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Shubhanand Mukesh  
Head Environment Management

EMD/C-23/376/18  
September 26<sup>th</sup>, 2018

**The Member Secretary**

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

**Subject: Environmental Statement 2017-2018 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 2017-2018 duly filled in the prescribed format is  
enclosed for your kind consideration.

Thanking you

Yours faithfully,  
**For Tata Steel Limited**

*Shubhanand Mukesh*

**Shubhanand Mukesh  
Head, Environment Management**

Encl: As Above

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



**TATA STEEL LIMITED**

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Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

**ENVIRONMENTAL STATEMENT  
FOR THE YEAR 2017-2018**

**Township  
TATA STEEL LIMITED**

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

# Environment Statement for 2017-18

[Form V]

**Environmental Statement for the Financial Year ending 31<sup>st</sup> March 2018**

## **Part A**

(i)	<b>Name &amp; address of the owner/occupier of the industry operation or process:</b>	Mr. T.V. Narendran Managing Director Tata Steel Limited Jamshedpur-831001 Jharkhand
(ii)	<b>Industry Code</b>	SIC Code: 4941, 4950 & 4953
	<b>Primary STC Code:</b>	Water Treatment & Supply, Sanitary Services, Sewage Treatment and Municipal Solid Waste Handling within Tata Steel Leasehold Area
	<b>Secondary SIC Code</b>	-
(iii)	<b>Production Capacity</b>	List of services provided and Major Installations within Tata Steel Leasehold Area for Township Operations is enclosed as <b>Annexure 1</b>
(iv)	<b>Year of Establishment</b>	1907
(v)	<b>Date of last Environment Statement submitted</b>	September 14, 2017 vide letter no. EMD/C-23/141/17

# Environment Statement for 2017-18

## Part B

### WATER & RAW MATERIAL CONSUMPTION

#### i) Water Consumption (m<sup>3</sup>/day)

<b>Water Consumption</b>	During the previous Financial Year (2016-17)	During the current Financial year
<b>Domestic Consumption</b> (as drinking water Supplied to township)	1,96,660 m <sup>3</sup> /day	2,02,070 m <sup>3</sup> /day

<b>Name of the product</b>	<b>Process water consumption/unit of product output</b>	
<b>Township Services</b>	During the previous Financial Year (2016-17)	During the current Financial year (2017-18)
<b>Water Treatment at WTP</b>	1,96,217 m <sup>3</sup> /month	202070 m <sup>3</sup> /month

#### ii) Raw Material Consumption (Water Treatment Plant):

<b>Name of Raw Material</b>	<b>Name of the Products/Services</b>	<b>Consumption of Raw material (Tonnes)</b>	
		<b>During the previous financial year (2016-2017)</b>	<b>During the current financial year (2017-2018)</b>
Solid Alum	Water Treatment	668.29	675.21
Liquid PAC		240.98	236.783
Liquid Chlorine		202.13	180.846
Powder PAC		83.14	139.618
Bleaching Powder		9.65	7.25
Polyelectrolyte		1.1	1.0582

