O/C

TSL/MoEF&CC/TS-01/2025-07/605
November 25, 2025

The Deputy Director General of Forests (C)
Ministry of Environment, Forest & Climate Change,
Integrated Regional Office,
A/3, Chandrasekharpur,
Bhubaneswar-751023

Subject: Submission of half yearly EC compliance reports of 5.6 MTPA, 3.1 MTPA & 1.5 MTPA capacity integrated steel plant of M/s. Tata Steel Limited, Meramandali for the period from April' 2025 to September' 2025.

Reference: i. EC vide letter No. J-11011/829/2008-IA-II(I); dated: 20.07.2012 of 5.6 MTPA
ii. EC vide letter No. J-11011/405/2007-IA-II(I); dated: 22.09.2008 of 3.1 MTPA
iii. EC vide letter No. J-11011/8/2005-IA-II(I); dated: 29.06.2005 of 1.5 MTPA

Dear Sir,

With reference to the captioned subject and cited reference, we are herewith submitting six monthly compliance reports for the conditions stipulated in the Environmental Clearance of 5.6 MTPA, 3.1 MTPA & 1.5 MTPA Integrated Steel Plant of M/s. Tata Steel Limited, Meramandali for the period from April' 2025 to September' 2025 along with monitoring reports for your kind perusal.

The soft copies of the aforesaid compliance reports is also being sent through mail (roez.bsr-mef@nic.in) for your kind information and necessary record please. Also copy of 5.6 MTPA, 3.1 MTPA & 1.5 MTPA EC compliance is being uploaded on MoEF&CC web site on portal http://parivesh.nic.in.

Hope, the above are in line with the statutory requirements.

Thanking you

Yours faithfully,

For Tata Steel Limited

Anoop Srivastava

Anoop Srivastava
Chief Environment-TSM

GOVT. OF INDIA
MoEF & CC Integrated R.O
Bhubaneswar-751023
28 NOV 2025
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Copy to:
1. The Zonal Officer, Central Pollution Control Board, Southern Conclave Block, 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata – 700107.
2. The Member Secretary, SPCB, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Odisha, Bhubaneswar-751012
3. Regional Officer, State Pollution Control Board, Angul, Odisha.

SPECIFIC CONDITION:

SL	CONDITIONS	COMPLIANCE STATUS
i	Compliance to all the specific and general conditions stipulated for the existing plant by the Central / State Government shall be ensured and regular reports submitted to the Ministry's Regional Office at Bhubaneswar / SPCB.	• Compliance with stipulated specific & general conditions is ensured. Regular compliance reports, including monitoring data have been sent to MOEF&CC, CPCB and SPCB. • The latest half yearly compliance report was submitted vide letter no. TSL/MoEF&CC/TS-26/2025-01/561 dated. 29.05.2025.
ii	The target dates / schedule given for compliance to the conditions of environmental clearance for 3.1 MTPA Steel Plant to the State Pollution Control Board and to the Ministry shall be adhered to and reports regularly submitted to MoEF Regional Office at Bhubaneswar.	• Conditions of EC for 3.1 MTPA steel Plant have been complied with. Conditions of EC for 3.1 MTPA steel Plant have been complied with. • Six monthly compliance reports including monitoring data for the conditions stipulated in EC for 3.1 MTPA capacity integrated steel plant have been sent to MOEF&CC, CPCB, and SPCB. • The latest half yearly compliance report was submitted Vide letter No. TSL/MoEF&CC/TS-26/2025-01/561 dated. 29.05.2025.
iii	The 'Consent to Operate' shall be granted by SPCB only after satisfactory compliance of the conditions stipulated in the environmental clearance and Consent granted by the SPCB for the 3.1 MTPA steel plant. A joint visit shall be conducted by MoEF Regional Office at Bhubaneswar and SPCB in this regard. Periodic review of the project regarding compliance to the conditions stipulated shall be undertaken based on the compliance report submitted by the proponent within four months. The compliance status shall be monitored by the Regional Office of the Ministry at Bhubaneswar.	Renewal of Consent to Operate for 5.6 MTPA integrated steel plant was granted by OSPCB vide letter no 5823/IND–I–CON-5440, dated. 24.03.2025 and is valid up to 31.03.2027.
iv	Measures shall be undertaken to mitigate particulate matter levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack monitoring	• Bag filters, ESP have been installed with operating unit to reduce particulate matter levels. Pollution control equipment is being operated & monitored continuously.

	facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic Precipitator (ESP), Gas cleaning plant (GCP), Bag Filter (BF) etc. shall be provided to keep the emission levels below by installing energy efficient technology.	Details of the list of pollution control devices is enclosed as **Annexure-I.** • Gas Cleaning scrubbers have been installed at Coke Oven, Blast Furnace and BOF. • Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed to monitor the ambient air quality in the different locations of Tata Steel Limited in consultation with SPCB, Odisha. • Implemented various improvement projects e.g., installation of new technology power supply controller at Sinter plant (HFTR- High frequency transformer rectifier) in process ESP & Micropulse in dedusting ESP of sinter plant to keep emission level below the norms. • The online continuous emission monitoring system (CEMS) have been installed and the real time data is connected to OSPCB/CPCB server. • List of CEMS connected to OSPCB server is attached as **Annexure-II**.
v	The bag filter shall be installed at the coal crusher and the screening area. Pneumatic dust handling system shall be provided at ESP hoppers in the sinter plant. The existing bag filters shall be upgraded. Fixed type water sprinklers shall be installed in the internal roads and at the material handling area to control the fugitive emission. Dry fog system shall be installed in the coal handling area. Dry sweeping (vacuum process) shall be carried out prior to water sprinkling on roads.	• Bag filters and Dry Fog Dust Suppression System (DFDS) have been provided at the coal circuit. • Dry fog dust suppression systems have been provided in the iron ore circuit at crushing and screening points of raw material handling areas. • Pneumatic dust handling system has been provided at ESP hoppers in the Sinter Plant-I. • Industrial vacuum cleaning systems have been provided & being used. • All internal roads have been concreted and paved; periodic cleaning is being carried out by mechanical road sweepers. • Fixed type water sprinklers on the internal road have been installed and operated as & when required.

		• Photograph of the fixed sprinklers is attached as **Annexure-III.**
vi	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November 2009 shall be followed.	Tata Steel Limited, Meramandali is taking proactive and comprehensive steps to ensure compliance to NAAQ Standards' 2009. • Ambient air quality is monitored as per NAAQ Standard' 2009, and data is regularly submitted. • Ambient air quality with respect to PM_{10} and $PM_{2.5}$ are dependent on several external factors like climatological conditions & anthropogenic activities. • The following steps are being carried out in and around the plant premises to keep ambient air quality within the norms: I. Water sprinkling on NH and service road on regular interval. II. Wheel washing system has been installed at several identified locations to reduce the dust load on the roads due to vehicular movement. III. A metallic wind screen barrier been installed at Raw Material yard near the plant boundary to control fugitive dust emission. IV. Fixed and Portable types of water sprinklers have been installed and being operated at material storage yard & along the roads inside the plant. V. Installed DE (Dust Extraction) & DFDS (Dry Fog Dust Suppression) including IVC (Industrial Vacuum Cleaning) at all Boilers and Bag filter at ash silo. VI. All internal roads have been concreted and paved, and periodic cleaning is being carried out by mechanical road sweepers.
vii	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly	• Bag filter, ESP have been installed to reduce particulate matter levels. • Details of the list of pollution control devices are enclosed as **Annexure-I.**

	monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.	• Gas Cleaning scrubbers have been installed at Coke Ovens, Blast Furnaces and BOF. • Fugitive emission and stack emission monitoring are being carried out as per CPCB guidelines, and records are being maintained. • Fugitive emission monitoring report for the period from Apr'2025 to Sep'2025 is enclosed as **Annexure-IV**. • Tata Steel Limited is proactively ensuring compliance with environmental regulations, including GSR 742(E) for stack height norms. • MoEF&CC has notified SO_2 emission standards for Power Plant under categories A & B, vide notification dated 07.12.2015 and subsequent amendment dated 11.07.2025. • However, categorization of Captive Power Plants (CPPs) is yet to be notified by OSPCB. • Our representation has been submitted at State Pollution Control Board, to consider Captive Power Plants under Category C. Copy of the same letter is attached as **Annexure-V**. • De-NOx (SNCR) system has already been installed to control the NOx emission in the above power plant and the system is being operated and NOx emission are within standard.
viii	Proper PPE shall be provided to all the workers including contract workers.	Necessary PPEs such as safety helmets, safety shoes, gloves, goggles, ear plugs and earmuffs etc. have been provided to all the workers working on the shop floors including contract workers.
ix	The natural drain / nallah present on the northern side of the project site shall not be disturbed. The main gate of the plant beyond the nallah shall be shifted and the area should be developed into garden for public use.	• The natural drain/nallah present on the northern side of the project site is not being disturbed. • No effluent is being routed towards this nallah.

		• A separate concrete road and vehicle parking area outside plant boundary has been constructed on the land belongs to project, which is being used by public. • A hospital has been constructed near the main gate, which is available for local public. • A biodiversity park and garden has been developed outside project boundary for public use. • The development of the park not only embodies this vision but also emphasizes the importance of ecological balance, contributing to the overall environmental well-being and sustainable growth of the locality.
x	Water requirement for expansion from River Brahmani shall not exceed 3,400m^3/hr. All the effluent should be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged and 'zero discharge' shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit for treatment of effluent run-off from the coal washery area, settling pond shall be de-silted regularly and additional settling tank shall be constructed.	• Freshwater consumption during the period Apr'25 to Sep'25 for the Steel plant is 2177 m^3/hr against the allocated quantity of 3400 m^3/hr. • All effluents are being treated through respective ETPs followed by Central Effluent Treatment Plant to recycle the treated effluent and achieve zero effluent discharge. • During the period Apr'25 to Sep'25 3,32,2731m^3 of treated effluent has been recycled in the process. • Treated effluent is being reused for dust suppression, ash handling, make up for DRI, Sinter and green area development. • The sanitary sewage is being treated in Sewage Treatment Plant and used for green belt development and low-end application in plant. • Settling tanks are being desilted on regular time interval.
xi	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.	Approximately 6.5 Lakhs m^3 of rainwater is being harvested in different rainwater harvesting structures inside the plant premises. Harvested rainwater is being reused in the manufacturing process and other applications.

xii	Regular monitoring of influent and effluent, surface, sub-surface and ground water (including chromite) should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.	• Monitoring of influent, effluent, surface and groundwater quality has been carried out regularly. • Leachate study is carried out and report submitted to OSPCB periodically. Leachate study report is attached as **Annexure-VI**. • The water quality monitoring report for the period from Apr' 25 to Sep' 25 is enclosed as **Annexure-VII.**
xiii	All the blast furnace (BF) slag shall be provided to the cement manufacturers. Scrap shall be used in steel melting shop (SMS) and SMS slag and kiln accretions shall be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner. Fly ash shall be utilized for the cement manufacturing and filling of mined out area after carrying geo hydrological study to prevent ground water pollution.	• Blast furnace slag is being supplied to cement manufacturers based on long term MoU with the cement manufacturer. • The SMS slag (LD slag) is processed in material recovery plant (MRP) for separation of metal from slag. Recovered metallics used in the steel making process as scrap. The non-metallic slag being sized and used for various applications such as internally used in sinter plant, SMS, road making, hard stand and supplied to outside customer for cement making, low lying area filling/hard stand brick making & road construction as per the CPCB guidelines. • Ash generated from Captive Power Plants are being utilized in brick manufacturing and road construction, low lying area filling & abandoned quarries as per the prescribed guidelines.
xiv	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid / hazardous waste should be submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.	• Solid waste handling, storage, utilization, and disposal are being done scientifically. The toxic metal content and compositional analysis of solid waste are carried out regularly. The analysis report of solid waste is enclosed as **Annexure-VIII.** • Annual return (Form-IV) of hazardous waste is regularly submitted to the Statutory Authority. Latest return was submitted vide letter

		No. TSL/MoEF&CC/TS-26/2025-01/561; dated. 29.05.2025. • Annual Slag Return report was submitted vide letter No. TSL/CPCB/TS-06/2025-04/567; dated. 13.06.2025.
xv	Vehicular pollution due to transportation of raw material and finished products shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.	• Vehicles carrying raw materials and process wastes are being covered with tarpaulin to avoid dust emission during transportation. • Arrangements have been made by installation of water sprinklers & mist cannons at raw material handling areas to control dust emissions during loading and unloading of raw materials at site. • Additionally, dry fog dust suppression systems have been installed in entire coal circuit and at the unloading points of raw material handling area to control fugitive dust. • Wheel washing systems have been installed. • Mechanized road sweepers are in operation for dry sweeping of internal roads and shop floors.
xvi	The raw materials should regularly (six monthly) be monitored for trace metals and management plan shall be submitted to SPCB and MOEF Regional Office at Bhubaneswar.	The analysis of trace metals in raw materials is being done by CSIR-IMMT, Bhubaneswar. Copy of the latest report is enclosed as **Annexure-IX.**
xvii	All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads.	• Internal roads have been concreted/paved and the same are being cleaned regularly by using mechanical road sweepers. • Avenue plantation using native species has been developed along the roads wherever feasible. • Green belt development work is ensured through plantation along the plant, internal roads as well as all the vacant spaces inside the plant premises. • Additional Land acquisition contiguous to the existing plant is being done under expansion project to increase greenbelt.

		• Glimpses of three tier plantation inside the plant premises is attached as **Annexure-X**.
xviii	An action plan for transfer from wet to dry quenching shall be submitted to the SPCB and MOEF Regional Office at Bhubaneswar within three months. The target date shall not be more than six years from the date of environmental clearance accorded for 3.1 MTPA Steel Plant i.e. 22.9.2008. Adequate space shall be provided for the retro fitting the dry coke quenching facility.	Coke dry quenching have been commissioned & being operated at Coke Ovens.
xix	Risk and tragedy Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within three months of issue of environment clearance letter.	Risk and tragedy Management plan (on-site emergency plan) has been approved by the Directorate of Factories and Boilers; Odisha vide letter no. IV(IH)(3-149/11/3143 dated 19.10.2022. The approval letter is attached as **Annexure-XI**.
xx	As proposed, green belt shall be developed in 33 % of plant area as per the CPCB guidelines in consultation with the DFO.	• Green belt development is being complied as per MoEF&CC letter No. IA3-22/14/2025-IA.III(E-275538); dated. 29th Oct 2025. • Plantation of saplings is being done regularly based on the availability of vacant areas. • Additional Land acquisition contiguous to the existing plant is being done under expansion project to increase green belt within the plant. • Details of plantation from Apr'25 to Sep'25 is attached as **Annexure-XII**.
xxi	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.	Tata Steel Limited has implemented CREP recommendations. The CREP compliance is attached herewith as **Annexure-XIII.**
xxii	All the commitments made to the public during the Public Hearing in Public Consultation meeting held on 28th October, 2010 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information	All the commitments made to the public during Public Hearing are being complied. Public hearing compliance report is attached as **Annexure-XIV**.

	submitted to the Ministry's Regional Office at Bhubaneswar.	
xxiii	At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.	Various CSR activities have been undertaken since the inception of the plant by providing facilities of sanitation, drinking water, education, health care, road, communication etc. Further, CSR activities and its related expenditure has been substantially increased after acquisition of the industry by Tata Steel Limited. Detailed CSR expenditure from FY'23 to FY'26 (Till Sep'25) is enclosed as **Annexure-XV**.
xxiv	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Necessary infrastructure and housing facilities were provided for workers during the construction phase of the plant within the site.
xxv	The company shall set up State-of-the-art-environment control/monitoring and research lab with R& D facilities for waste utilization studies. The laboratory staff shall be provided with adequate training for use and maintenance of the equipment's. An action plan in this regard shall be submitted to SPCB and MOEF Regional Office at Bhubaneswar within three months.	• A well equipped NABL accredited inhouse environment management laboratory is in place. • Monitoring of influent, effluent, surface and groundwater quality is being carried out regularly in inhouse environment management laboratory. • Professionals are deputed for operation of the laboratory and adequate training is being provided to them as and when required for use and maintenance of lab equipment. • An environmental research group is also working for research activities in environmental technology.

