filter Plant
	xxiii	Dimna Management Development Centre
	xxiv	Fleet Management
	xxv	Horticulture Nursery
	xxvi	Town Electric Office
	xxvii	Compost Plant – 50 TPD
VI	Sonari Airport	
VII	Hospitals and dispensaries	
	i.	Tata Main Hospital
	ii.	Dispensaries (ECC, Sonari, Kadma, South Park, Tubes, Sakchi, Sidhghora, Agrico, Burmamines)
	iii.	Adarsh Dalal Memorial Hospital.

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	<ul style="list-style-type: none"> iv. Kantilal memorial Hospital v. Centre for Family Initiative vi. Veterinary Hospital vii. Dog Sterilization Centre
VIII	<p>Educational Institutions</p> <ul style="list-style-type: none"> i. SNTI, N-Road. ii. Mrs. KMPM Intercollege iii. JUSCO School , South Park iv. JUSCO School, Kadma. v. Kasidih High School vi. RD Tata Technical Institute, Golmuri. vii. Burmamines High School viii. DM Madan Girls High School ix. Sakchi Girls High School x. Jamshedpur Public School xi. AIWC School, Old Baridih xii. Tube Baridih High School.
IX	<p>Parks</p> <ul style="list-style-type: none"> i. Jublee Park ii. Droabji Park iii. Bistupur Postal Park iv. Bhetia Park v. Kagal Nagar Park vi. Golmuri Park vii. Agrico Park viii. Nildih Park ix. Tubes Guest House Park
X	<p>Playgrounds/ Golf ground/ Clubs</p> <ul style="list-style-type: none"> i. JRD Sports complex ii. Keenan Stadium iii. Mohan Ahuja Stadium iv. Gopal Maidan v. Armoury Ground vi. Aaam Bagan vii. Bari Maidan viii. Agrico Maidan ix. G-Town Maidan <p>Golf ground</p> <ul style="list-style-type: none"> x. Beldih Golf Course xi. Golmuri Golf Course <p>Clubs</p> <ul style="list-style-type: none"> xii. G-Town Club xiii. United Club xiv. Beldih Club xv. Tube Makers Club xvi. Golmuri Club
XI	<p>Bustees</p> <ul style="list-style-type: none"> i. Gurudwara Bustee ii. Harijan Bustee, Dhatkhedi

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	iii.	Ranikudar
	iv.	New Ranikudar
	v.	Sonari Bustee
	vi.	Khutadih Bustee
	vii.	Kumharpada Bustee
	viii.	Kasidih Bustee
	ix.	Hume Pipe Bustee
	x.	Bhalubasha Bustee
	xi.	Sitaramdera Bustee
	xii.	Baridih Bustee
	xiii.	Toiladungri Bustee
	xiv.	Gadabasha Bustee
	xv.	East Plant Bustee
	xvi.	Namda Bustee
	xvii.	Monifit Bustee