# Environment Statement for 2017-18

## Part C

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

#### Township Ambient Air Quality (2017-18):

Paramet	UoM	River Pump House			Kharkhai Garden(SSTP)			Golmuri Near Agrico Gate			Burmamines Near Tube Gate		
		Min.	Max.	Avg	Min.	Max.	Avg	Min.	Max.	Avg	Min.	Max.	Avg
Particul ate Matter, PM <sub>10</sub>	µg/m <sup>3</sup>	89.2	110.1	97.7	81.5	187.3	110.5	95.2	181.8	123.5	99.1	203.5	148.5
Particul ate Matter, PM <sub>2.5</sub>	µg/m <sup>3</sup>	52.8	61.1	56.6	44.9	94.3	63.4	52.2	115.7	71.4	56.9	118.1	81.6
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	19.4	25.5	22.2	19.3	26.3	22.6	20.1	34.6	26.5	22.0	30.3	25.8
Nitrogen Dioxide, (NO <sub>x</sub> )	µg/m <sup>3</sup>	28.8	35.2	31.6	26.2	40.6	33.1	27.2	51.3	35.6	30.8	40.7	35.3
Carbon Monoxid e(CO)	µg/m <sup>3</sup>	0.2	0.8	0.5	0.3	0.9	0.6	0.3	1.0	0.7	0.4	1.0	0.7
Ammoni a (NH <sub>3</sub> )	µg/m <sup>3</sup>	19.3	50.2	33.1	22.7	43.0	32.7	25.7	45.0	38.1	19.0	60.7	41.7
Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	19.0	38.0	26.1	20.4	33.0	25.8	24.9	37.0	29.0	24.0	49.0	28.6
Lead (Pb)	µg/m <sup>3</sup>	0.0	0.9	0.4	0.0	0.9	0.5	0.1	0.8	0.5	0.1	0.9	0.4
Arsenic (As)	ng/m <sup>3</sup>	0.0	0.3	0.1	0.0	0.6	0.1	0.0	0.2	0.1	0.0	0.2	0.1
Nickel (Ni)	ng/m <sup>3</sup>	0.1	0.8	0.3	0.1	0.7	0.4	0.2	0.8	0.4	0.2	0.7	0.4
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo alpha Pyrene (BaP)	ng/m <sup>3</sup>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

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### Town Sewage Treatment Plant Monitoring (2017-18):

Parameter	UoM	Norms	Northern STP (Bara) Treated Outlet			Southern STP (Kharkai) Treated Outlet		
			Max	Min	Avg	Max	Min	Avg
Biochemical Oxygen Demand(BOD)-mg/l	mg/L	30	14.5	10.4	12.2	21.3	7.4	10.2
Total Suspended Solids (TSS)-mg/l	mg/L	100	40.0	13.1	23.7	17.9	8.6	10.7
Chemical Oxygen Demand(COD)-mg/l	mg/L	250	46.3	20.0	39.0	40.0	13.5	28.4

### 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 (2016-17)	During the current Financial year (2017-18)
<b>(a) From Process</b>	NA	NA
<b>(b) From Pollution Control Facilities</b>	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 (2016-17)	During the current Financial year (2017-2018)
<b>(a) From Process</b>		
Municipal Solid Waste	96,725 MT	94,629 MT
<b>(b) From Pollution Control Equipment</b>		
STP Sludge	1300 MT	1100 MT

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

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Name of the Waste	Total Quantity Recycled/ Re utilized within the unit (tonnes)	
	During the Previous Financial year (2016-17)	During the current Financial year (2017-2018)
Organic Compost from Municipal Solid Waste	6,154 MT	5,238 MT

### (c)(2). Total Quantity Sold

Name of the Waste	Total Quantity Sold (tonnes)	
	During the Previous Financial year (2016-2017)	During the current Financial year (2017-2018)
Organic Compost from Municipal Solid Waste	898 MT	695 MT

### (c)(3). Total Quantity Disposed

Name of the Waste	Total Quantity Disposed (tonnes)	
	During the Previous Financial year (2016-2017)	During the current Financial year (2017-2018)
Inert Municipal Solid Waste	86,702 MT	90,571 MT

## 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

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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
12.	Cattle dung and others	8.70	34.60
<b>Total</b>		<b>100.00</b>	<b>400.00</b>

### 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
<b>Total</b>		<b>100.00</b>	<b>400.00</b>

### 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



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3.	Nickel	8.50
4.	Chromium	4.00
5.	Mercury	Below Detectable Limits
6.	Copper	30.00
7.	Zinc	70.00

### Part G

Sl. No.	Pollution abatement Measures taken in 2016-17	Impact on conservation of natural resources & others
1	Tree plantation 2016-17 = 54,327 nos.	Increase in green cover
2	Tree plantation 2017-18 = 10705 nos.	Increase in green cover