GENERAL CONDITION:

SL	CONDITIONS	COMPLIANCE STATUS
i	The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the State Government.	Relevant stipulations made by the State Pollution Control Board, Odisha and the State Government have been complied with.

ii	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	• Necessary clearances from MoEF&CC have been taken for expansion/modification as and when required. • Environment clearance granted vide letter No. J-11011/08/2005- IA-II (I) dated 29.06.2005 to establish integrated steel plant of capacity 1.5MTPA capacity. • Environment clearance granted vide letter No. J-11011/405/2007- IA-II (I) dated 22.09.2008 for expansion of integrated steel plant from 1.5MTPA to 3.1MTPA capacity. • Environment clearance granted vide letter No. J-11011/829/2008-IA-II (I) dated 20.07.2012 for expansion of integrated steel plant from 3.1MTPA to 5.6MTPA capacity. Enhancement of Hot Metal production from 3.919 MTPA to 5.0 MTPA and Installation of one no. of LRF of 190 T/heat and expansion of carrying capacity of two nos. of existing ladle from 180 T/heat to 190 T/heat were carried out as per the MoEF&CC Notification No. S.O.980(E) dated: 02.03.2021 "no increase in pollution load" (NIPL). The details are as follows: I. Enhancement of Hot Metal production from 3.919 MTPA to 5.0 MTPA vide OSPCB letter no. 246/IND-II-NOC-NIPL/24 dated 04.01.2022. II. Installation of one no. of LRF of 190 T/heat and expansion of carrying capacity of two nos. of existing ladle from 180 T/heat to 190 T/heat vide OSPCB letter no.886/IND-II-NOC-NIPL/27 dated 20.01.2022. III. Subsequently CTO was granted vide letter 5823/IND–I–CON-5440, dated. 24.03.2025 and is valid up to 31.03.2027.

iii	The gaseous emissions from various process units shall conform to the load/mass-based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	• Bag filters, ESPs have been installed within operating unit to reduce particulate matter levels. Details of the list of pollution control devices is enclosed as **Annexure-I.** • Gas Cleaning scrubbers have been installed at Coke Ovens, Blast Furnace and BOF to control gaseous emissions. • Fugitive emission with respect to particulate matter & benzopyrene is being carried out at coke oven battery top which also captures the charging emission and report is being submitted to OSPCB periodically. The sulphur content in coke oven gas used for heating is less than 500mg/Nm^3, which is well within the prescribed standard of 800mg/Nm^3. • The monitoring report of fugitive emission including benzo(a)pyrene & fugitive visible emission at Coke Oven Plant is attached as **Annexure-XVI**. • Gaseous emission level from process stacks is attached as **Annexure-XVII**.
iv	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM_{10}, SO_2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.	• Seven CAAQM stations have been established in consultation with the SPCB in Tata Steel Ltd. Meramandali complex. Half yearly monitoring reports are being submitted to the Regional Office of MoEF&CC, SPCB, and CPCB at regular intervals. Summary of continuous AAQ monitoring report for the period from Apr'25 to Sep'25 is attached as **Annexure-XVIII.** • The previous half yearly compliance report was submitted vide letter no. TSL/MoEF&CC/TS-26/2025-01/561; dated. 29.05.2025.
v	Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December 1993 or as amended form time to time. The	• Industrial wastewater passed through settling tanks and treated at respective ETPs followed by Central Effluent Treatment Plant to recycle the treated effluent and achieve zero effluent discharge.

	treated waste water shall be utilized for plantation purpose.	• Treated waste are being reused in various purposes like slag quenching, coke quenching, dust suppression and green belt development inside the plant premises. • The monitoring reports of Industrial wastewater are being submitted to SPCB/CPCB/MOEF&CC at regular intervals. Water quality analysis report during the period from April' 2025 to September' 2025 is enclosed as **Annexure-VII**.
vi	The overall noise levels in and around the plant area shall be kept well within the standards 85 dB(A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB (A) (daytime) and 70 dB (A) (nighttime).	Various control methods have been adopted such as engineering control (Acoustic enclosures, sound barriers, silencers, vibration damper, aquatic liner etc.), management control (work rotation, noise mapping, equipment maintenance, quiet zones) and providing of adequate Personal Protective Equipment at all sources of noise generation. On the basis of noise mapping, manned & unmanned area has been demarcated to minimize the noise impact. The ambient and work zone noise level monitoring report for the period of Apr'25 to Sep'25 is enclosed as **Annexure-XIX**.
vii	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act. The workers including the contract workers shall be provided with proper personal protection equipment.	Occupational health surveillance of the workers is being done periodically and records maintained as per the Factories Act. Necessary PPEs are being provided to all employees, including the contractual workers.
viii	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Approximately 6.5 Lakhs m3 of rainwater is being harvested in different rainwater harvesting structures inside the plant premises. Harvested rainwater is being reused in the manufacturing process and other applications.
ix	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must	• Compliance with environmental protection measures as recommended in EIA / EMP report is ensured.

	undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	• Various socio-economic development programs covering education, safe drinking water, sports, health care etc. are undertaken in nearby villages. • Various CSR activities have been undertaken since the inception of the plant by providing facilities of sanitation, drinking water, education, health care, road, communication etc. Further, CSR activities and its related expenditure has been substantially increased after acquisition of the industry by Tata Steel Limited. Detailed CSR expenditure from Apr'25 to Sep'25 is enclosed as **Annexure-XV**.
x	The requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	• Adequate funds are being provided for pollution control and to meet recurring costs. • The funds earmarked for environmental pollution control measures are not diverted for any other purpose.
xi	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, If any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Clearance letters were sent to all concerned and uploaded onto our Company web site, which can be viewed at http://www.tatasteel.com.
xii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF at Bhubaneswar. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely	Compliance status is uploaded in the Company's web site at http://www.tatasteel.com. The compliance report including results of monitored data is periodically submitted to the Regional Office of MoEF&CC, CPCB and SPCB, Odisha.

	PM_{10}, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects, shall be monitored and displayed at a convenient location near the main gate of the Company in the public domain.	Parameters are being monitored in ambient air and stack emission are being displayed near the main gate of the Company.
xiii	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF&CC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bhubaneswar / CPCB / SPCB shall monitor the stipulated conditions	• The half yearly compliance report is being submitted to the Regional Office of the MoEF&CC, CPCB and SPCB. • The previous half yearly compliance report was submitted vide our letter TSL/MoEF&CC/TS-26/2025-01/561 dated. 29.05.2025.
xiv	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEF at Bhubaneswar by e-mail.	• The Environmental Statement in Form-V is being submitted to SPCB/CPCB/MOEF&CC regularly. • The Environment Statement for FY 2024-25 was submitted vide letter no. TSL/SPCB/TS-03/2025-19/593, dated 26.09.2025.
xv	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Bhubaneswar.	• The advertisement was published in both Odia & English newspapers named "The Sambad" and "The New Indian Express" respectively on dated 24.07.2012. Copy of the same is enclosed as **Annexure-XX**. • The same has already been communicated to the Regional Office of MOEF&CC, Bhubaneswar vide our letter no. BSL/MoEF&CC/BS-01/2012-08 dated 24.07.2012.

xvi	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	• The financial closure and final approval of the project was done on 23rd June 2009. • The land development was started subsequently after grant of Consent to Establish (CTE) issued on 14th December 2012.

SPECIFIC CONDITIONS:

SL	CONDITIONS	COMPLIANCE STATUS
i	Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. Online ambient air quality monitoring and continuous stack monitoring facilities for all the stacks and sufficient air pollution control devices like ESP and Bag house etc. shall be provided to keep the emission levels below 100 mg/Nm^3. Bag filters should be provided to the induction furnace to control the particulate emission below 100 mg/Nm^3. Inter-locking system shall be provide to ESP's. Monitoring reports shall be submitted to the Ministry's Regional office at BBSR, CPCB, and OPCB on six monthly basis.	• Bag filters, ESP have been installed with operating unit to reduce particulate matter levels. Pollution control equipment is being operated & monitored continuously. Details of the list of pollution control devices is enclosed as **Annexure I.** • Gas Cleaning scrubbers have been installed at Coke Oven, Blast Furnace and BOF. • Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed to monitor the ambient air quality in the different locations of Tata Steel Limited in consultation with SPCB, Odisha. • Implemented various improvement projects e.g., installation of new technology power supply controller at Sinter plant (HFTR-High frequency transformer rectifier) in process ESP & Micro pulse in dedusting ESP of sinter plant to keep emission level below the norms.
ii	Electrostatic precipitators (ESP's) to DRI plant, waste heat recovery boiler (WHRB) and fluidized bed boiler (FBB) and bag house to blast furnace (BF) shall be provided to control gaseous emission within 100 mg/Nm^3. The gases from the DRI Kilns and BF after recovery of heat in WHRB shall be passed through ESP to control gaseous emissions. Smoke hood and fume extraction system with cyclone and bag filters should provided to IF, LRF and CCM to keep the dust in work zone environment within the permissible limit. Cyclone and bag filters shall be provided to SMS.	Following facilities have been installed to control gaseous emissions: **DRI & WHRB:** • 10 nos. of DRI Kiln having 500 TPD capacity each with WHRB system connected to ESPs at the hot end of the DRI Kiln and De-dusting system at the cold end of the DRI kiln. **BLAST FURNACE:** • Bag filter has been installed in Cast House and stock house. To keep the emission well within the norms. **LRF & CCM:** • Smoke hood and fume extraction system of adequate capacity have been provided to LRF & CCM to keep the dust in work

		zone environment within the permissible limit. **SMS II:** • Fume extraction system along with cyclonic system and bag filters have been installed to take care of the fugitive emissions in the Steel Making Shop.
iii	All the standards prescribed for the coke oven plants shall be followed as per the latest guidelines. Proper and full utilization of coke oven gases in power plant using waste heat recovery steam generators shall be ensured and no flue gases should discharged into the air.	• Standards prescribed notified vide notification No. GSR277(E); dated. 31st March 2012 for the Coke Oven Plants is being followed. • Bag filters are installed at Coke Oven Plant-1 & 2 respectively to take care of fugitive emission. • BOD plants are in operation at Coke Oven Plant- 1 & 2 respectively to treat effluent generated from respective Coke Oven Plants. • Fugitive emission with respect to particulate matter & benzopyrene is being carried out at coke oven battery top which also captures the charging emission and report is being submitted to OSPCB periodically. • Cleaned Coke Oven gas (COG) is utilized in HSM, Coke Oven battery heating, Lime Calcination Plant, Blast Furnace Power Plant & Gas fired boilers for power generation. • Flue gas is not discharged to air. Surplus COG if any is being stored at COG holder for further use. • The monitoring report of particulate matter, Benzo(a)Pyrene for the period from Apr'25 to Sep'25 is attached as **Annexure-XVI**. • The monitoring report of treated effluent from BOD Plant-1 & 2 for the period from Apr'25 to Sep'25 is attached as **Annexure-VII**.
iv	Dry coke quenching method shall be adopted in the proposed recovery type of the coke oven within 5 years of grant of environmental clearance.	Coke dry quenching has been commissioned & being operated at Coke Ovens.

v	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.	• Bag filters & ESPs have been installed at operating units to reduce particulate matter levels. Pollution control equipment is being operated & monitored continuously. Details of the pollution control equipment is enclosed as **Annexure I.** • Gas Cleaning scrubbers have been installed at Coke Oven, Blast Furnace and BOF. • Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed to monitor the ambient air quality at different locations of Tata Steel Limited in consultation with SPCB, Odisha. • Implemented various improvement projects e.g., installation of new technology power supply controller at Sinter plant (HFTR-High frequency transformer rectifier) in process ESPs & Micro pulse in dedusting ESPs of sinter plant to keep emission level below the stipulations.
vi	Bag filters, dust suppression system and extraction system shall be provided to raw materials handling areas, crusher house, junction towers, feed points, etc. to control fugitive emissions. Water sprinkling shall be done at loading and unloading points.	• Bag filters and Dry Fog Dust Suppression Systems (DFDS) have been provided at the coal circuit. Dry fog dust suppression systems have been provided in the iron ore circuit at crushing and screening points of raw material handling areas. • Pneumatic dust handling systems have been provided at ESP hoppers in the Sinter Plant-I. • Fixed type water sprinkler systems have been installed at various internal roads and at the material handling areas. • Mechanized Road sweepers have been deployed round the clock for dry sweeping of roads and shop floors. • Industrial vacuum cleaning systems have been provided & being used.
vii	Vehicular pollution due to transportation of raw material and finished products shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.	• Vehicles carrying raw materials are being covered with tarpaulin to mitigate dust emission during transportation. • Water sprinkling arrangement has been made by installation of rotary gun sprinklers

		at raw material handling areas to control dust emissions during loading and unloading of raw materials at site. • Additionally, dry fog dust suppression systems having have been installed in entire coal circuit and at the unloading points of raw material handling area to control fugitive dust. • Wheel washing systems are in operation at DRI, RMHS, BFPP1, BFPP2 and WHRB. • Mechanized road sweepers are in operation for dry sweeping of internal roads round the clock and at shop floors with dust suction facility.
viii	Total water requirement should not exceed 1, 29,600 m^3/day. Permission for drawl of 2,40,000 m^3/day is obtained from Department of water resources, Govt. of Orissa, vide letter dated 4th December, 2003. No ground water shall be used. Closed circuit circulating/ cooling water shall be provided to reduce the water consumption. The wastewater from the de-mineralized (DM) plant shall be neutralized in neutralization pit. The wastewater from BF-GCP and coal washery shall be treated in thickener and used in the pig casting machine. Acidic and alkaline effluent from DM water plant shall be neutralized and reused in the plant through ash pond. Blow down from boilers and cooling tower shall be reused in the plant itself. All the other effluent shall be treated in effluent treated plant (ETP) and all the treated wastewater from process or for dust suppression, green belt development and various other activities at the sites. No wastewater shall be discharged outside the premises and zero effluent discharge shall be ensured. Domestic effluent shall be treated in existing sewage treatment plant (ETP) and used for green belt development.	• Freshwater consumption during the period from April'25 to Sept'25 for the Steel plant is 2177 m^3/hr against the allocated quantity of 10,000 m^3/hr. • Closed circuit circulation system has been adopted by plant. • Wastewater of DM plant is neutralized in neutralization pit, wastewater from BF-GCPs is being treated through thickners. • All effluents are being treated through respective ETPs followed by Central Effluent Treatment Plant to recycle the treated effluent and achieve zero effluent discharge. • During the period from Apr'25 to Sep'25 3,32,2731m^3 of treated water has been recycled in the process. • Treated effluent is being reused for dust suppression, ash handling, make up for DRI, Sinter and green area development. • Process effluent after treatment is being reused. • The sanitary sewage is being treated in 4 Nos. of Sewage Treatment Plant and used for green belt development and low-end application in plant.
ix	Phenolic effluent shall be treated in BOD plant and used for quenching of hot coke.	• The Phenolic effluent is being treated in the BOD plant and treated effluent is being

	Continuous monitoring of total organic compounds shall be done at the outlet of ETP (BOD plant)	reused for quenching of hot Coke at Coke Oven-I. • Online continuous effluent quality monitoring analyzer has been installed to continuously monitor the treated water quality of the effluent generated from the BOD Plant.
x	DRI fines, coke breeze, sinter dust, GCP dust, SMS dust, Scale, Iron ore fines shall be used in sinter plant. The coal washery rejects and middling shall be used in AFBC based power plant and shall not be disposed off anywhere else. All the blast furnace slag shall be granulated and provided to cement manufactures for further utilization.	• DRI fines are being used in SMS and Sinter Dust, GCP dust, SMS dust, Scales, Iron Ore Fines are used in Sinter plant. • The entire quantity of blast furnace slag is dispatched to cement manufacturers based on long term MoU with the cement manufacturers. • SMS slag is being used in sinter plant after processing in metal recovery plant. • Balance slag is being used for the soling of roads.
xi	AFBC plant shall be installed before installation of sponge iron plant so that utilization of char in the AFBC boiler is ensured. All the char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be disposed off anywhere else. Unusable scrap, coal and iron ore fines will be used in SMS. All the other solid wastes including broken refractory mass and kiln accretions shall be properly disposed off in environment- friendly manner.	• AFBC plant is presently not in operation. • Char is being stored in demarcated places and utilized in CFBC boiler. • All unusable scrap, coal and iron ore fines are being utilized in SMS. • Refractory mass and kiln accretions are being properly disposed off in an environment friendly manner.
xii	All the slag from SMS, EAF, LRF and IF shall be used for land filling and road making only after passing through Toxic Chemical Leachability Potential (TCLP) test. Otherwise, slag shall be disposed in secured landfill as per CPCB guidelines. Used oil shall be sold to authorized recyclers/ re-processors only.	• Blast furnace slag is being supplied to cement manufacturers based on long term MoU with the cement manufacturer. • The SMS slag (LD slag) is processed in material recovery plant (MRP) for separation of metal from slag. Recovered metallics used in the steel making process as scrap. The non-magnetic slag being sized and used for various applications such as internally used in sinter plant, SMS, road making, hard stand and supplied to outside customer for cement making, low lying area filling/hard stand brick making & road construction.

		• Used oil is being sold to authorized recyclers/re-processors. • Solid waste analysis report has been submitted along with half yearly compliance report. Vide letter No. TSL/MoEF&CC/TS-26/2025-01/561 dated. 29.05.2025. • SMS Slag TCLP analysis report is attached as **Annexure-VI.**
xiii	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to Ministry's Regional office at BBSR, CPCB and OPCB.	• Solid waste handling, storage, utilization and disposal are being done scientifically. The toxic metal content and compositional analysis of solid waste are being carried out regularly. The analysis report of solid waste sample is attached as **Annexure-VIII**. • Annual return (Form-IV) of hazardous waste is being regularly submitted to SPCB Odisha. Latest return was submitted vide letter No. TSL/SPCB/TS07/2025-08/570 dated June 25, 2025. • Annual slag return was submitted vide letter No. TSL/CPCB/TS-06/2025-04/567; dated. 13.06.2025
xiv	A time bound action plan shall be submitted to reduce solid waste its proper utilization and disposal.	• The solid wastes generated from various plant units are being efficiently recycled back within the plant processes. During FY'26 (Till Sep'2025) overall solid utilization was 100%. Necessary steps have been undertaken for maximum utilization of solid waste.
xv	Proper utilization of fly ash shall be ensured as per Fly Ash Notification 1999 as amendment in 2003.	• Ash are being utilized in various applications given below as per MoEF&CC/CPCB guidelines to achieve 100% ash utilization: ➢ Supplied to nearby fly ash brick manufacturing units at free of cost on door delivery model. ➢ Supplied to NHAI for road construction. ➢ Balance ash if any is being utilized in reclamation of low-lying areas & abandoned stone quarries as per guidelines of CPCB/ OSPCB after grant of necessary consents.
xvi	As proposed, green belt shall be developed in 550 acres (33%) out of total 1, 664.5 acres	• Green belt development is being complied as per MoEF&CC letter No. IA3-

	in and around the plant as per the CPCB guidelines in consultation with DFO.	22/14/2025-IA.III(E-275538); dated. 29th Oct 2025. • Plantation of saplings is being done regularly based on the availability of vacant areas. • Additional Land acquisition contiguous to the existing plant is being done under expansion project to increase green belt within the plant. • Details of plantation from Apr'25 to Sep'25 is attached as **Annexure-XII**.
xvii	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the steel plants shall be implemented.	• Tata Steel Limited has implemented all CREP recommendations. CREP compliance is attached as **Annexure-XIII.**

GENERAL CONDITIONS:

SL	CONDITIONS	COMPLIANCE STATUS
i	The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the State Government.	• All relevant stipulations made by SPCB and the State Government are being complied with.
ii	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	• Necessary clearances from MoEF&CC have been taken for expansion/modification as and when required. • Environment clearance granted vide letter No. J-11011/08/2005- IA-II (I) dated 29.06.2005 to establish integrated steel plant of capacity 1.5MTPA capacity. • Environment clearance granted vide letter No. J-11011/405/2007- IA-II (I) dated 22.09.2008 for expansion of integrated steel plant from 1.5MTPA to 3.1MTPA capacity. • Environment clearance granted vide letter No. J-11011/829/2008-IA-II (I) dated 20.07.2012 for expansion of integrated steel plant from 3.1MTPA to 5.6MTPA capacity. Enhancement of Hot Metal production from 3.919 MTPA to 5.0 MTPA and Installation of one no. of LRF of 190 T/heat and expansion of carrying capacity of two nos. of existing ladle from 180 T/heat to 190 T/heat were carried out

		as per the MoEF& CC Notification No. S.O.980(E) dated: 02.03.2021 "no increase in pollution load" (NIPL). The details are as follows: I. Enhancement of Hot Metal production from 3.919 MTPA to 5.0 MTPA vide OSPCB letter no. 246/IND-II-NOC-NIPL/24 dated 04.01.2022. II. Installation of one no. of LRF of 190 T/heat and expansion of carrying capacity of two nos. of existing ladle from 180 T/heat to 190 T/heat vide OSPCB letter no.886/IND-II-NOC-NIPL/27 dated 20.01.2022. III. Subsequently CTO was granted vide letter 5823/IND–I–CON-5440, dated. 24.03.2025 and is valid up to 31.03.2027.
iii	The gaseous emissions from various process units shall conform to the load/mass-based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emission level shall go beyond the prescribed standards. Interlocking facility shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	• Bag filters, ESPs have been installed within operating unit to reduce particulate matter levels. Details of the list of pollution control devices is enclosed as **Annexure-I.** • Gas Cleaning scrubbers have been installed at Coke Ovens, Blast Furnace and BOF to control gaseous emissions. • Fugitive emission with respect to particulate matter & benzopyrene is being carried out at coke oven battery top which also captures the charging emission and report is being submitted to OSPCB periodically. The sulphur content in coke oven gas used for heating is less than 500mg/Nm^3, which is well within the prescribed standard of 800mg/Nm^3. • The monitoring report of fugitive emission including benzo(a)pyrene & fugitive visible emission at Coke Oven Plant is attached as **Annexure-XVI**. • Gaseous emission level from process stacks is attached as **Annexure-XVII**.
iv	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of	• Seven numbers of continuous ambient air quality monitoring stations have been established in consultation with the SPCB in Tata Steel Meramandali complex. Half

	PM10, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.	yearly reports are being submitted to the Regional Office of MoEF&CC, SPCB and CPCB at regular intervals. Summary of AAQ monitoring report & stack emission monitoring for the period from Apr'25 to Sep'25 is attached as **Annexure-XVIII & Annexure-XVII** respectively**.** • The last half yearly compliance report was submitted vide letter no. TSL/MoEF&CC/TS-01/2024-04/506 dated 25.11.2024.
v	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Further, specific measures like water sprinkling around the coal stock piles and asphalting or concreting of the roads shall be done to control fugitive emission.	To have a control on fugitive emissions, following measures have taken: • Bag filters have been installed at various junction houses. • Continuous sprinkling of water is being done around the coal stockpiles. • Water sprinkling arrangement has been made by installation of rotary gun sprinklers at raw material handling areas to control dust emissions during loading and unloading of raw materials at site. • Construction of Concrete roads are being made within the plant premises and is being cleaned and maintained through mechanized housekeeping systems. • Periodical water sprinkling on all the internal roads within the plant premises is being done as per the planned schedule. • Installed dust collector system in conveyor lines.
vi	Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated waste water shall be utilized for plantation purpose.	• Industrial wastewater passed through settling tanks and treated at respective ETPs followed by Central Effluent Treatment Plant to recycle the treated effluent and achieve zero effluent discharge. • Treated waste are being reused in various purposes like slag quenching, coke quenching, dust suppression and green belt development inside the plant premises. • The monitoring reports of Industrial wastewater are being submitted to SPCB/CPCB/MOEF&CC at regular intervals.