### Part H

#### **Additional Measures Investment Proposal of Environmental Protection Including Abatement of Pollution**

- Zero liquid discharge: 45% completed of the total sewage (8-10 MLD)
- Bio-Methanization: Implemented at 13 locations in the town

### Part I

#### **Any other particulars for improving the quality of environment**

- Development of new Parks: 2 nos. within Jamshedpur town in FY 18

**Annexure - 1**

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

<p><b>I. Type of services provided</b></p> <ol style="list-style-type: none"> <li>1. Power Supply to Company accommodations and adjoining area.</li> <li>2. Drinking Water Supply to Company accommodations and adjoining area.</li> <li>3. Repair and Maintenance of roads of lease area.</li> <li>4. Maintenance and operation of Sewage network of command area (Sewage pumping stations and Sewage Treatment Plant)</li> <li>5. Fleet Management Services – Maintenance of company vehicles.</li> <li>6. Municipal Solid Waste Management - Collection, transportation, processing and Disposal from township.</li> <li>7. Horticulture and green cover of township.</li> </ol>
<p><b>II. Office Installations</b></p> <ol style="list-style-type: none"> <li>i. Chamaria Guest House</li> <li>ii. Tubes Guest House</li> <li>iii. Directors Bungalow - 1</li> <li>iv. Directors Bungalow - 2</li> <li>v. Tata Workers Union</li> </ol>

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- vi. JUSCO Shramik Union
- vii. Security Training Centre.
- viii. Urban Services
- ix. Corporate Communication TSL
- x. Centre for Excellence,
- xi. JUSCO Corporate Office
- xii. Town Electrical Office
- xiii. Horticulture Office
- xiv. ICS Centres (South Park, Central, Kadma, Sakchi, Sidhghora)
- xv. Public Health Centres (RDB, NT, Kasidih, Baridih, Burma mines)
- xvi. Tata Zoological Park
- xvii. Public conveniences throughout township (Urinals / Public Latrines)

### **III. Market**

- i. Bistupur Market
- ii. Kadma Market
- iii. Sakchi Market
- iv. Golmuri Market
- v. Sidhghora Market
- vi. Burmamines Market
- vii. Kagal Nagar Market
- viii. Gudri Market
- ix. Airport Market

## Environment Statement for 2017-18

IV RESIDENTIAL ACCOMMODATIONS									
S. NO.	NORTHERN TOWN / C.H. AREA	QTRS	FLAT	BUNG.	S. NO.	SAKCHI AREA	QTRS	FLAT	BUNG.
1	JUBILEE FLATS		64		41	M2 SAKCHI	108		
2	PARK ROAD FLATS +12 NEW		48		42	TR INCLUSIVE SM TYPE SAKCHI	225		
3	KD FLATS(CIRCUIT HOUSE)		32		43	L,L1,L2,L3,L4 & LH SAKCHI	885		
4	N.TOWN			246	44	NEW SWARNREKHA FLATS		47	
	<b>KADMA AREA</b>				45	SECURITY FLATS, SAKCHI		176	
5	RN1,N2,N1 & RMR, KADMA	644			46	H6 SAKCHI	185		
6	M2 KADMA	223			47	G4 SAKCHI	12		
7	TR INCLUDING RD BHATTA	851			48	SWARNREKHA FLATS		197	
8	TWIN COTTAGES (OLD) KADMA	60			49	L-TOWN FLATS(UNDER DEMOLITION)		-	
9	CS QUARTERS (KADMA/ BHALUBASA/ BURMAMINES)	851			50	BARADWARI FLATS		192	
10	L4/XN (R.D. BHATTA) TJ4, B.H. AREA	922			51	PIPE LINE FLATS		32	
11	PC & PCF DHATKIDIH	20				<b>AGRICO/ SIDHGORA/ BARIDIH/ BURMAMINES/ GOLMURI</b>			
12	L5 KADMA	530			52	M2 AGRICO	1		
13	L6 AND G5 KADMA	100			53	SR SIDHGORA / BARIDIH	416		
14	H6 KADMA	100			54	X & XN SIDHGORA	991		
15	GREEN ENCLAVE KADMA		252		55	L4 AGRICO/SIDHOGORA & H6 GOLMURI	1314		
16	DHATKIDIH FLAT, KADMA		96		56	L5 AGRICO	178		
17	ULIYAN FLAT, KADMA FLATS (OLD) KADMA FLATS (NEW)		1910		57	L6 AGRICO	101		
18	GPS FLATS KADMA		237		58	S TYPE BURMAMINES	198		
19	TS FLAT (OLD)		59		59	L,L3,L4 & BML BURMAMINES	485		
20	TS FLATS (NEW)		25		60	H6 & BMH BURMAMINES	91		
21	K4 FLATS		153		61	TJ1 & TJ2 BARIDIH	493		
22	BELDIH LAKE SUP.FLATS		168		62	K2 TUBE BARIDIH(INCLUDING FLATS)	947		
23	PRAKRITI VIHAR		14		63	L4	89		