		• Water quality analysis report during the period from April' 2025 to September' 2025 is enclosed as **Annexure-VII**.
vii	The overall noise levels in and around the plant area shall be kept well within the standards 85 dB(A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB (A) (daytime) and 70 dB (A) (night time).	Various control methods have been adopted such as engineering control (Acoustic enclosures, sound barriers, silencers, vibration damper, aquatic liner etc.), management control (work rotation, noise mapping, equipment maintenance, quiet zones) and providing of adequate Personal Protective Equipment at all sources of noise generation. On the basis of noise mapping, manned & unmanned area has been demarcated to minimize the noise impact. The ambient and work zone noise level monitoring report for the period of Apr'25 to Sep'25 is enclosed as **Annexure-XIX**.
viii	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	• Occupational health surveillance of the workers is being periodically done. PME once in a year, Food handler test: Once in a year. • Necessary PPEs have been provided to all the employees including the contractual workers.
ix	The company shall develop surface rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Approximately 6.5 Lakhs m^3 of rainwater is being harvested in different rainwater harvesting structures inside the plant premises. Harvested rainwater is being reused in the manufacturing process and other applications.
x	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	• Compliance with all environmental protection measures as recommended in EIA / EMP report is ensured. • Various socio-economic development programs covering education, safe drinking water, sports and health care etc are undertaken in nearby villages. • A detailed breakup of CSR initiatives is enclosed as **Annexure- XV.**
xi	The adequate funds shall be earmarked towards capital cost and recurring cost / annum for environment pollution control measures to implement the conditions	• Adequate funds are being provided by the management for pollution control and to meet recurring costs. Environmental

	stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	requirements are given top priority for fund allocation and approval of capital projects. • The funds earmarked for environment pollution control measures are not diverted for any other purpose. • The company has invested adequate capital expenditure to improve mix of clean power & also reduction of carbon emissions.
xii	The Regional Office of this Ministry at Bhubaneswar / CPCB/ OPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	• The half yearly compliance report is being submitted to the Regional Office of the MoEF&CC, CPCB and SPCB. • The last half yearly compliance report was submitted vide our letter no. TSL/MoEF&CC/TS-01/2024-04/506 dated 25.11.2024.
xiii	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Bhubaneswar.	• The expansion of integrated steel plant from 1.5 to 3.1MTPA vide file No J-11011/405/2007-IA-II(I) dated 22.09.2008 was published in both Odia & English newspapers named "The Dharitri" on dated 04.10.2008 and "The Times of India" on dated 04.10.2008. • The newspaper clip is attached as **Annexure- XX**.
xiv	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	• The financial closure and final approval of the project was done on 6th November 2006. • The land development was started subsequently after grant of Consent to Establish (CTE) issued on 23rd May 2009.

SPECIFIC CONDITIONS:

SL	CONDITIONS	COMPLIANCE STATUS
i	The gaseous emissions from various process units shall conform to the load/mass-based standards notified by the Ministry on 19th May, 1993 and standards prescribed from time to time. The state board may specify more stringent standards for the parameters keeping in the view the nature of the industry and its size and location. At no time the emission level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	• Bag filters, ESPs have been installed within operating unit to reduce particulate matter levels. Details of the list of pollution control devices is enclosed as**Annexure-I.** • Gas Cleaning scrubbers have been installed at Coke Ovens, Blast Furnace and BOF to control gaseous emissions. • Fugitive emission with respect to particulate matter & benzopyrene is being carried out at coke oven battery top which also captures the charging emission and report is being submitted to OSPCB periodically. The sulphur content in coke oven gas used for heating is less than 500mg/Nm^3, which is well within the prescribed standard of 800mg/Nm^3. • The monitoring report of fugitive emission including benzo(a)pyrene & fugitive visible emission at Coke Oven Plant is attached as **Annexure-XVI**. • Gaseous emission level from process stacks is attached as **Annexure-XVII**.
ii	There shall be no discharge of process effluent. As reflected in the EIA/EMP report, the company shall undertake water conservation measures by recycling the water from the gas cleaning plant and cooling tower blow down. The plant design shall be base on 100% recirculation system to achieve zero discharge. The domestic waste water after treatment in STP shall be used for green belt development.	• Process effluents are passed through settling tanks and treated at respective ETPs followed by Central Effluent Treatment Plant to recycle the treated effluent and achieve zero effluent discharge. • During the period Apr'25 to Sep'25 33,22,731m^3 of treated effluent has been recycled in the process. • Various water conservation measures are undertaken such as: ➢ Treated effluent is being reused for dust suppression, ash handling, make up for DRI, Sinter process and green area development. ➢ The sanitary sewage is being treated in 4 Nos. of Sewage Treatment Plants and used for green belt development and low-end application in plant.

iii	In plant control measures for checking fugitive emissions from spillage/raw materials handling shall be provided. Further specific measures like provisions of dust extraction & dust suppression system for product & raw materials handling, conveyor transfer points, water sprinkling system at waste disposal area to control the fugitive emissions shall be provided. Data on fugitive emission shall be regularly monitored & records maintained.	• Adequate Bag filters, Dry Fog Dust Suppression Systems (DFDS) and Single Fluid Dedusting Systems (SFDS) have been provided at the coal circuit. • Dust suppression systems have been provided in the iron ore circuit at crushing and screening points of raw material handling areas. • Pneumatic dust handling system has been provided at ESP hoppers in the Sinter Plant-I. • Chain conveyor dust handling systems have been provided at ESP hoppers of sinter plants II and III. • Vehicles carrying raw materials are being covered with tarpaulin to counteract dust emission. • Rotary gun sprinklers have been installed for water sprinkling at raw material handling areas to control dust emissions during loading and unloading of raw materials at site. • Additionally dry fog dust suppression system have been installed in entire coal circuit and at the unloading points of raw material handling area to control fugitive dust. • Wheel washing systems are in operation at DRI, RMHS, BFPP1, BFPP2 and WHRB. • Mechanized road sweepers are in operation round the clock for dry sweeping of internal roads and shop floors with dust suction facility. • Fugitive emission is being monitored regularly and records are maintained.

iv	The company shall use gas from the DRI for power generation & blast furnace gas for BF Stoves, sinter plant & furnace heating. The exhaust gas from the kiln shall be cleaned by dry gas cleaning system. The waste gas shall be passed through dust settling chamber to settle the coarse dust particulate & post combustion chamber to burn the CO in the flue gas. The boiler shall utilize the waste heat for steam generation. The particulate emissions shall be controlled by installation of ESP & the particulate emissions shall not exceed 100 mg/Nm3.	• WHRBs are in operation to generate power from the waste heat of DRI flue gases. • The Plant has installed 10 nos. of DRI Kiln of 500 TPD each with WHRB system connected to ESPs at the hot end of the DRI Kiln and De-dusting system at the cold end of the DRI kiln. • BF gas is passed through gas cleaning plant and used at BF stove, sinter plant & furnace heating. • The particulate emission from the Stack is well within the limit. The monitoring data are enclosed as **Annexure-XVII**.
v	The company shall install centralized de-dusting system to control the primary emissions from the induction furnace top as canopy hood at the top of furnace to capture secondary emissions.	• Induction furnace was dismantled during the expansion project of Blast Furnaces through No Increase in Pollution Load channel.
vi	The company shall take measures for installation of continuous ambient air quality monitoring stations and data sent electronically to SPCB/CPCB.	• Seven Nos. of Continuous ambient air quality monitoring stations have been installed & commissioned in consultation with the SPCB at Tata Steel Meramandali complex with transmission of real time data to OSPCB/CPCB server. • In addition to that Half yearly reports are being submitted to the Regional Office of MoEF&CC, SPCB and CPCB at regular intervals.
vii	SMS slag from induction furnace, EAF & LF shall be used for road making and railway blast. Coal washery middling and char from DRI shall be used for power generation. BF Slag should be granulated & sold to cement manufacturers. Scrap, coal & iron ore fines shall be reused. Fly ash shall be used for bricks manufacturing.	• The SMS slag (LD slag) is processed in material recovery plant (MRP) for separation of metal from slag. Recovered metallics used in the steel making process as scrap. The non-magnetic slag being sized and used for various applications such as internally used in sinter plant, SMS, road making, hard stand and supplied to outside customer for cement making, low lying area filling/hard stand brick making & road construction. • Char from DRI is being used at Power Plant.

<table>
<tr><td></td><td></td><td>• Blast furnace slag is being supplied to cement manufacturers based on long term MoU with the cement manufacturer.
• Scrap is being used at SMS, coal & iron ore fines are being used at sinter making.
• Ash are being utilized in various applications given below as per MoEF&CC/CPCB guidelines to achieve 100% ash utilization:
➢ Supplied to nearby fly ash brick manufacturing units at free of cost on door delivery model.
➢ Supplied to NHAI for road construction.
➢ Balance ash if any is being utilized in reclamation of low-lying areas & abandoned stone quarries as per guidelines of CPCB/ OSPCB after grant of necessary consents.</td></tr>
<tr><td>viii</td><td>Resettlement & Rehabilitation plan for displacement of families shall be as per the land acquisition Act & state government guidelines.</td><td>• The Resettlement & Rehabilitation plan for displacement of families has already been made as per the Land Acquisition Act & State Government guidelines.</td></tr>
<tr><td>ix</td><td>A green belt of adequate width density shall be developed in 195 acres of plant area. Selection of plant species as per the CPCB guidelines.</td><td>• Green belt development is under progress in and around the plant complex by planting indigenous species as per CPCB guidelines.
• Plantation of saplings are done regularly based on the availability of vacant area.
• Plantation details during the period from Apr'2025 to Sep'2025 is enclosed as Annexure-XII.</td></tr>
<tr><td>x</td><td>The company shall undertake community welfare measures for the local villagers & earmark separate funds for construction of schools, hospitals, community hall for peripheral development of all the villagers located around the plant site.</td><td>• Tata Steel Limited has been incurred an expenditure Rs. 60.06 Crores during last three financial year {(i.e. from FY'23 to FY'26 (till Sep'2025)} on CSR. Detailed activities wise expenditure is as below:
<table>
<tr><th>#</th><th>CSR Activity</th><th>Investment (in Cr)</th></tr>
<tr><td>1</td><td>Health</td><td>6.013</td></tr>
<tr><td>2</td><td>Agriculture/livelihood</td><td>4.492</td></tr>
<tr><td>3</td><td>Environment</td><td>0.03</td></tr>
<tr><td>4</td><td>Empowerment</td><td>2.01</td></tr>
<tr><td>5</td><td>Drinking water supply</td><td>2.828</td></tr>
<tr><td>6</td><td>Ethnicity</td><td>0.24</td></tr>
<tr><td>7</td><td>Rural infrastructure development</td><td>16.75</td></tr>
<tr><td>8</td><td>Education</td><td>23.53</td></tr>
</table></td></tr>
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		<table><tr><td>9</td><td>Sports</td><td>1.261</td></tr><tr><td>10</td><td>Skill development & miscellaneous</td><td>2.61</td></tr><tr><td>11</td><td>Gender & community enterprise</td><td>0.303</td></tr><tr><td colspan="2">Total</td><td>60.06</td></tr></table> • CSR initiatives undertaken during Apr'25 to Sep'25 is enclosed as **Annexure- XV.**
xi	The company shall obtain forest clearance for diversion of 151.92 acres of village forest land under forest (conservation) act, 1980 before undertaking construction activity.	• Necessary forest clearances have already been obtained vide file no. 8-84/2005-FC dated 13.11.2006.
xii	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the factories act.	• Occupational health surveillance of the workers is being periodically done. PME once in a year, Food handler test: Once in a year. • Necessary PPEs are provided to all the employees including the contractual workers.
xiii	Recommendations made in the CREP shall be implemented	• Tata Steel Limited has implemented all CREP recommendations. CREP compliance report is enclosed as **Annexure-XIII**.
xiv	Company shall keep proper housekeeping within the plant premises.	• Various initiatives are being taken for proper housekeeping within the Plant premises. Mechanized road sweepers, wheel washing system, truck mounted mist canon has been deployed to clean up roads periodically.
xv	The company shall undertake rainwater harvesting measures to harvest the rainwater for utilization in the lean season as well as to recharge the ground water table.	Approximately 6.5 Lakhs m^3 of rainwater is being harvested in different rainwater harvesting structures inside the plant premises. Harvested rainwater is being reused in the manufacturing process and other applications.

GENERAL CONDITION:

SL	CONDITIONS	COMPLIANCE STATUS
i	The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the State Government.	All relevant stipulations made by SPCB and the State Government are being complied.
ii	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	• Necessary clearances from MoEF&CC have been taken for expansion/modification as and when required.

		• Environment clearance granted vide letter No. J-11011/405/2007- IA-II (I) dated 22.09.2008 for expansion of integrated steel plant from 1.5MTPA to 3.1MTPA capacity. • Environment clearance granted vide letter No. J-11011/829/2008-IA-II (I) dated 20.07.2012 for expansion of integrated steel plant from 3.1MTPA to 5.6MTPA capacity. • Enhancement of Hot Metal production from 3.919 MTPA to 5.0 MTPA and Installation of one no. of LRF of 190 T/heat and expansion of carrying capacity of two nos. of existing ladle from 180 T/heat to 190 T/heat were carried out as per the MoEF& CC Notification No. S.O.980(E) dated: 02.03.2021 "no increase in pollution load" (NIPL). The details are as follows: I. Enhancement of Hot Metal production from 3.919 MTPA to 5.0 MTPA vide OSPCB letter no. 246/IND-II-NOC-NIPL/24 dated 04.01.2022. II. Installation of one no. of LRF of 190 T/heat and expansion of carrying capacity of two nos. of existing ladle from 180 T/heat to 190 T/heat vide OSPCB letter no.886/IND-II-NOC-NIPL/27 dated 20.01.2022. III. Subsequently CTO was granted vide letter 5823/IND–I–CON-5440, dated. 24.03.2025 and is valid up to 31.03.2027.
iii	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM_{10}, SO_2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.	• Seven nos. of continuous ambient air quality monitoring stations have been established in consultation with the SPCB in Tata Steel Meramandali integrated complex. Half yearly reports are being submitted to the Regional Office of MoEF&CC, SPCB and CPCB at regular intervals. • Summary of AAQ monitoring report is attached as **Annexure-XVIII.**

		• The last half yearly compliance report was submitted vide letter no. TSL/MoEF&CC/BS-01/2025-03/560 dated 30.05.2025.
iv	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.	• Industrial wastewater passed through settling tanks and treated at respective ETPs followed by Central Effluent Treatment Plant to recycle the treated effluent and achieve zero effluent discharge. • Treated waste are being reused in various purposes like slag quenching, coke quenching, dust suppression and green belt development inside the plant premises. • The monitoring reports of Industrial wastewater are being submitted to SPCB/CPCB/MOEF&CC at regular intervals. • Water quality analysis report during the period from April' 2025 to September' 2025 is enclosed as **Annexure-VII**.
v	The overall noise levels in and around the plant area shall be kept well within the standards 85 dB(A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB (A) (daytime) and 70 dB (A) (nighttime).	Various control methods have been adopted such as engineering control (Acoustic enclosures, sound barriers, silencers, vibration damper, aquatic liner etc.), management control (work rotation, noise mapping, equipment maintenance, quiet zones) and providing of adequate Personal Protective Equipment at all sources of noise generation. On the basis of noise mapping, manned & unmanned area has been demarcated to minimize the noise impact. The ambient and work zone noise level monitoring report for the period of Apr'25 to Sep'25 is enclosed as **Annexure-XIX**.
vi	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes,	• Compliance to all environmental protection measures as recommended in EIA / EMP report is ensured. • Various socio-economic development programs covering education, safe drinking water, sports and health care etc. are undertaken in nearby villages.

	educational programmes, drinking water supply and health care etc.	• A detailed breakup of CSR initiatives during Apr'25 to Sep'25 is enclosed as **Annexure- XV.**
vii	The project authority will provide separate fund both recurring and non-recurring to implement the conditions stipulated by the MoEF as well as the State Govt. along with the implementation schedule for all the conditions stipulated therein. The funds so provided should not be diverted for any other purposes.	• Adequate funds are being provided by the management for pollution control and to meet recurring costs. Environmental requirements are given top priority for fund allocation and approval of capital projects. • The funds earmarked for environment pollution control measures are not diverted for any other purpose. • The company has invested adequate capital expenditure to improve mix of clean power & also reduction of carbon emissions.
viii	The Regional Office of the Ministry at Bhubaneswar / CPCB / SPCB will monitor the stipulated conditions. A six-monthly compliance report and monitoring data along with statistical interpretation should be submitted to them regularly.	• Six monthly monitoring report with statistical derivation for the period from Apr'25 to Sep'25 is enclosed as **Annexure-VII**. • Last report has been submitted vide letter No. TSL/MoEF&CC/BS-01/2025-03/560 dated 30.05.2025.
ix	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Bhubaneswar.	• Grant of EC were Published in Times of India (English) dated 06.07.2005 and in Samaya (Oriya) dated 07.07.2005. • The same has already been communicated to the Regional Office of MOEF&CC, Bhubaneswar.
x	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	• The financial closure and final approval of the project was done on 6th November 2006. • The land development was started subsequently after grant of Consent to Establish (CTE) issued on 23rd May 2009.

LIST OF ENCLOSURES

Sl. No.	Enclosures	Details
1.	Annexure - I	List of Air Pollution Control Device
2.	Annexure - II	List of CEMS Connected to SPCB/CPCB server
3.	Annexure - III	Photos of Fixed Type Sprinklers
4.	Annexure – IV	Fugitive Emission Monitoring Report
5.	Annexure - V	Representation Letter Submitted to OSPCB
6.	Annexure - VI	TCLP Study Report of SMS LD-Slag
7.	Annexure - VII	Water Quality Monitoring Report
8.	Annexure - VIII	Solid Waste Analysis Report by NIT-Rourkela
9.	Annexure - IX	Raw Material Analysis Report by CSIR-IMMT
10.	Annexure - X	Glimpses of Plantation
11.	Annexure - XI	Acceptance Letter of Onsite Emergency Plan
12.	Annexure - XII	Plantation Details
13.	Annexure - XIII	CREP Compliance Report
14.	Annexure - XIV	Compliance to PH Points
15.	Annexure - XV	Event Wise CSR Expenses
16.	Annexure - XVI	Fugitive Visible Emission & Fugitive Emission Including Benzo(a)Pyrene at Coke Plants
17.	Annexure - XVII	Gaseous Emission at Stacks
18.	Annexure - XVIII	Summary of Manual & Continuous AAQ
19.	Annexure - XIX	Noise Monitoring Report
20.	Annexure - XX	Advertisement Clips

Annexure-I

DETAILS OF AIR POLLUTION CONTROL DEVICES

SL	Process	Bag filters (Nos)	ESP (Nos)	Other Pollution Control Devices
1.	RMHS & RMPP	03	-	Gun Sprinklers-128 nos. Auto DFS-24nos.
2.	Coke oven - I	04	-	Scrubber-01 nos.
3.	Coke oven - II	11	-	Scrubber-04 nos.
4.	Sinter Plant – I	01	03	-
5.	Sinter – II & III	09	04	-
6.	DRI	05	15	-
7.	Blast Furnace - I	03	-	Scrubber-01 nos.
8.	Blast Furnace - II	04	-	Scrubber-01 nos.
9.	Lime Plant	10	-	-
10.	SMS - II	07	-	-
11.	SMS - III	03	-	Scrubber-02 nos.
12.	Blast Furnace Power Plant - I	-	03	-
13.	Blast Furnace Power Plant - II	-	02	-
	Total	**60**	**27**	**Scrubber-9 Nos., Gun Sprinklers-128 Nos. Auto DFS-24 Nos.**

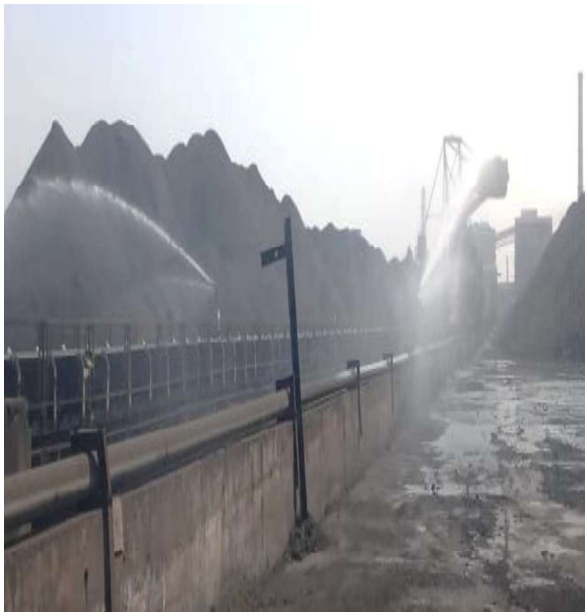
Annexure- II

Continuous Emission Monitoring System (CEMS)

#	Stack attached to	Parameters
1	BFPP- 2, boiler- 3	PM, SO_2, NOx
2	Sinter plant- 1, 85m2 ESP, Sinter Machine & Cooler	PM
3	Sinter Plant-1, Main ESP Process	PM, SO_2, NOx
4	Sinter Plant-1, 110, DE ESP (Product & Storage)	PM
5	Sinter plant- 2	PM, SO_2, NOx
6	Sinter plant- 3	PM, SO_2, NOx
7	Gas fired boiler- 1, (60+125 TPH)	PM, SO_2, NOx
8	BF- 2, Stock house	PM
9	BF- 2, Cast house	PM
10	BF -2 PCI	PM
11	BF -2 Stove	SO_2, NOx
12	WHRB# 09	PM, SO_2, NOx
13	BFPP- 1, Boiler- 1	PM, SO_2, NOx
14	BFPP- 1, Boiler- 2	PM, SO_2, NOx
15	BFPP- 1, Boiler- 3	PM, SO_2, NOx
16	BF- 1, Stock house	PM
17	BF- 1, Cast house	PM
18	BF -1 PCI	PM
19	BF -1 Stove	SO_2, NOx
20	Coke Oven- 1, Battery- 1	PM, SO_2, NOx
21	Coke Oven- 1, Battery- 2	PM, SO_2, NOx
22	SMS- 2, FES- 2	PM
23	SMS- 2, FES- 1	PM
24	Coke oven- 2	PM, SO_2, NOx
25	BOF, secondary dedusting	PM
26	WHRB# 01	PM, SO_2, NOx
27	WHRB# 02	PM, SO_2, NOx
28	WHRB# 03	PM, SO_2, NOx
29	WHRB# 04	PM, SO_2, NOx
30	WHRB# 05	PM, SO_2, NOx
31	WHRB# 06	PM, SO_2, NOx
32	WHRB# 07	PM, SO_2, NOx
33	WHRB# 08	PM, SO_2, NOx
34	WHRB# 10	PM, SO_2, NOx
35	DRI, De-dusting- 01	PM
36	DRI, De-dusting- 02	PM
37	DRI, De-dusting- 03	PM
38	DRI, De-dusting- 04	PM
39	DRI, De-dusting- 05	PM
40	Lime Plant, KILN- 2	PM
41	Lime Plant, KILN- 3	PM
42	Lime Plant, KILN- 4	PM
43	Lime Plant, KILN- 5	PM
44	Lime Plant, KILN- 6	PM
45	Coke oven-1, CDQ bag filter	PM
46	Coke oven-2, CDQ bag filter	PM
47	Sludge dryer	PM
48	Gas fired boiler- 2, 250 TPH	PM, SO_2, NOx

Annexure-III

Fixed-Type Water Sprinklers Installed at Various Locations



Annexure-IV

SUMMARY OF FUGITIVE EMISSION RESULTS MONTHLY AVARAGE VALUES
Period: April 2025 to September 2025

TATA STEEL LIMITED

Name of units	Location	PM 10 in µg/m3			Standard in µg/m3
		Min	Max	Avg	
RMHS					
1.	Near JH-21 Yard-7 (Iron ore conveying)	340	560	428	2000
2.	Coal Yard -7 Lucky Mineral Office	350	450	398	
3.	Infront of PCI building	320	380	346	
RMPP					
4.	Near tertiary Crushing & Screening Building Area	540	650	604	2000
5.	Near Iron Crusher Area	450	650	552	
B.B. Plant					
6.	Storage building	400	720	556	2000
7.	Flux crushing and screen building	500	720	594	
Coke Oven-I					
8.	Fine crusher station	410	500	456	4000
9.	Secondary crusher	550	740	622	
Coke Oven-II					
10.	Coke treatment building	550	680	604	4000
11.	Coal crushing building	520	580	550	
DRI					
12.	Near PSB-1 building	600	1100	784	2000
13.	Near PSB-2 building	560	1200	764	
14.	Near PSB-3 building	650	900	770	
15.	Near PSB- 4 building	680	880	758	
16.	Near PSB-5 building	500	850	664	
Sinter Plant I					
17.	Near proportionating Building	350	430	380	2000
18.	Near SP-1 Mixing House	420	500	460	
Sinter Plant II					
19.	Near SP-2 chimney Backside area	250	370	300	
20.	Near 7003 conveyor Belt	290	440	356	
Sinter Plant III					
21.	Near cooler SP-3 D/15	320	380	346	
22.	Near Chiller Plant SP-2,3 & parking area	310	380	336	
Blast Furnace-I					
23.	Near Stock House	560	980	808	4000
24.	Near Cast house Area	430	950	656	
Blast Furnace-II					
25.	Near Cast house Entrance	350	500	406	
26.	Near Slug pit area	530	580	550	

Annexure-IV

27.	Stock House Near ECR Building	1250	1650	1452	
Lime Plant					
28.	Near Screen Area-1	800	1750	1292	-
SMS-II					
29.	SMS-2 Furnace area	500	680	610	4000
SMS-III					
30.	BOF Furnace area	450	540	498	3000
HSM					
31.	Near Coil Yard area	300	520	414	-
CRM					
32.	Near canteen area	250	320	286	-
BFPP-2					
33.	Near Ash silo Area	300	550	422	3000
BFPP-1					
34.	Near Ash silo Area	320	500	426	4000
110 MW					
35.	Near Ash silo Area	400	450	428	-
IBMD					
36.	BOF sludge yard	300	510	384	-
37.	Near Scarp dumping yard	300	490	370	

---------- End of Report ----------

TSL/SPCB/TS-03/2025-22/601
October 28, 2025

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

Subject: Request for Categorization of Captive Power Plants (BFPP 1, BFPP 2, and TSM CPP) of Tata Steel Limited under Category C as per MoEF&CC Notification dated 11 July 2025

Reference: MoEF&CC Notification no. G.S.R. 465 (E) dated 11 July 2025

Respected Madam,

This has reference to the captioned subject and cited reference. We sincerely thank you for your continued support and guidance in ensuring environmental compliance at Tata Steel Limited's Captive Power Plants (BFPP 1, BFPP 2, and TSM CPP), located at a common premises of Meramandali Steel Works, Dhenkanal and Ganthigaida, Angul respectively.

As per the MoEF&CC Notification dated 07.12.2015 and its amendment dated 11.07.2025, revised SO_2 emission standards under the following categories:

- Category A: Within 10 km of National Capital Region (NCR) or cities having million population as per 2011 census
- Category B: Within 10 km of Critically Polluted Areas (CPA) as defined by CPCB or non-attainment cities
- Category C: Other than those included in category A & B

We would like to respectfully bring to your kind attention that the **Captive Power Plants (CPPs)** of Tata Steel Limited namely **BFPP 1 & BFPP 2** are located approximately **18 km from Angul Municipality** and **18.9 km from Talcher Municipality**. Similarly, **TSM CPP** is situated approximately **16.5 km from Angul Municipality** and **16 km from Talcher Municipality**. The distances have been verified using **Google Earth**, and the relevant map is attached as **Annexure-I**. The urban population of Angul city was 43,795 Talcher was 40,841 respectively as per the 2011 Census data. Copy of urban population as per Census 2011 is attached as **Annexure-II.**

These municipalities are designated as **Non-Attainment Cities** under the National Ambient Air Quality Monitoring Programme (NAMP). However, the aforementioned distances place the CPPs **outside the defined city limits**, and therefore, **outside the scope of Category A and Category B.**

In view of the distance from these urban centres and the population figures, we would like to request you to kindly exempt the captive power plants (BFPP 1, BFPP 2 and TSM CPP) of Tata Steel Limited from applicability of SO_2 emission compliance based on the following facts:

1. Tata Steel Limited remains proactive in complying with environmental regulations, including the stack height requirements under GSR 742 (E), dated 30 August 1990, which are designed to ensure effective dispersion of emissions based on predicted Ground Level Concentration (GLC). The stack details of the Captive Power Plants (BFPP 1, BFPP 2 and TSM CPP) of Tata Steel Limited, are attached as **Annexure-III** for your kind reference.

2. **Ambient Air Quality Monitoring of SO_2 –** The ambient air quality around Tata Steel Limited is being monitored and reported to OSPCB regularly and the monitoring reports are consistently showing SO_2 levels in the ambient air well within permissible limits. Monitoring reports from FY 2022–23, 2023–24, and 2024–25 indicate that SO_2 concentrations range from 6.05 µg/m³ at Naltangara to 10.83 µg/m³ at Narendrapur. A location map showing SO_2 concentration with respect to Tata Steel Limited, Meramandali is attached as **Annexure-IV** for your kind reference. The monitoring data confirms that the impact of plant operations on SO_2 levels is insignificant.

In light of the above, we respectfully request that the captive power plants (BFPP 1, BFPP 2, and TSM CPP) of Tata Steel Limited be considered under Category C. We reaffirm our commitment to full compliance with all applicable environmental regulations.

Thanking you,

Yours faithfully,
For Tata Steel Limited

Anoop Srivastava

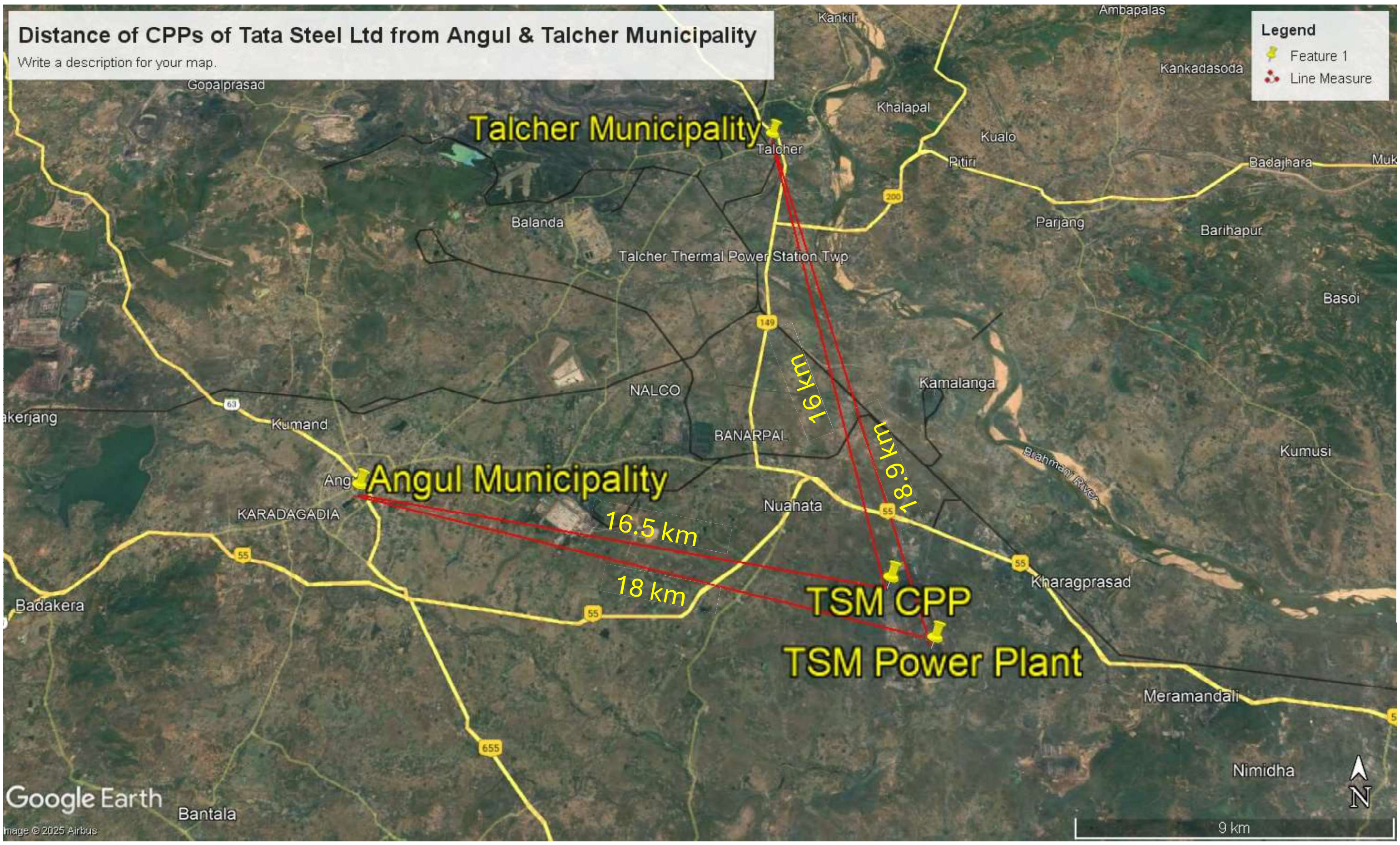
Anoop Srivastava
Chief Environment, TSM

Encl: As above

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

Annexure List:
Annexure I: Distances map of CPPs from Angul & Talcher Municipality
Annexure II: Copy of urban population as per Census 2011
Annexure-III: Stack Details of BFPP 1, BFPP 2, and TSM CPP
Annexure -IV: Location map showing SO_2 concentration

Annexure-I



Distance of CPPs of Tata Steel Ltd from Angul & Talcher Municipality
Write a description for your map.
Legend
Feature 1
Line Measure
Talcher Municipality
Angul Municipality
TSM CPP
TSM Power Plant
16 km
18.9 km
16.5 km
18 km
Talcher
Balanda
Talcher Thermal Power Station Twp
NALCO
BANARPAL
Kamalanga
Nuahata
Kumand
KARADAGADIA
Kharagprasad
Meramandali
Nimidha
Bantala
Badakera
Gopalprasad
Kankili
Khalapal
Kualo
Pitiri
Parjang
Badajhara
Barihapur
Basoi
Kumusi
Ambapalas
Kankadasoda
Brahmani River
9 km
N
Google Earth
Image © 2025 Airbus

International conclave 2024
Information on Urban Local Bodies
National Workshop on Transforming Core Sanitation Work

District Wise ULBs and Population (As per Census 2011)

Total Population of Odisha (as per Census 2011)- 4,19,74,218

Total Population of 115 Urban Local Bodies (U.L.Bs) (as per Census 2011) - 61,00,004

Total U.L.Bs of the State	1. Municipal Corporation	5
	2. Municipality	48
	3. Notified Area Council	62