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(ON-GOING)				BARIDIH(INCLUDING FLATS)					
24	DINDLI FLATS +16 NEW		70	64	L6 BARIDIH(INCLUDING FLATS)	121			
25	PROFESSIONAL FLATS(I.C.ROAD)		152	65	NEW BARIDIH	351			
26	FLATLES KADMA		87	66	NEW SR SIDHGORA / BARIDIH	10			
27	KD		76	67	NEW K-2, TUBE BARIDIH	2			
28	KAISER FLATS		8	68	MODIFIED NB NEW BARIDIH	138			
29	PROFESSIONAL FLATS(K S LINK) A		240	69	L5 & S TYPE BARIDIH		64		
30	PROFESSIONAL FLATS(K S LINK) B		64	70	M-SUP FLAT TUBES BARIDIH		56		
31	PRAKRITI VIHAR( )		56	71	AGRICO/BARA FLATS		749		
32	PROFESSIONAL FLATS (K.F.A.)C		80	72	BARIDIH FLATS		727		
33	KAISER BUGALOWS (+2 STEEL BUNGLOW)			92	73	GOLMURI FLATS		196	
34	NEW T.C.			60	74	GF1,GF2,GF3 & GF4 FLATS		249	
	<b>BISTUPUR</b>				75	SECURITY FLATS, BURMAMINES		140	
35	TR BISTUPUR	233			76	GF-5 FLATS		80	
36	L4/BISTUPUR	38			77	NEW BARA FLATS		89	
37	L5/BISTUPUR	37			78	BURMAMINES BUNGALOW		6	
38	H2,H3,H4,H6,G1 & G2 BISTUPUR	440			79	NILDIH OFFICER'S ACCOMMODATION		134	36
39	G,H1 & H5 BISTUPUR	56							
40	P & P1 BISTUPUR	30				<b>TOTAL RESIDENTIAL ACCOMMODATIONS</b>	<b>12476</b>	<b>7019</b>	<b>440</b>

V	Work Installations		Premises Type
	S.No.	Location	
	i	Southern STP (Kharkai) 16 MLD	Sewage treatment plant
	ii	Bara Sewage Treatment Plant 45 MLD	Sewage treatment plant
	iii	Northern SPS (CH Area)	Sewage pumping station
	iv	Sonari SPS	Sewage pumping station
	v	Old Uliyan SPS	Sewage pumping station
	vi	New Uliyan SPS	Sewage pumping station
	vii	Baradwari Sewage Pumping Station	Sewage pumping station
	viii	Burma Mines Sewage pumping station	Sewage pumping station
	ix	Bhuiyandi Sewage Pumping Station	Sewage pumping station
	x	Baridih SPS	Sewage pumping station
	xi	Swarnarekha SPS	Sewage pumping station
	xii	Southern SPS	Sewage pumping station
	xiii	WTP Sakchi (Including Chlorination)	Drinking water tower