District
- Any -
Apply

Sr. No.	District	Municipality/ NAC	Population	Total No. Of Wards
1	ANGUL	Angul Municipality	43,795	23
2	ANGUL	Athamallik N.A.C.	12,298	11
3	ANGUL	Talcher Municipality	40,841	21
4	BALANGIR	Balangir Municipality	98,238	21
5	BALANGIR	Kantabanji N.A.C.	21,819	16
6	BALANGIR	Patnagarh N.A.C.	21,024	15
7	BALANGIR	Tusura N.A.C.	10,638	11
8	BALANGIR	Titlagarh Municipality	31,258	15
9	BALASORE	Balasore Municipality	1,18,162	31
10	BALASORE	Jaleswar Municipality	25,747	17
11	BALASORE	Nilgiri N.A.C.	17,264	13
12	BALASORE	Soro Municipality	32,531	19
13	BALASORE	Remuna N.A.C.	33,378	13
14	BARGARH	Bargarh Municipality	80,625	19
15	BARGARH	Padampur N.A.C.	17,625	11
16	BARGARH	Barpali N.A.C.	20,850	11
17	BARGARH	Bijepur N.A.C.	11,230	11
18	BARGARH	Attabira N.A.C.	17,243	12
19	BHADRAK	Bhadrak Municipality	1,07,463	30
20	BHADRAK	Basudevpur Municipality	33,690	23
21	BHADRAK	Chandabali N.A.C.	26,844	15
22	BHADRAK	Dhamnagar N.A.C.	22,920	11
23	BOUDH	Boudhgarh N.A.C.	20,424	17
24	CUTTACK	Athagarh N.A.C.	17,304	18
25	CUTTACK	Banki N.A.C.	17,521	17
26	CUTTACK	Choudwar Municipality	42,784	19
27	CUTTACK	Cuttack Municipal Corporation	6,10,189	59
28	DEOGARH	Deogarh Municipality	22,390	11
29	DHENKANAL	Bhuban N.A.C.	22,200	15
30	DHENKANAL	Dhenkanal Municipality	67,414	23
31	DHENKANAL	Kamakhyanagar N.A.C.	16,810	15
32	DHENKANAL	Hindol N.A.C.	17,387	16
33	GAJAPATI	Paralakhemundi Municipality	44,469	16
34	GAJAPATI	Kashinagar N.A.C.	9,684	13
35	GANJAM	Aska N.A.C.	21,428	18
36	GANJAM	Belaguntha N.A.C.	11,297	13
37	GANJAM	Berhampur Municipal Corporation	3,56,598	42
38	GANJAM	Bhanjanagar N.A.C.	20,482	15
39	GANJAM	Buguda N.A.C.	15,176	13
40	GANJAM	Chatrapur N.A.C.	22,027	14
41	GANJAM	Chikiti N.A.C.	11,645	12
42	GANJAM	Digapahandi N.A.C.	13,190	11
43	GANJAM	Ganjam N.A.C.	11,747	12
44	GANJAM	Gopalpur N.A.C.	7,221	11
45	GANJAM	Hinjilicut Municipality	25,129	21
46	GANJAM	Kabisuryanagar N.A.C.	17,430	18
47	GANJAM	Khallikote N.A.C.	13,022	12
48	GANJAM	Kodala N.A.C.	13,965	13
49	GANJAM	Polasara N.A.C.	23,119	19
50	GANJAM	Purushottampur N.A.C.	15,366	14
51	GANJAM	Rambha N.A.C.	12,111	13
52	GANJAM	Surada N.A.C.	14,867	11
53	JAGATSINGHPUR	Jagatsinghpur Municipality	33,631	21
54	JAGATSINGHPUR	Paradeep Municipality	68,585	19
55	JAJPUR	Jajpur Municipality	37,458	18
56	JAJPUR	Vyasanagar Municipality	48,911	26
57	JHARSUGUDA	Belpahar Municipality	38,993	19
58	JHARSUGUDA	Brajrajnagar Municipality	80,403	23
59	JHARSUGUDA	Jharsuguda Municipality	97,730	24
60	KALAHANDI	Bhawanipatna Municipality	69,045	20
61	KALAHANDI	Junagarh N.A.C.	19,656	12
62	KALAHANDI	Dharamgarh N.A.C.	16,585	14
63	KALAHANDI	Kesinga N.A.C.	19,239	12
64	KANDHAMAL	G. Udayagiri N.A.C.	11,302	13
65	KANDHAMAL	Phulbani Municipality	37,371	13
66	KANDHAMAL	Balliguda N.A.C.	18,664	13
67	KENDRAPARA	Kendrapara Municipality	47,006	21
68	KENDRAPARA	Pattamundai Municipality	36,528	20
69	KEONJHAR	Anandapur Municipality	39,585	16
70	KEONJHAR	Barbil Municipality	66,540	15

71	KEONJHAR	Joda Municipality	46,631	14
72	KEONJHAR	Keonjhargarh Municipality	60,590	21
73	KEONJHAR	Champua N.A.C.	17,576	13
74	KHORDHA	Balugaon N.A.C.	17,645	11
75	KHORDHA	Banpur N.A.C.	17,278	15
76	KHORDHA	Bhubaneswar Municipal Corporation	8,55,535	67
77	KHORDHA	Jatni Municipality	55,925	23
78	KHORDHA	Khordha Municipality	46,205	22
79	KORAPUT	Jeypore Municipality	84,830	28
80	KORAPUT	Koraput Municipality	47,468	21
81	KORAPUT	Kotpad N.A.C.	16,326	13
82	KORAPUT	Sunabeda Municipality	50,394	25
83	MALKANGIRI	Balimela N.A.C.	11,796	12
84	MALKANGIRI	Malkangiri Municipality	31,007	19
85	MAYURBHANJ	Baripada Municipality	1,09,743	28
86	MAYURBHANJ	Karanjia N.A.C.	22,865	15
87	MAYURBHANJ	Rairangpur Municipality	25,516	15
88	MAYURBHANJ	Udala N.A.C.	13,152	12
89	NABARANGPUR	Nabarangpur Municipality	29,960	17
90	NABARANGPUR	Umerkote Municipality	28,993	14
91	NAYAGARH	Khandapada N.A.C.	9,038	13
92	NAYAGARH	Daspalla N.A.C.	18,470	16
93	NAYAGARH	Ranpur N.A.C.	14,809	15
94	NAYAGARH	Odagaon N.A.C.	11,941	15
95	NAYAGARH	Nayagarh Municipality	26,560	16
96	NUAPADA	Khariar N.A.C.	15,087	13
97	NUAPADA	Khariar Road N.A.C.	18,967	19
98	NUAPADA	Nuapada N.A.C.	16,208	14
99	PURI	Konark N.A.C.	16,779	13
100	PURI	Nimapara N.A.C.	19,289	11
101	PURI	Pipli N.A.C.	17,623	16
102	PURI	Puri Municipality	2,00,564	32
103	RAYAGADA	Gudari N.A.C.	6,931	11
104	RAYAGADA	Gunupur Municipality	28,870	19
105	RAYAGADA	Rayagada Municipality	71,208	24
106	SAMBALPUR	Kuchinda N.A.C.	15,576	11
107	SAMBALPUR	Redhakhol N.A.C.	15,379	13
108	SAMBALPUR	Sambalpur Municipal Corporation	3,35,761	41
109	SUBARNAPUR	Binka N.A.C.	15,765	12
110	SUBARNAPUR	Sonepur Municipality	20,770	15
111	SUBARNAPUR	Tarbha N.A.C.	8,334	12
112	SUNDERGARH	Birmitrapur Municipality	33,442	11
113	SUNDERGARH	Rajgangpur Municipality	51,362	20
114	SUNDERGARH	Rourkela Municipal Corporation	3,09,689	40
115	SUNDERGARH	Sundargarh Municipality	45,036	19

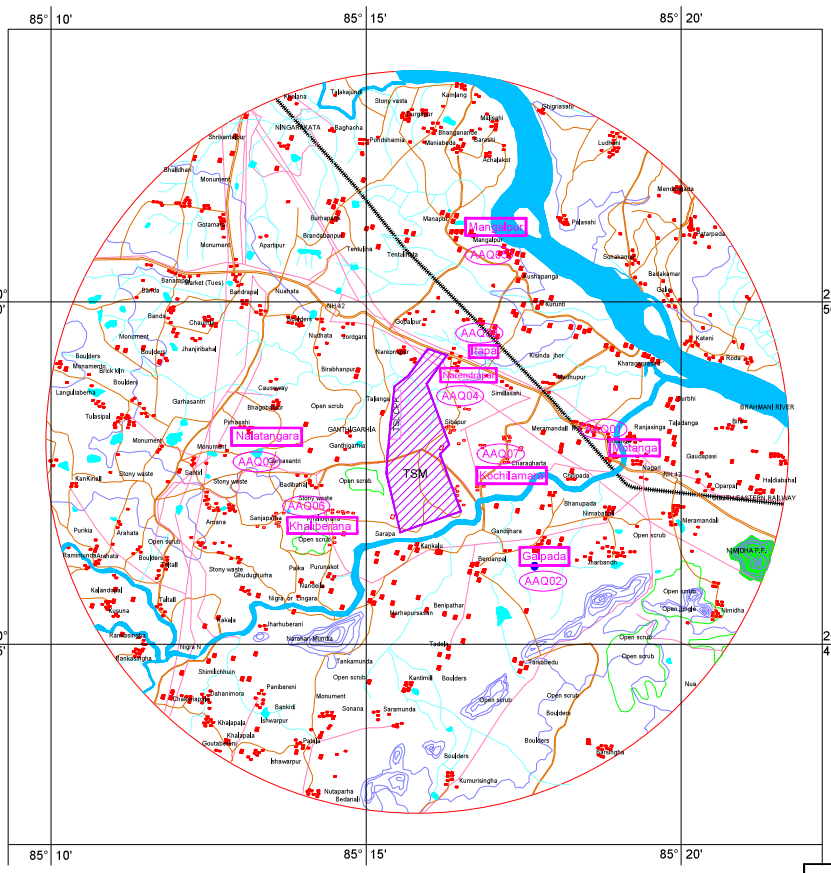
ITEM	MUNICIPALITY/ NAC	POPULATIONS	TOTAL NO. OF WARDS
TOTAL	115	6,100,004	2055

Annexure-III

Stack Height of TSM and TSM CPP Power Plants

#	Location	Distance from Angul Municipality in km	Distance from Talcher Municipality in km	Category	Stack	Connected with	APCE	Boiler Capacity (TPH)	Power generation (MW)	Required Stack Height (m)	Actual Stack Height (m)
1	TSM	18	18.9	C	BFPP-1 B1	Boiler-1	ESP	75	32	70	**85.5**
2	TSM				BFPP-1 B2	Boiler-2	ESP	75		50	**85.5**
3	TSM				BFPP-1 B3	Boiler-3	ESP	75		60	**85.5**
4	TSM				BFPP-2	Boiler 2&3	ESP	550	165	75	**185**
5	TSM-CPP	16	16.5		TSM CPP-1	Boiler-1&2	ESP	500	150	60	**125**
6	TSM-CPP				TSM CPP-2	Boiler-3&4	ESP	500	150	84	**125**
7	TSM-CPP				TSM CPP-3	Boiler-5&6	ESP	850	165	76	**185**

Annexure-IV



LEGENDS

- Open scrub
- Forest (P.F.)
- Contour 100 mtr.
- River
- Pond
- Road
- Railways
- Power line
- Settlement
- 10 KM Radius
- Project Site

SO_2 LEVEL IN BUFFER ZONE

LOCATION CODE	VILLAGE NAME	MAX VALUE (µg/m³)		
		FY 22-23	FY 23-24	FY 24-25
AAQ01	Motanga	9.45	8.01	8.17
AAQ02	Galpada	8.33	8.08	8.46
AAQ03	Nalatangra	9.11	9.06	8.36
AAQ04	Narendrapur	10.83	8.95	8.39
AAQ05	Mangalpur	7.86	8.38	8.01
AAQ06	Khaliberana	9.42	8.40	8.25
AAQ07	Kochilamara	8.11	7.95	8.21
AAQ08	Itapa	8.73	8.44	7.85

GROUND LEVEL CONCENTRATION OF SO_2

S.No	EIA STUDY FOR	AAQ MOINTORING PERIOD	GLC OF SO_2 (µg/m³)	STANDARD (µg/m³)
1	Expansion of 1.5 to 3.1 MTPA	April 2006 - June 2006	49.8	80
2	Expansion of 3.1 to 5.6 MTPA	December 2008 - February 2009	30.0	
3	Expansion of 155 MW to 411MW CPP	February 2014 - Maech 2014	12.9	

CONSULTANT/ CONTRACTOR		TATA STEEL LIMITED, MERAMANDALI, DHENKANAL, ODISHA, INDIA	M/C SYMBOL
VENDOR/SUB-VENDOR NAME, LOGO		DEPARTMENT	ENVIRONMENT MANAGEMENT
		EQUIP/AREA	10KM RADIUS OF TSM
TITLE		DETAIL	SO_2 Level in Buffer Zone of TSM
CONTRACT/ORDER REF.			
VENDOR DRG.NO.		REV. REVNO.	PROJECT TSM; MATERIAL; WEIGHT IN KG; SHEET No.; SHEET SIZE A1
SCALE	DRAWN BY DRN./DATE; CHECKED BY CHKD./DATE; APPROVED BY APPD./DATE	DRN. CHKD. APP.	DRG.No. TSM-EIA-01-00-00-17-246-00001; REV 0
CADD SOFTWARE			

NO.	DATE	REVISION	PREPD	CHKD.	APP.

NOT TO SCALE

NOTES

DRG. NO.

REFERENCES

ANGLE OF PROJECTION

National Institute of Technology
Rourkela-769008, Odisha

RIGHT TO INFORMATION

SMS SLAG QUALITY ANALYSIS REPORT

Department of Chemical Engineering * NIT Rourkela * Date No.

1.Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2.Sampling Location : **SMS SLAG**
3.Date of Sampling : 06th February, 2025
4.Date of Analysis : 10th February, 2025
5. Sample Collected by: TATA STEEL, MERAMANDALI

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
Trace element analysis by TCLP / WET Procedure solutions of Solid waste samples (leaching studies conducted as per US-EPA method				
1	Hg	US-EPA Method	mg/ltr	0.005
2	As	US-EPA Method	mg/ltr	0.003
3	Se	US-EPA Method	mg/ltr	0.051
4	Sb*	US-EPA Method	mg/ltr	0.04
5	Ba	US-EPA Method	mg/ltr	0.045
6	Cd	US-EPA Method	mg/ltr	0.001
7	Cr	US-EPA Method	mg/ltr	0.028
8	Cr(VI)	US-EPA Method	mg/ltr	0.01
9	Pb	US-EPA Method	mg/ltr	0.01
10	Mn	US-EPA Method	mg/ltr	2.8
11	Ag	US-EPA Method	mg/ltr	0.002
12	Co	US-EPA Method	mg/ltr	0.16
13	Cu	US-EPA Method	mg/ltr	0.04
14	Mo	US-EPA Method	mg/ltr	0.001
15	Ni	US-EPA Method	mg/ltr	0.15
16	V	US-EPA Method	mg/ltr	1.2
17	Zn	US-EPA Method	mg/ltr	0.06

Tested BY

Er. Samarendu Mohanty
Tech. Asst. (SG-II)
Chemical Engg. NIT, Rourkela

Saumya S. Mohapatra

Reviewed BY

Prof. Saumya S. Mohapatra
Asst. Professor
Department of Chemical Engineering

Phone: (0661) 2476773, Fax: (0661) 2462022, Website: www.nitrkl.ac.in

Annexure-VII

Summary of Surface Water Quality Analysis

(Period: From April 2025 to September 2025)

PARAMETER	UOM	Brahmani US			Brahmani DS			Kishinda US			Kishinda DS			Lingra US			Lingra DS		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
pH Value	-	7.63	8.21	7.85	7.42	8.02	7.75	7.81	8.39	8.06	7.57	8.52	7.98	7.75	8.31	8.00	7.64	8.12	7.95
Temperature	Deg C	25	28.4	26.20	25.2	28	26.4	25.2	28.3	26.50	25	28.1	26.10	25.2	30	28.23	25.2	32	28.90
Total Suspended Solids	mg/l	2	11	70.3	1	76	28.33	5.6	18	11.27	12	33	19.67	2.1	14	8.20	2.1	11.5	6.27
Arsenic as As	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
BOD, 3days at 27°C	mg/l	2.6	2.9	2.75	2.6	2.9	2.75	2.6	2.9	2.75	2.6	2.9	2.75	2.6	2.9	2.75	2.6	2.9	2.75
Boron (as B)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Calcium (as Ca)	mg/l	8.8	13	10.90	9	9.4	9.20	33	34.56	33.78	26	33.8	29.90	36.2	38.7	37.45	37	41.5	39.25
Chlorides (as Cl)	mg/l	10	13.2	11.60	11.31	12	11.66	39	45.26	42.13	41	45.26	43.13	76	116.92	96.46	116.92	131	123.96
COD	mg/l	8.6	16	11.27	8.1	18	13.05	BDL	14.5	14.50	18.4	22.1	20.25	BDL	38	38.00	BDL	36	36.00
Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoride (as F^-)	mg/l	0.16	1.8	0.79	0.22	1.6	0.73	0.82	1.4	1.13	0.8	2	1.33	0.684	1.9	1.26	1.4	1.5	1.45
Hexavalent Chromium (as Cr^{+6})	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Iron (as Fe)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Manganese (as Mn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (as Ni)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

O&G	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenolic Compound	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phosphate (as P)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
RFC	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
TKN	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detectable Limit; DL: Detectable Limit, U/S: Upstream D/S: Downstream

Source: Monitoring/ Analysis report of S.K. Mitra Private Limited and Environment Laboratory of TSM.

BDL Values:

Arsenic (as As): 0.005mg/l, Boron (as B): 0.2mg/l, Cadmium (as Cd): 0.003mg/l, Copper (as Cu): 0.02mg/l, COD: 4.0mg/l, Cyanide (as CN^-): 0.02mg/l, Hexavalent Chromium (as Cr^{+6}): 0.03mg/l, Iron (as Fe): 0.05mg/l, Lead (as Pb): 0.005mg/l, Manganese (as Mn): 0.02mg/l, Mercury (as Hg): 0.02mg/l, Nickel (as Ni): 0.001mg/l, O&G (as Oil & Grease): 5.0mg/l, Phenolic compound (as C_6H_5OH): 0.1mg/l, Phosphate (as P): 0.001mg/l, RFC (as Residual Free Chlorine): 0.3mg/l, Selenium (as Se): 0.1mg/l, TKN (as Total Kjeldhal Nitrogen): 0.005mg/l, Zinc (as Zn): 0.3mg/l.

Summary of Treated Domestic Effluent Analysis

(Period: From April 2025 to September 2025)

Location	ETP-1 O/L			ETP-2 O/L			ETP-3 O/L			CRM ETP O/L		
Parameters	**Max**	**Min**	**Average**	**Max**	**Min**	**Average**	**Max**	**Min**	**Average**	**Max**	**Min**	**Average**
pH	7.08	8.22	7.38	6.71	7.51	6.98	7.08	8.05	7.712	6.98	8.36	7.7
TSS in mg/l	15	38	32	13	34	28	19	39	31.4	30	81	58
COD in mg/l	26	42	34	30	37	32	33	43	37.2	120	150	140
BOD in mg/l	4.7	6.5	5.4	4.7	6.1	5.2	4.4	9.6	6.32	16.9	23.1	20.52
O& G in mg/l	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Fe in mg/l	0.46	0.58	0.52	0.46	0.58	0.524	0.46	0.58	0.504	1.49	1.96	1.764

Location	BOD-1 ETP O/L			BOD-2 ETP O/L		
Parameters	**Max**	**Min**	**Average**	**Max**	**Min**	**Average**
pH	6.62	7.07	6.82	6.59	7.05	6.794
TSS in mg/l	40	59	47	39	48	42.8
COD in mg/l	120	180	150	120	180	154
BOD in mg/l	18.8	25.7	22.3	18.4	25	22.625
O& G in mg/l	<4	<4	<4	<4	<4	<4
TCN in mg/l	0.13	0.18	0.14	<0.1	<0.1	<0.1
Phenol in mg/l	0.43	0.50	0.48	0.59	1.30	0.83
Ammoniacal Nitrogen in mg/l	29	113	57	14	24.5	19

Location	BF-1 Thickener O/L			BF-2 Thickener O/L			BOF Thickener O/L		
Parameters	**Max**	**Min**	**Average**	**Max**	**Min**	**Average**	**Max**	**Min**	**Average**
pH	6.95	7.42	7.216	6.9	7.14	7.02	8.77	9.78	9.14
TSS in mg/l	51	94	75.4	46	76	60.8	43	66	57.8
COD in mg/l	34	37	35	30	39	35	36	42	39.2
BOD in mg/l	4.6	5.6	5.075	4.9	5.2	5.025	5	5.7	5.25
O& G in mg/l	<4	<4	<4	<4	<4	<4	<4	<4	<4

Summary of ground water level monitoring report inside plant premises

(Period: From April 2025 to September 2025)

S.N.	Location with description	Sample Code	Depth of Monitoring Bore Well (m)	Longitude	Latitude	Ground Water Level (m)
1	Colony near STP	GW-1	50.29	20^0 47.956'	85^0 15.076'	2.42
2	RMHS Near Wagon Tippler	GW-2	91.44	20^0 49.045'	85^0 15.734'	2.54
3	Near Blast Furnace-2	GW-3	49.38	20^0 47.752'	85^0 15.993'	4.1
4	Near Railway bridge	GW-4	47.55	20^0 47.250'	85^0 15.613'	2.25

Ground Water Level Period: April 2025

S. No	Location	Sample Code	Longitude	Latitude	Water Level from GL (m) BGL
					April'25
1	Kharagprasad	GW-01	200 49.299'	850 18.923'	4.05
2	Charadagadia	GW-02	200 47.768'	850 17.083'	7.86
3	Sibpur	GW-03	200 46.941'	850 14.394'	7.29
4	Kochilamada	GW-04	200 47.541'	850 16.802'	5.95
5	Galapada	GW-05	200 48.142'	850 18.600'	6.23
6	Motonga	GW-06	200 48.143'	850 18.599'	5.72
7	Narendrapur	GW-08	200 49.483'	850 15.530'	5.20
8	Khaliberena	GW-09	200 46.946'	850 14.396'	4.78
9	Ganthigadia	GW-10	200 48.501'	850 15.118'	1.80

Ground Water Quality Analysis Report of surrounding villages

(Reporting period - July 2025)

S. No	LOCATIONS		Motanga	Galpada	Kharagprasad	Kochilamada	Charadagadia	Khaliberana	Ganthigadia	Narendrapur
1.	PARAMETER	UOM	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
2.	Colour	Hazen	3	2	2	3	3	2	2	3
3.	pH	-	7.34	6.95	7.02	6.85	7.34	7.14	7.18	6.83
4.	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5.	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
6.	Turbidity	NTU	1.33	0.7	0.22	0.39	1.33	0.27	0.25	0.72
7.	Total Dissolved Solids (TDS)	mg/L	1754	986	1048	1820	1754	1045	966	1280
8.	Alkalinity as CaCO3	mg/L	820	303	492	371	820	383	488	440
9.	Total Hardness (as CaCO3)	mg/L	646	313	423	921	646	474	431	748
10.	Sulphide (as H_2S)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11.	Sulphate (as SO4-2)	mg/L	186	278	170	273	186	166	114	60.4
12.	Chloride as Cl	mg/L	240	127	160	519	240	199	239	479
13.	Fluoride as F	mg/L	0.982	0.14	0.486	0.542	0.982	1.02	0.824	0.662
14.	Nitrate as NO3	mg/L	47.3	45.1	15.9	47.8	47.3	46.1	18.5	8.8
15.	Calcium as Ca	mg/L	202	83.2	111	212	202	124	108	188
16.	Ammonia (as NH3)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.	Magnesium as Mg	mg/L	56	34	42.8	86	56	40	39.1	67.5
18.	Iron (as Fe)	mg/L	0.103	0.092	0.103	0.108	0.103	0.099	0.099	0.103
19.	Aluminium (as Al)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.	Anionic Surface-Active Agents as (MBAS)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.	Barium (as Ba)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.	Boron (as B)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.	Copper (as Cu)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.	Free Residual Chlorine	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.	Manganese (as Mn)	mg/L	0.096	BDL	BDL	0.094	0.096	BDL	BDL	0.404

26.	Phenolic Compounds (as C_6H_5OH)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.	Selenium (as Se)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.	Silver (as Ag)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29.	Zinc (as Zn)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.	Cadmium (as Cd)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.	Cyanide (as CN)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32.	Lead (as Pb)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33.	Mercury (as Hg)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34.	Nickel (as Ni)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35.	Total Arsenic (as As)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36.	Molybdenum (as Mo)	µg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
37.	Mineral Oil	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
38.	Chloramines (as Cl2)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39.	Total Chromium (as Cr)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40.	Total Coliform	-	Not Detected	Detected	Detected	Detected	Not Detected	Detected	Detected	Detected
41.	E. coli	-	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Note: BDL: Below Detectable Limit; DL: Detectable Limit, UOM: Unit of Measurement

Source: Monitoring/ Analysis report of S.K. Mitra Private Limited and Environment Laboratory of TSM.

BDL Values:

Sulphide (as H_2S): 0.04mg/l, Ammonia (as NH_3): 0.1mg/l, Aluminium (as Al): 0.02mg/l, Anionic Surface-Active Agents as (MBAS): 0.025mg/l, Barium (as Ba): 0.1mg/l, Boron (as B): 0.2mg/l, Copper (as Cu): 0.03mg/l, Free Residual Chlorine: 0.1mg/l, Manganese (as Mn): 0.05mg/l, Phenolic Compounds (as C6H5OH): 0.001mg/l, Selenium (as Se): 0.01mg/l, Silver (as Ag): 0.1mg/l, Zinc (as Zn): 0.01mg/l, Cadmium (as Cd): 0.003mg/l, Cyanide (as CN): 0.012mg/l, Lead (as Pb): 0.01mg/l, Mercury (as Hg): 0.001mg/l, Nickel (as Ni): 0.01mg/l, Total Arsenic (as As): 0.005mg/l, Molybdenum (as Mo): 5.00mg/l, Mineral Oil: 0.01mg/l, Chloramines (as Cl_2): 1.0mg/l, Total Chromium (as Cr): 0.03mg/l.

---------- End of Report ----------

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No – NITR/CH/2025/L/0477 - 28/05/25 FTS-250528 – 7227

BF SLAG QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2. Sampling Location : **BF SLAG**
3. Date of Sampling : 06th February, 2025
4. Date of Analysis : 10th February, 2025
5. Sample Collected By : TATA STEEL, MERAMANDALI

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
COMPOSITIONAL ANALYSIS REPORT				
1	SiO_2	Photometric/XRF	%	31.84±0.5
2	FeO	Photometric/XRF	%	0.84±0.1
3	Al_2O_3	Photometric/XRF	%	21.16±0.5
4	CaO	Photometric/XRF	%	33.26±0.5
5	MgO	Photometric/XRF	%	8.32±0.5
6	MnO	Photometric/XRF	%	0.017±0.01
7	Sulphur	Photometric/XRF	%	0.35±0.01
8	TiO_2	Photometric/XRF	%	0.824±0.01
9	K_2O	Photometric/XRF	%	0.786±0.01
10	Basicity	Photometric/XRF	-------	1.01

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BF SLAG QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2. Sampling Location : **BF SLAG**
3. Date of Sampling : 06th February, 2025
4. Date of Analysis : 10th February, 2025
5. Sample Collected By : TATA STEEL,MERAMANDALI

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
TRACE ANALYSIS REPORT				
1	Hg	US-EPA Method	mg/Kg	0.929
2	As	US-EPA Method	mg/Kg	389
3	Se	US-EPA Method	mg/Kg	6.82
4	Sb	US-EPA Method	mg/Kg	195
5	Ba	US-EPA Method	mg/Kg	175
6	Cd	US-EPA Method	mg/Kg	54.01
7	Cr	US-EPA Method	mg/Kg	39.46
8	Cr(VI)	US-EPA Method	mg/Kg	0.927
9	Pb	US-EPA Method	mg/Kg	1.02
10	Mn	US-EPA Method	mg/Kg	1.007
11	Ag	US-EPA Method	mg/Kg	3.08
12	Co	US-EPA Method	mg/Kg	184
13	Cu	US-EPA Method	mg/Kg	525
14	Mo	US-EPA Method	mg/Kg	BDL
15	Ni	US-EPA Method	mg/Kg	78.42
16	V	US-EPA Method	mg/Kg	BDL
17	Zn	US-EPA Method	mg/Kg	82

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GCP SLUDGE BF QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel,Meramandali, Odisha**
2. Sampling Location : **GCP SLUDGE BF**
3. Date of Sampling : 06th February, 2025
4. Date of Analysis : 11th February, 2025
5. Sample Collected By : TATA STEEL ,Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
COMPOSITIONAL ANALYSIS REPORT				
1	pH	----------	--------	7.44
2	MOISTURE	----------	%	35.9
3	Cr	Photometric/XRF	%	1.62±0.5
4	Fe	Photometric/XRF	%	29.04±0.5
5	Ni	Photometric/XRF	%	2.76±0.1
6	Mn	Photometric/XRF	%	1.39±0.01
7	F	Photometric/XRF	PPM	1.27±0.01

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GCP SLUDGE BF QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2. Sampling Location : **GCP SLUDGE BF**
3. Date of Sampling : 06th February, 2025
4. Date of Analysis : 11th February, 2025
5. Sample Collected By : TATA STEEL ,Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
TRACE ANALYSIS REPORT				
1	Hg	US-EPA Method	mg/Kg	0.542
2	As	US-EPA Method	mg/Kg	12.76
3	Se	US-EPA Method	mg/Kg	0.631
4	Sb	US-EPA Method	mg/Kg	1.190
5	Ba	US-EPA Method	mg/Kg	121.6
6	Cd	US-EPA Method	mg/Kg	6.1
7	Cr	US-EPA Method	mg/Kg	129.7
8	Cr(VI)	US-EPA Method	mg/Kg	0.875
9	Pb	US-EPA Method	mg/Kg	0.92
10	B	US-EPA Method	mg/Kg	312.9
11	Ag	US-EPA Method	mg/Kg	1.09
12	Co	US-EPA Method	mg/Kg	30.21
13	Cu	US-EPA Method	mg/Kg	53.8
14	Mo	US-EPA Method	mg/Kg	4.43
15	Ni	US-EPA Method	mg/Kg	351.49
16	V	US-EPA Method	mg/Kg	90.09
17	Zn	US-EPA Method	mg/Kg	86.013
18	F^-	US-EPA Method	mg/Kg	0.030

19	CN -	US-EPA Method	mg/Kg	0.032
20	Hydrazine	US-EPA Method	mg/Kg	0.0103

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FLYASH (AEL) QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2. Sampling Location : **FLYASH (AEL)**
3. Date of Sampling : 6th February, 2025
4. Date of Analysis : 13th February, 2025
5. Sample Collected By : TATA STEEL ,Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
COMPOSITIONAL ANALYSIS REPORT				
1	SiO_2	Photometric/XRF	%	57.69±0.5
2	Al_2O_3	Photometric/XRF	%	21.24±0.5
3	CaO	Photometric/XRF	%	3.63±0.5
4	MgO	Photometric/XRF	%	1.41±0.5
5	MnO	Photometric/XRF	%	0.02±0.01
6	Na2O	Photometric/XRF	%	0.41±0.01
7	TiO_2	Photometric/XRF	%	1.33±0.01
8	P2O5	Photometric/XRF	%	0.31±0.01
10	K2O	Photometric/XRF	%	0.56
11	LOI	----------	%	6.51

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FLYASH (AEL) QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2. Sampling Location : **FLYASH (AEL)**
3. Date of Sampling : 1st March, 2024
4. Date of Analysis : 25th March, 2024
5. Sample Collected By : TATA STEEL ,Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
TRACE ANALYSIS REPORT				
1	Hg	US-EPA Method	mg/Kg	0.102
2	As	US-EPA Method	mg/Kg	22.854
3	Se	US-EPA Method	mg/Kg	3.68
4	Sb	US-EPA Method	mg/Kg	2.16
5	Ba	US-EPA Method	mg/Kg	186.42
6	Cd	US-EPA Method	mg/Kg	0.773
7	Cr	US-EPA Method	mg/Kg	76.65
8	Cr(VI)	US-EPA Method	mg/Kg	0.921
9	Pb	US-EPA Method	mg/Kg	58.03
10	Mn	US-EPA Method	mg/Kg	7.15
11	Ag	US-EPA Method	mg/Kg	1.66
12	Co	US-EPA Method	mg/Kg	11.72
13	Cu	US-EPA Method	mg/Kg	26.54
14	Mo	US-EPA Method	mg/Kg	4.61
15	Ni	US-EPA Method	mg/Kg	35.39
16	V	US-EPA Method	mg/Kg	171.15
17	Zn	US-EPA Method	mg/Kg	121.42

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BED ASH (AEL) QUALITY ANALYSIS REPORT

1. **Name of the Industry** : **M/s. TATA Steel,Meramandali, Odisha**
2. Sampling Location : **BED ASH (AEL)**
3. Date of Sampling : 6th February, 2025
4. Date of Analysis : 15th February, 2025
5. Sample Collected By : TATA STEEL ,Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
COMPOSITIONAL ANALYSIS REPORT				
1	SiO_2	Photometric/XRF	%	63.01±0.5
2	Fe2O3	Photometric/XRF	%	2.42±0.1
3	Al_2O_3	Photometric/XRF	%	19.06±0.5
4	CaO	Photometric/XRF	%	2.31±0.5
5	MgO	Photometric/XRF	%	1.10±0.5
6	MnO	Photometric/XRF	%	0.141±0.01
7	Na2O	Photometric/XRF	%	0.281±0.01
8	TiO_2	Photometric/XRF	%	1.197±0.01
9	P2O5	Photometric/XRF	%	0.24±0.01
10	K2O	Photometric/XRF	%	0.75±0.01
10	LOI	----------	%	5.11±0.1

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BED ASH (165 MW PP) QUALITY ANALYSIS REPORT

1. **Name of the Industry** : **M/s. TATA Steel,Meramandali, Odisha**
2. Sampling Location : **BED ASH (AEL)**
3. Date of Sampling : 6th February, 2025
4. Date of Analysis : 16th February, 2025
5. Sample Collected By : TATA STEEL ,Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
TRACE ANALYSIS REPORT				
1	Hg	US-EPA Method	mg/Kg	0.068
2	As	US-EPA Method	mg/Kg	21.61
3	Se	US-EPA Method	mg/Kg	2.63
4	Sb	US-EPA Method	mg/Kg	2.46
5	Ba	US-EPA Method	mg/Kg	151.43
6	Cd	US-EPA Method	mg/Kg	0.75
7	Cr	US-EPA Method	mg/Kg	72.41
8	Cr(VI)	US-EPA Method	mg/Kg	0.772
9	Pb	US-EPA Method	mg/Kg	55.61
10	Mn	US-EPA Method	mg/Kg	68.71
11	Ag	US-EPA Method	mg/Kg	1.653
12	Co	US-EPA Method	mg/Kg	11.64
13	Cu	US-EPA Method	mg/Kg	24.41
14	Mo	US-EPA Method	mg/Kg	4.23
15	Ni	US-EPA Method	mg/Kg	31.4
16	V	US-EPA Method	mg/Kg	155.47
17	Zn	US-EPA Method	mg/Kg	121.26

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SLUDGE WET SCRUBBER QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2. Sampling Location : **WET SCRUBBER SLUDGE**
3. Date of Sampling : 06th February, 2025
4. Date of Analysis : 17th February, 2025
5. Sample Collected By : TATA STEEL, Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
COMPOSITIONAL ANALYSIS REPORT				
1	pH	----------	---------	7.63
2	MOISTURE	----------	%	41
3	Fe	Photometric/XRF	%	21.07±0.5
4	Ni	Photometric/XRF	%	0.61±0.1
5	Mn	Photometric/XRF	%	0.24±0.01
6	F	Photometric/XRF	PPM	31±0.01

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GCP SLUDGE QUALITY ANALYSIS REPORT

1. Name of the Industry : **M/s. TATA Steel, Meramandali, Odisha**
2. Sampling Location : **WET SCRUBBER SLUDGE**
3. Date of Sampling : 6th February, 2025
4. Date of Analysis : 17th February, 2025
5. Sample Collected By : TATA STEEL, Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
TRACE ANALYSIS REPORT				
1	Hg	US-EPA Method	mg/Kg	0.942
2	As	US-EPA Method	mg/Kg	21.51
3	Se	US-EPA Method	mg/Kg	0.681
4	Sb	US-EPA Method	mg/Kg	1.04
5	Ba	US-EPA Method	mg/Kg	122.81
6	Cd	US-EPA Method	mg/Kg	7.14
7	Pb	US-EPA Method	mg/Kg	1.017
8	B	US-EPA Method	mg/Kg	297.62
9	Ag	US-EPA Method	mg/Kg	2.041
10	Co	US-EPA Method	mg/Kg	31.20
11	Cu	US-EPA Method	mg/Kg	57.10
12	Mo	US-EPA Method	mg/Kg	6.86
13	Ni	US-EPA Method	mg/Kg	953.32
14	V	US-EPA Method	mg/Kg	101.02
15	Zn	US-EPA Method	mg/Kg	78.24
16	F^-	US-EPA Method	mg/Kg	BDL
17	CN^-	US-EPA Method	mg/Kg	BDL
18	Hydrazine	US-EPA Method	mg/Kg	BDL
19	Phenols	US-EPA Method	mg/Kg	BDL
20	Total N	US-EPA Method	mg/Kg	3.137
22	NH_4 - N	US-EPA Method	mg/Kg	0.269
23	NO_3 –N	US-EPA Method	mg/Kg	2.665
24	OIL	US-EPA Method	mg/Kg	53.65