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	xiv	Central WT	Drinking water tower
	xv	Sakchi WT	Drinking water tower
	xvi	Kadma WT	Drinking water tower
	xvii	Tata Nagar WT	Drinking water tower
	xviii	Burma Mine WT	Drinking water tower
	xix	Sidhghora WT	Drinking water tower
	xx	Sonari WT	Drinking water tower
	xxi	River Pump House	River water pumping station
	xxii	Dimna Filter Plant	Water Treatment Plant
	xxiii	Dimna Management Development Centre	DBGR
	xxiv	Fleet Management	Vehicle Maintenance
	xxv	Horticulture Nursery	Park and garden
	xxvi	Town Electric Office	Office area
	xxvii	Compost Plant – 50 TPD	Manure manufacturing plant
VI	<b>Sonari Airport</b>		
VII	<b>Hospitals and dispensaries</b>		
	i.	Tata Main Hospital	
	ii.	Dispensaries (ECC, Sonari, Kadma, South Park, Tubes, Sakchi, Sidhghora, Agrico, Burmamines)	
	iii.	Adarsh Dalal Memorial Hospital.	
	iv.	Kantilal memorial Hospital	
	v.	Centre for Family Initiative	
	vi.	Veterinary Hospital	
	vii.	Dog Sterilization Centre	
VIII	<b>Educational Institutions</b>		
	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, Gohmuri.	
	vii.	Burmamine's 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	<b>Parks</b>		
	i.	Jublee Park	
	ii.	Droabji Park	
	iii.	Bistupur Postal Park	
	iv.	Bhetia Park	
	v.	Kagal Nagar Park	
	vi.	Gohmuri Park	

## Environment Statement for 2017-18

	<ul style="list-style-type: none"> <li>vii. Agrico Park</li> <li>viii. Nildih Park</li> <li>ix. Tubes Guest House Park</li> </ul>
X	<p><b>Playgrounds/ Golf ground/ Clubs</b></p> <ul style="list-style-type: none"> <li>i. JRD Sports complex</li> <li>ii. Keenan Stadium</li> <li>iii. Mohan Ahuja Stadium</li> <li>iv. Gopal Maidan</li> <li>v. Armoury Ground</li> <li>vi. Aaam Bagan</li> <li>vii. Bari Maidan</li> <li>viii. Agrico Maidan</li> <li>ix. G-Town Maidan</li> </ul> <p><b>Golf ground</b></p> <ul style="list-style-type: none"> <li>x. Beldih Golf Course</li> <li>xi. Golmuri Golf Course</li> </ul> <p><b>Clubs</b></p> <ul style="list-style-type: none"> <li>xii. G-Town Club</li> <li>xiii. United Club</li> <li>xiv. Beldih Club</li> <li>xv. Tube Makers Club</li> <li>xvi. Goimuri Club</li> </ul>
XI	<p><b>Bustees</b></p> <ul style="list-style-type: none"> <li>i. Gurudwara Bustee</li> <li>ii. Harijan Bustee, Dhatkhedi</li> <li>iii. Ranikudar</li> <li>iv. New Ranikudar</li> <li>v. Sonari Bustee</li> <li>vi. Khutadih Bustee</li> <li>vii. Kumharpada Bustee</li> <li>viii. Kasidih Bustee</li> <li>ix. Hume Pipe Bustee</li> <li>x. Bhalubasha Bustee</li> <li>xi. Sitaramdera Bustee</li> <li>xii. Baridih Bustee</li> <li>xiii. Toiladungri Bustee</li> <li>xiv. Gadabasha Bustee</li> <li>xv. East Plant Bustee</li> <li>xvi. Namda Bustee</li> <li>xvii. Monifit Bustee</li> </ul>