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WHRB ASH QUALITY ANALYSIS REPORT

1. Name of the Industry : M/s. TATA Steel, Meramandali, Odisha
2. Sampling Location : WHRB ASH
3. Date of Sampling : 6th February, 2025
4. Date of Analysis : 20th may, 2025
5. Sample Collected By : TATA STEEL, Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
COMPOSITIONAL ANALYSIS REPORT				
1	SiO_2	Photometric/XRF	%	51.32±0.5
2	Al_2O_3	Photometric/XRF	%	15.14±0.5
3	CaO	Photometric/XRF	%	2.61±0.5
4	MgO	Photometric/XRF	%	1.49±0.5
5	MnO	Photometric/XRF	%	0.01±0.01
6	Na2O	Photometric/XRF	%	0.39±0.01
7	TiO_2	Photometric/XRF	%	1.31±0.01
8	P2O5	Photometric/XRF	%	0.29±0.01
10	K2O	Photometric/XRF	%	0.54
11	LOI	----------	%	8.0

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WHRB ASH QUALITY ANALYSIS REPORT

1. Name of the Industry : M/s. TATA Steel, Meramandali, Odisha
2. Sampling Location : WHRB ASH
3. Date of Sampling : 6th February, 2025
4. Date of Analysis : 20th May, 2025
5. Sample Collected By : TATA STEEL ,Meramandali

Sl. No.	Parameter	Testing Methods	Unit	Analysis Results
TRACE ANALYSIS REPORT				
1	Hg	US-EPA Method	mg/Kg	0.84
2	As	US-EPA Method	mg/Kg	12.854
3	Se	US-EPA Method	mg/Kg	3.66
4	Sb	US-EPA Method	mg/Kg	2.26
5	Ba	US-EPA Method	mg/Kg	184.41
6	Cd	US-EPA Method	mg/Kg	0.752
7	Cr	US-EPA Method	mg/Kg	68,05
8	Cr(VI)	US-EPA Method	mg/Kg	0.834
9	Pb	US-EPA Method	mg/Kg	58.36
10	Mn	US-EPA Method	mg/Kg	6.13
11	Ag	US-EPA Method	mg/Kg	1.31
12	Co	US-EPA Method	mg/Kg	08.72
13	Cu	US-EPA Method	mg/Kg	24.54
14	Mo	US-EPA Method	mg/Kg	4.63
15	Ni	US-EPA Method	mg/Kg	33.10
16	V	US-EPA Method	mg/Kg	152.13
17	Zn	US-EPA Method	mg/Kg	117.31

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सीएसआईआर - खनिज एवं पदार्थ प्रौद्योगिकी संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
भुवनेश्वर-751013, ओडिशा, भारत
CSIR - INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY
Council of Scientific & Industrial Research
Bhubaneswar - 751013, Odisha, INDIA
Diamond Jubilee 1964-2024
आज़ादी का अमृत महोत्सव
सीएसआईआर CSIR भारत का नवाचार इंजन The Innovation Engine of India

TEST REPORT

Ref. No. JD/MMC/05/25 **Date: 16.05.2025**

Name & Address of the Party:	Tata Steel Ltd. At-Narendrapur, P.O.-Kusupanga Via-Meramandali, Dist-Dhenkanal Pin-759121, Odisha.
Your Ref. No.:	Work Order No.: 3000156889/A06, Date: 26.10.2023
Sample Details:	1. Indian Coal (01 No.) 2. Imported Coal (01 No.) 3. Iron Ore (01 No.) 4. Lime stone (01 No.)
Date of Receiving:	12.02.2025
Date(s) of Conducting Test:	03.03.2025
Date of Completion of Test:	28.04.2025

Method Adopted:

1. Proximate analysis of coal samples by classical methods.
2. Major and trace element analysis of Coal, Iron ore, lime stone and Dolomite samples through wet chemical route by gravimetric, AAS and ICP-OES techniques.
3. Coal samples were leached with distilled water at a solid: liquid ratio of 1:20 for Fluoride analysis using ISE.

Detail Report: Following data tables are enclosed:

Table-1. Proximate analysis of coal samples.
Table-2. Chemical composition analysis of coal samples.
Table-3. Trace element analysis of coal samples.
Table-4. Chemical composition analysis of Iron ore, Lime stone and Dolomite samples.
Table-5. Trace element analysis of Iron ore, Lime stone and Dolomite samples.

16/05/2025
(J. Das)
Pr. Technical Officer
MMC Dept.

16/05/25
(Dr. B. Nayak)
Chief Scientist
PL & Head, MMCD

N.B.: The samples are not drawn by CSIR-IMMT. Liability, if any, for the institute arising in connection with the testing shall be subject to ceiling of amount received by the institute from the client. The report should not be interpreted in part.

सीएसआईआर - खनिज एवं पदार्थ प्रौद्योगिकी संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
भुवनेश्वर-751013, ओडिशा, भारत
CSIR - INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY
Council of Scientific & Industrial Research
Bhubaneswar - 751013, Odisha, INDIA

TEST REPORT

Ref. No. JD/MMC/05/25 **Date: 16.05.2025**

Table-1. Proximate analysis of coal samples.

Sample ID	Moisture (%)	Volatile Matter (%)	Ash (%)	Fixed Carbon (%)
Indian coal	1.97	25.46	45.16	27.41
Imported coal	2.30	24.06	11.48	62.16

Table-2. Chemical composition analysis of coal samples.

Sl. No.	Component	Concentration in Test Samples, %	
		Indian Coal	Imported Coal
1	SiO_2	24.56	5.24
2	Al_2O_3	14.49	3.46
3	Fe_2O_3	1.24	0.31
4	TiO_2	0.93	0.18
5	MnO	0.008	0.01
6	CaO	0.24	0.61
7	MgO	0.06	0.07
8	Na_2O	0.88	0.4
9	K_2O	0.63	0.14
10	P_2O_5	0.10	0.10
11	S/SO_3	0.48/1.2	0.72/1.8
12	LOI	54.24	87.16

16/05/25
(Dr. B. Nayak)
Chief Scientist
PL & Head, MMCD

16/05/2025
(J. Das)
Pr. Technical Officer
MMC Dept.

सीएसआईआर - खनिज एवं पदार्थ प्रौद्योगिकी संस्थान
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TEST REPORT

Ref. No. JD/MMC/05/25 **Date: 16.05.2025**

Table-3. Trace element analysis of coal samples

Sl. No.	Parameters	Trace element concentrations in test samples		
		Unit	Indian coal	Imported coal
1	Pb	mg/kg	22.95	2.94
2	Cd	mg/kg	BDL	BDL
3	Cu	mg/kg	49.0	16.7
4	Ni	mg/kg	52.83	23.87
5	Co	mg/kg	12.23	5.06
6	Cr	mg/kg	57.52	21.49
7	Zn	mg/kg	83.6	19.07
8	Ag	mg/kg	1.23	0.48
9	Sb	mg/kg	6.45	1.67
10	Mo	mg/kg	2.92	0.31
11	V	mg/kg	56.55	19.82
12	Se	mg/kg	1.77	0.28
13	Ba	mg/kg	180.74	23.5
14	As	mg/kg	139.5	37.2
15	Hg	mg/kg	0.91	0.62
16	B	%	0.35	0.13
17	F^- in water leaching (1:20) solutions.	mg/L	0.38	0.13

16/05/25

(Dr. B. Nayak)
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16/05/2025

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TEST REPORT

Ref. No. JD/MMC/05/25 **Date: 16.05.2025**

Table-4. Chemical composition analysis of Iron ore and Lime stone samples.

Sl. No.	Component	Concentration in Test Samples, %	
		Iron Ore	Lime Stone
1	SiO_2	1.08	3.36
2	Al_2O_3	5.07	0.98
3	Fe_2O_3	86.14	0.14
4	TiO_2	0.43	0.03
5	MnO	0.016	0.023
6	CaO	0.09	43.35
7	MgO	0.01	9.54
8	Na_2O	1.26	0.86
9	K_2O	0.12	0.27
10	P_2O_5	0.25	0.012
11	S/SO_3	0.052/0.13	0.064/0.16
12	LOI	4.35	40.15

16/05/2025
(J. Das)
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MMC Dept.

16/05/25
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TEST REPORT

Ref. No. JD/MMC/05/25 **Date: 16.05.2025**

Table-5. Trace element analysis of Iron ore and Lime stone samples.

Sl. No.	Parameters	Trace element concentrations in test samples		
		Unit	Iron Ore	Lime Stone
1	Pb	mg/kg	0.26	0.05
2	Cd	mg/kg	BDL	BDL
3	Cu	mg/kg	13.54	4.97
4	Ni	mg/kg	1.15	6.62
5	Co	mg/kg	5.75	4.07
6	Cr	mg/kg	93.1	12.25
7	Zn	mg/kg	31.94	15.76
8	Ag	mg/kg	0.42	0.80
9	Sb	mg/kg	0.18	0.07
10	Mo	mg/kg	BDL	BDL
11	V	mg/kg	69.5	3.83
12	Se	mg/kg	BDL	0.12
13	Ba	mg/kg	70.26	16.48
14	As	mg/kg	0.76	23.6
15	Hg	mg/kg	0.53	0.38
16	B	%	0.67	0.51

16/05/2025

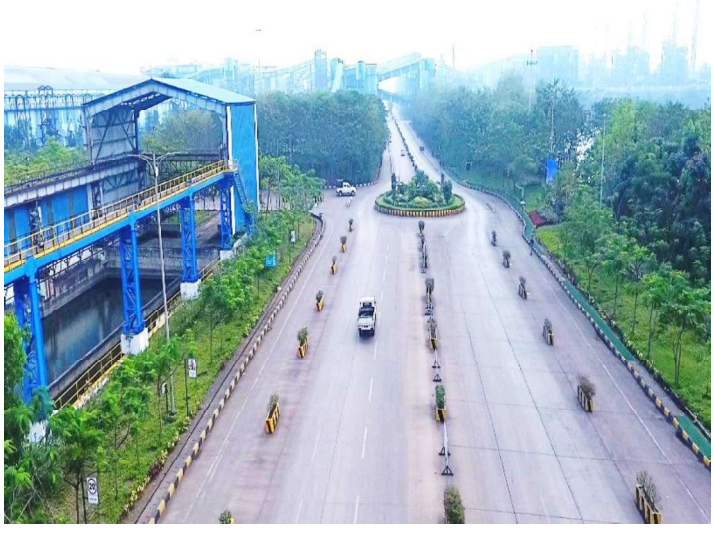
(J. Das)
Pr. Technical Officer
MMC Dept.

16/05/25

(Dr. B. Nayak)
Chief Scientist
PL & Head, MMCD

Annexure-X

(Three Tier Plantation Photos)



Annexure-XI

Government of Odisha
DIRECTORATE OF FACTORIES AND BOILERS, ODISHA.
KHARAVEL NAGAR, UNIT-3, BHUBANESWAR-751001, PH. NO. 2396070.
****

Letter No. IV (IH) (3)-149/11/ 3143 / Dated, the 19/10/2022

To

The Occupier,
M/s. TATA Steel Meramundali,
At- Narendrapur, PO- Kusupanga, Meramundali,
Dist. - Dhenkanal.

Sub: Acceptance of Updated On-Site Emergency Plan

Ref: Your letter Your L. No. TSM/DFBC/22/62 dated 12.08.2022.

Sir,

In inviting the reference on the subject cited above & in pursuance of provision under Rule 12 of the Odisha Factories (Control of Major Accident Hazard) Rules, 2001, the updated On-Site Emergency Plan of your MAH factory having identified **Hazardous substances LDO,HSD,LPG, LIQUID OXYGEN, HYDROGEN, NaOH, H_2SO_4 & TRANSFORMER OIL** bearing Sl.No. **176/22** is hereby provisionally accepted, subject to conditions as mentioned hereunder:-

01. Consequent upon any modification / alteration in future the On-Site Emergency plan shall be prepared and submitted for acceptance.
02. The **possible hazards** associated with the factory and ***'Dos' and 'Don'ts'*** shall be displayed in prominent pace adjacent to main gate & conspicuous places inside the factory with the measures to be taken in case of such incident.
03. Each key personnel of the command structure shall be provided with a **worksheet** containing their duties and responsibilities.
04. **Mock Drill** shall be scheduled through PAReSHRAM portal at least once in every six months involving zonal Asst. Director of Factories and Boilers / Divisional Dy. Directors of Factories and Boilers concerned & DCG members.
05. Annual report on hold of Mock Drills shall be submitted to the authorities of District Administration under intimation to Assistant Director of Factories & Boilers/Deputy Director of Factories & Boilers/Director of Factories & Boilers
06. Awareness programmes on hazard & mitigation shall be made amongst workers and people living in the vicinity

The accepted copy of the updated On-Site Plan is sent herewith, the receipt of which may please be acknowledged and photocopy of the same be provided to the following authorities.

- Addl. Secretary to Govt. of Odisha, Home (Special Section) Department, Bhubaneswar.
- Principal Secretary to Govt. of Odisha, Labour & ESI Department, Bhubaneswar
- Collector & District Magistrate, Dhenkanal.
- Superintendent of Police, Dhenkanal.

P.T.O.

- District Fire Office, Dhenkanal.
- Chief Medical Officer, Dhenkanal.
- Asst. Director of Factories & Boilers, Dhenkanal Zone.
- Dy. Director of Factories & Boilers, Angul Division.

Yours faithfully,

Director of Factories and Boilers, Odisha

Memo No. 3194 / Dated, the 19/10/2022

Copy to the Asst. Director of Factories and Boilers Dhenkanal Zone / Dy. Director of Factories and Boilers, Angul Division for information and necessary action.

Dy. Director of Factories and Boilers, Safety

(-) copy to renewal file

Annexure-XII

Plantation Details
(Both for TSM & TSM-CPP)
(Period: April'2025 to September'2025)

S.N.	Month	Plantation in number		Cumulative FY26 (In Nos.)
		Inside	Outside	
1	April 2025	165	106	271
2	May 2025	57	60	388
3	June 2025	3594	3905	7887
4	July 2025	8490	405	16782
5	August 2025	2780	2115	21677
6	September 2025	187	4182	26046

Annexure-XIII

CORPORATE RESPONSIBILTY FOR ENVIRONMENT PROTECTION COMPLIANCE

1. Coke Oven Plants

Action Points (I) : To meet the parameters PLD (% leaking doors), PLL (% leaking lids), PLO (% leaking off take), of the notified standards under EPA within three years (by December 2005). Industry will submit time bound action plan and PERT Chart along with the Bank Guarantee for the implementation of the same.

Compliance: PLD (% leaking doors), PLL (% leaking lids), PLO (% leaking off take) are being monitored on monthly basis and reports are within the notified standards. Summary report for Apr' 2025 to Sep' 2025 is enclosed.

No. of Batteries	No. of Observations	Number of times standard exceeded	Parameters							
			PLD (%)		PLL (%)		PLO (%)		Charging Emission (Sec.)	
			Max	Min	Max	Min	Max	Min	Max	Min
Coke Oven-1 Battery# 1	6	Nil	10	0	1	0	4	1.6	75	45
Coke Oven-1 Battery# 2	6	Nil	0.82	0	0.55	0	1.6	1.4	65	45
Coke Oven-2 Battery# 1	6	Nil	7.86	3.57	0.36	0	1.4	0	18	10

Action Points (II): To rebuild at least 40% of the coke oven batteries* in next 10 years (by December 2012).

Compliance:

Battery Details	Date of Commissioning		Current age in years
	Initial	After Rebuilding	
Coke Oven-1 Battery-1	March 2010	No Rebuilding job only maintenance	15 years 8 month
Coke Oven-1 Battery-2	November 2011	No Rebuilding job only maintenance	14 years
Coke Oven-2 Battery-1	June 2014	No Rebuilding job only maintenance	11year 5 month

Not applicable, as the batteries at coke ovens #1& 2 are new.

2. Steel Melting Shop

Action Points (I): Fugitive emissions - To reduce 30% by March 2004 and 100% by March 2008 (including installation of secondary de-dusting facilities).

Compliance: Primary and secondary dust extraction system have been installed to reduce Fugitive dust emission from SMS. Summary report for the period from April' 2025 to Sep' 2025 is enclosed.

Sl. No.	Name of the Unit	PM_{10} Concentration in µg/m3	Standard in µg/m3
1.	SMS-II furnace area	610	4000
2.	SMS-III BOF furnace area	498	3000

3. Blast Furnace

Action Points (I) Direct inject of reducing agents -- by June 2013

Compliance : The blast furnace has been commissioned with direct injection of PCI up to 200 Kg/Ton of Hot metal. Summary report for the period from Apr' 2025 to Sep' 2025 is enclosed.

Sl. No.	Name of the Unit	PCI injection in Kg/Ton (Avg)	Coke injection in Kg/Ton (Avg)
1.	BF-I	166	362
2.	BF-II	169	360

4. Solid Waste/ Hazardous Waste Management

Action Points (I) Utilization of Steel Melting Shop (SMS) / Blast Furnace (BF) Slag as per the following schedule: By 2004 - 70%, By 2006 - 80% and By 2007 - 100%.

Compliance :

- Most of the industrial solid wastes are reused internally in different units. Like Flue dust, GCP sludge, Bag filter dust of SMS & BF, coal dust, mill scale, lime fines are used in sinter making. DRI Char is being used along with coal in Power plant.
- The entire quantity of blast furnace slag is dispatched to cement manufacturers based on long term MoU with the cement manufacturer.
- Summary report of BF slag and LD slag generation and utilization report for the period from Apr' 2025 to Sep' 2025 is enclosed.
- The SMS slag (LD slag) is processed in material recovery plant (MRP) for separation of metallic from the non-magnetic part and sized for various applications. Some of the key applications of LD slag product are as below:

  - recovered metallics used in steel making process as a scrap,
  - recovered fines used in sinter making process for replacement of lime,
  - non-mag utilization in cement manufacturing, road making, and hard sand applications.

  Solid waste utilization percentage is given below.

Sl. No.	Name of the Unit	Generation in MT	Utilization in MT
1.	BF Slag	953264	990901
2.	LD Slag	518893	579491

NB. 60,598MT of legacy LD Slag & 37,637MT of legacy LD Slag has been utilized during this period.

BF slag : 100%

SMS Slag: 100%

- Fly ash generated from TPP is being supplied to
  - nearby fly ash brick manufacturing units, free of cost, for maximum utilization of ash.
  - Cement plants through bulker.
  - Construction of national highway (NH-55).
  - Balance if any is being utilized in reclamation of low lying areas & abandoned stone quarries as per guidelines of CPCB/ OSPCB after grant of necessary consents.

5. Hazardous Wastes

Action Points (I): Charge of tar sludge / ETP sludge to Coke Oven by June 2003.

Compliance: The tar sludge/ETP sludge is being reused in coke oven along with coal for energy recovery.

Action Points (II): Inventorization of the Hazardous Waste as per Hazardous waste (M&H) Rules, 1989 and amendments there off. (tar sludge, acid sludge, waste lubricating oil and type fuel falls in the category of Hazardous Waste)

- **Compliance:** Inventorization of the Hazardous Waste has been done as per the Hazardous & Other Waste (Management and Transboundary Movement) Rules,2016. Accordingly, Hazardous Waste Authorization has been taken from State Pollution Control Board Odisha, which is valid till 31.03.2027. Summary report of tar sludge / BOD plant sludge generation and utilization report for the period from Apr' 2025 to Sep' 2025 is enclosed.

Sl. No.	Name of the Unit	Tar sludge Generation in MT	Tar sludge Utilization in MT	BOD sludge Generation in MT	BOD sludge Utilization in MT
1.	Coke Oven-I & II	888.4	888.4	1792.71	1792.71

6. Water Conservation/ Water Pollution

Action Points (I) To reduce specific water consumption to 5 m3/t for long products and 8 m3/t for flat products by December 2005.

Compliance: The following initiative have been undertaken to reduce the specific water consumption.

Reduction of freshwater consumption in closed circuit by increasing the Cycle of Concentration (COC) up to 8. Reuse of treated wastewater back in the process

- **Industrial wastewater treatment**: Installed state- of-art technologies 3 nos. ETPs at CRM & Coke Ovens and 3 nos. of thickener at Blast Furnaces 1&2 and Steel Making Shops.

- **Surface runoff Treatment**: 02 nos. of common effluent treatment plants and one central effluent treatment plant have been installed to treat surface runoff from DRI, Power Plant and RHMS. 27 Nos. of settling pits have been constructed to remove the suspended solids.

- **Domestic wastewater treatment**: Installed 5 nos. STPs with Fluidized aerobic bed (FAB). Reuse of treated water for cooling tower make up, coal washery make up, dust suppression, slag quenching, slurry making and gardening purposes. SOP has been framed and implemented for operation & maintenance of all ETPs and STPs.

- **Coke Ovens** are equipped with Coke Dry Quenching Unit. WHRB of capacity 94.5 TPH at Coke Oven – II & 64 TPH at Coke Oven - I have been commissioned.

Rainwater harvesting (RWH): High-Density Polyethylene ('HDPE') lined pond of capacity 50,000 m3 had been constructed for harvesting of rainwater and reuse in different applications.

The specific water consumption of the of last three years is given below:

FY 24 : 3.19 m3/tcs
FY 25 : 3.41 m3/tcs
FY 26 : 3.23 m3/tcs (Till Sep'2025)

Action Points (II): To operate the CO-BP effluent treatment plant efficiently to achieve the notified effluent discharge standards. - by June 2003.

Compliance: The Phenolic effluents of both the Coke Ovens are being treated in BOD plant. The treated effluent is within the stipulated and reused in Coke & slag quenching and dust suppression.

Action Points (III): Installation of Continuous stacks monitoring system & its calibration in major stacks and setting up of the online ambient air quality monitoring stations by June 2005.

Compliance: 39 Nos. Continuous online stack monitoring system for PM (Continuous Emission Monitoring System - CEMS) and 20 Nos. Continuous online stack monitoring system for Gaseous parameter (SO2 & NOx) (Continuous Emission Monitoring System - CEMS). 7 Nos. Ambient Air Quality Monitoring system (CAAQMS) has also been commissioned. Real time data is being transferred to OSPCB/CPCB server. All analyzers are being with regular time intervals.

Action Points (IV): To operate the existing pollution control equipment efficiently and to keep proper record of run hours, failure time and efficiency with immediate effect. Compliance report in this regard is submitted to CPCB / SPCB every three months.

Compliance: All the pollution control facilities are being operated efficiently and record is being maintained. Details of energy meter readings of ESPs/Bag filters are being furnished to OSPCB on monthly basis.

Action Points (V): To implement the recommendations of Life Cycle Assessment (LCA) study sponsored by MoEF&CC by December 2003.

Compliance: Complied.

Action Point (VI): The industry will initiate steps to adopt the following clean technologies / measures to improve the performance of the industry towards production, energy and environment.

Compliance:

- **Energy recovery of top Blast Furnace (BF) gas**: TRT has been installed at Blast Furnace top for energy recovery.
- **Use of Tar-free runner linings**: Tar lining in the runner has not used.
- **De-dusting of Cast House at tap holes, runners, skimmers, ladle and charging points**: Dedusting system has been installed at BF cast house.
- **Suppression of fugitive emissions using nitrogen gas or any other inert gas**: We have studied this system in detail and found the same very unsafe and have decided to not to go for it. Instead, dust extraction facilities have been installed wherever required.
- **To study the possibility of slag and fly ash Transportation back to the abandoned mines to fill up the cavities through empty railway wagons when they return back to the mines and its implementation**: The entire quantity of blast furnace slag is dispatched to cement manufacturers based on long term MoU with the cement manufacturer. Fly ash is also being supplied to nearby fly ash brick manufacturing units, free of cost, for maximum utilization of ash, Cement plants through bulker, Construction of national highway (NH-55) and balance if any is being utilized in reclamation of low-lying areas & abandoned stone quarries as per guidelines of CPCB/ OSPCB after grant of necessary consents.
- **Processing of the waste containing flux & ferrous wastes through waste recycling plant**: We have a metal recovery and slag processing plant for the same and such material is used in iron and steel making processes.
- **To implement rainwater harvesting**: High-Density Polyethylene ('HDPE') lined pond of capacity 50,000 m3 had been constructed for harvesting of rainwater and reuse in different applications.

Reduction of Green House Gases by:

- Reduction in power consumption: Yes
- Use of by-products gases for power generation: Yes
- Promotion of Energy Optimisation technology, including energy audit: Yes

To set targets for Resource Conservation such as Raw material, energy and water consumption to match International Standards:

	Actual of FY 26 (Till Sep'25)	Target for FY 26 (Till Sep'25)
Specific total water consumption, (m3/ TCS)	3.23	3.65
Specific Effluent discharge, (m3/ TCS)	1.27	1.62
Energy consumption (GCal/ TCS)	6.183	6.363
GHG (CO_2) emission (Ton/ TCS)	2.89	2.98
Steps taken for Resource Conservation	Yes	Yes
Environmental monitoring laboratory provided (Y/N)	Yes	Yes

- Up-gradation in the monitoring analysis facilities for air and water pollutants. Also to impart elaborate training to the manpower in the environmental monitoring laboratories, so as realistic data can be obtained.
- Monitoring facilities upgraded.

- Training provided to laboratory personnel.
- To improve housekeeping: Housekeeping is being carried out regularly.

7. Sponge Iron Plants

Action Points (I) : Inventorisation of sponge iron plants to be completed by SPCBs/CPCB by June 2003 and units will be asked to install proper air pollution control equipments by December 2003 to control primary and secondary emissions.

Compliance: The following air Pollution Control Equipment's have been installed to control primary and secondary emissions.

- 5 Nos. of ESPs have installed at product handling area.
- 3 Nos. bag filters have installed at junction house and transfer building to control fugitive dust emission.
- 2 Nos. Wheel Washing System also is in operation.
- 10 Nos. Pug mill have installed at Cold ESP and Char Silos.
- Seal plates installed across all conveyors to prevent material fall at ground.
- Belt sway switches are installed to prevent the one-sided movement of conveyors and to stop the conveyor movement immediately in case of material spillage.
- Suitably designed nozzles installed at unloading point to prevent dust fall.
- Increased the frequency of road sweeping machine operation and strict monitoring.

Action Points (II): As per rebuilding schedule submitted to CPCB/MoEF&CC.

Compliance: There is no plan for rebuild of DRI process. If any changed will made, then prior intimation and necessary clearances will be obtained from MoEF&CC prior to process change.

****

Compliance to the commitment made during Public Hearing on 28.10.2010 at 11.00 am for proposed expansion of steel plant from 3.1 to 5.6 MTPA

1. **Points raised: Measures taken for air pollution and fugitive dust control**

Commitment made: For air pollution control ESP, bag filters, dry fog collection systems and fugitive dust water sprinklers, mobile tankers are provided. The air pollution control equipments are operative. There is improvement in the DRI areas with regard to dust/fugitive emissions.

Compliance:

- 5 Nos. of ESPs have installed at product handling area, 5 Nos. bag filters have installed at junction house and transfer building to control fugitive dust emission.1 Nos. Wheel Washing System also is in operation.10 Nos. Pug mill have installed at WHRB ash unloading point. 5Nos. of pug mill have been installed at Cold ESP and Char Silos. Pneumatic conveying of raw material / ash to reduce fugitive emission from solid/ dust handling.
- Encapsulation of conveying system & Installation of Telescopic chute to minimize dust emission during unloading of bottom ash.
- Provisions of high efficiency dust collection systems like Electrostatic precipitators 27 nos.), Bag filters (58 nos.), Scrubbers (9 nos.) etc.
- Installation of dust suppression system (DFS- 242 nozzles) at coal circuit, iron ore circuit and at Ash transfer points. Installation of gun sprinklers (128 Nos) at raw material yard to reduce fugitive emission.
- Technological improvements like Power supply of ESP (Electrostatic precipitator) using High frequency transformer rectifier/Micro pulse-based rectifier.
- Spillage reduction in conveyor junction houses by installation of new technology sealing using double skirt rubber and commissioning of new dust extraction system in junction houses helped to reduce fugitive emission significantly.
- Periodic maintenance of pollution control equipment & proper housekeeping is being done by a professional expert team.
- Five Nos. Wheel Washing System have been installed at BFPP-I , BFPP-II, RMHS & DRI-WHRB to minimize carry over of mud/dust with the trucks and consequently deposition on road which in turn contribute to ambient air quality. Washing water is being recycled.
- 6 no. of Portable PM_{10} Analyzer have been installed at strategic location of different unit to assess Ground Level Concentration of PM_{10}.
- IVC (Industrial Vacuum Cleaner) has been installed for mechanical cleaning of dust to reduce fugitive emission during manual cleaning.
- Dust suppression system has been installed in Wagon Tippler to reduce fugitive dust emission during Wagon tippling.

- Successful commissioning of Portable dedusting machine at the coveyor junction house to reduce fugitive emission.
- 10 Nos. of Mechanized Road sweepers have been deployed for dry sweeping of internal roads and shop floors with dust suction facility.
- Vehicles carrying raw materials are being covered with tarpaulin to proact during transportation.

2. Points raised: Wastewater Management

Commitment made: The discharge of wastewater/runoff from plant to outside is minimized and facilities are on progress for retaining all treated wastewater and will be reused in captive plantation and dust suppression etc.

Compliance:

- All effluents are being treated in primary treatment plants (19 nos.) in steel plant attached with respective units and Effluent Treatment Plants (3 nos.) centrally.
- Treated water is being reused for dust suppression, ash handling, make up for DRI & cooling towers and for green area development.
- Process effluent after treatment is being reused. During the period April'25 to Sep'25, 3,32,2731 m^3 of water has been recycled. However, we are further improving the efficiency of the water management system by technology intervention to increase the utilization.
- The sanitary sewage is being treated in 4 Sewage Treatment Plants and used for green belt development and low-end application in plant.
- Rainwater harvesting of capacity 50000m3 with HDPE liner has been constructed to store & reuse rainwater.
- Zero Effluent Discharge (ZED) project will be implemented in November 2025.

3. Solid waste management

Commitment made:

The bottom ash slurry is being disposed off in two ash ponds already constructed. The entire ash will be made semi solid and will be dispatched in HDSD system to MCL mine cavities already acquired. At present ash is dumped inside vacant areas of the plant premises.

Compliance :

- Solid waste handling, storage, utilization and disposal are being done scientifically. The toxic metal content and compositional analysis of solid waste are being carried out regularly.
- The SMS slag (LD slag) is processed in material recovery plant (MRP) for separation of metallic from the non-magnetic part and sized for various applications. Some of the key applications of LD slag product are:

- recovered metallics used in steel making process as a scrap,
- recovered fines used in sinter making process for replacement of lime,
- non-mag utilization in cement manufacturing, road making, and hard sand applications.

- Fly ash is also being supplied to nearby fly ash brick manufacturing units, free of cost, for maximum utilization of ash.
- Fly ash is also being supplied to cement plants through rake & bulker.
- Fly ash is being used in the construction of national highway (NH-55).
- Ash is also being used in filling low lying areas & abandoned stone quarries as per guidelines of CPCB/ OSPCB after grant of necessary consents. Presently no fly ash is being disposed in MCL mine void.

4. Obtaining clearance for coal washery

Commitment made:
The industry has already obtained consent to operate of the Board as stated.

Compliance :
Consent to Operate has been obtained from SPCB vide letter no 5823/IND–I–CON-5440, dated. 23.03.2023 and is valid up to 31.03.2027.

5. Employment opportunities

Commitment made:

By setting up the unit lots of scopes will be generated with regard to employment for the local people, indirect employment, generation of small business etc. This will enhance the quality of life in the project affected areas.

Compliance:
Tata Steel's commitment to the National Apprentices Act, 1961, underscores its dedication to empowering local youth from surrounding villages through structured training aligned with regulatory norms. The Apprenticeship Training Overview is given below for reference.

Training to ITI Students:

- FY 22-23: 235 students trained
- FY 23-24: 240 students trained
- FY 25-26: 210 students trained

Additional specific functional training has also been imparted to 126 nos. of ITI students under J.N Tata Vocational Training Institute (JNTVTI).

6. Plantation in 33% of the acquired area

They have not planted in 33% of the total area. However, plantation work is in progress in outside areas as well as inside plant premises.

Compliance:

Green belt development is under progress in and around the plant complex by planting indigenous species. 33% of the area (includes Plant, R&R and CSR) has been covered under green belt development.

7. Regarding water supply to the affected villages

They have supplied drinking water facilities to villages (Sarpa, Raghunathpur, Narendrapur, and Sibpur in Dhenkanal and Ghantigadia & Talbahal in Angul districts). Besides, they have supplied 8" pipes of 1500 meters under RWSS water supply scheme for supply of water to village Kusupanga, Mangalpur, Manpur and Kurunti.
However, supplying of drinking water to the periphery villages will be expedited and in summer water shall be provided in tankers wherever it is required.

Compliance:

Various CSR activities have been undertaken since the inception of the plant by providing facilities of sanitation, drinking water, education, health care, road, communication etc. Further, CSR activities and its related expenditure has been substantially increased after acquisition of the industry by Tata Steel Limited.

Drinking water through pipeline is being supplied to seven nearby adjacent villages such as Ghantigadhia, Raghunathpur, Sarpa, Nuagaon, Shibapur, Talbahal and Narendrapur.

8. Regarding water supply to the affected villages Other peripheral development

Lots of activities so far done by the project proponent in all the affected villages like water supply, electrification etc. This expansion will definitely help in performing these activities in future. The unit assured villagers to do medical camp and eradication of blindness campaign for peripheral and affected villages.

The industry will take up following peripheral development and will also do as per directions of the concerned authorities:

1. Extensive plantation in outside areas will be carried out.
2. Scope for local persons for ITI training.
3. Health check up camps will be made in the affected areas.
4. Supply of drinking water to the project affected persons.
5. Village roads will be constructed as per the requirements.
6. Aid will be provided to village schools.

Compliance :

- Extensive plantation in outside areas have been carried out in nearby villages.
- We are organizing the health check up camps in the adjacent villages on regular basis.
- Drinking water through pipeline is being supplied to seven nearby adjacent villages such as Ghantigadhia, Raghunathpur, Sarpa, Nuagaon, Shibapur, Talbahal and Narendrapur.
- Village roads are being constructed and repaired on need basis.
- Schools in adjacent villages are being supported by us in terms of infrastructure like school buildings, boundary walls, drinking water, study material and remunerations to teachers.
- Public Health Programme (Preventive & Curative) is being undertaken regularly in periphery villages. Under blindness eradication cataract screening camps followed by treatment are being conducted as a part of CSR scheme. Details are given below:

Financial Year	People Screened	Surgeries Conducted
FY 2023	334	33
FY 2024	2,398	343
FY 2025	4,876	315
FY 2026 (till Sep)	1,943	98

9. Change of place of public consultation

The venue, time and date were decided by the district administration.

Annexure-XV

CSR Activity Expenditure
(Period- April' 2025 – Sep'2025)

Expenditure Status H1 (Apr- Sep'25)		
Sl.No	**Themes**	**Expenditure till Sep'25 in lakhs**
1	Agriculture	9.20
2	Drinking Water	80.81
3	Education (including the 1000 school program and Axis Dilse Project	335.00
4	Gender & Community Enterprise	30.31
5	Public Health	42.33
6	Rural Infrastructure	127.00
7	Sports	2.13
8	Ethinicity	5.96
Total Expenditure		**632.74**

Annexure-XVI

Fugitive Emission monitoring report
Reporting Period: April'2025 – Sep'2025

PARAMETER	Unit	Coke Oven-1 Battery Top			Coke Oven-1 Battery-2 Top			Coke Oven-2 Battery Top		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Carbon monoxide (as CO)	mg/m^3	0.55	0.78	0.67	0.59	0.72	0.67	0.66	0.72	0.69
Lead (as Pb)	$\mu g/m^3$	0.04	0.04	0.04	0.02	0.04	0.03	0.04	0.04	0.04
Nitrogen Dioxide (as NO_2)	$\mu g/m^3$	29.6	50.6	41.8	31.6	46.7	39.6	29.7	44.2	36.9
Respirable Suspended Particular Matter (PM_{10})	$\mu g/m^3$	122.1	170.1	149.00	134.8	184.1	165.83	130.8	132.6	131.70
Sulphur Dioxide	$\mu g/m^3$	15.4	19.7	17.50	15.6	22.4	19.93	14.4	16.9	15.65
Benzo(a)Pyrene	ng/m^3	5.6	7.6	6.60	6.2	7.9	7.03	6.1	6.4	6.25

Coke Oven Fugitive Visible Emission

Parameter	Coke Oven-1 Battery-1			Coke Oven-1 Battery-2			Coke Oven-2 Battery		
	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
AVG PLD %	0	10	2.5	0.00	0.82	0.16	3.57	7.86	6.57
PLO %	1.6	4.0	2.3	1.4	1.6	1.6	0	1.4	1.1
PLL %	0	1.00	0.35	0.00	0.55	0.33	0	0.36	0.14
CHARGING EMISSION(SEC)	45.00	75.00	57.50	45.00	65.00	57.60	10.00	18.00	13.80

Annexure - XVII

SUMMARY OF STACK MONITORING

Period: From April 25 to September, 25

S.N	Stack Attached to	Average Monthly Result of Particulate Matter in mg/Nm3						Standard as per CTO
		Apr'25	May'25	jun'25	Jul'25	Aug'25	Sept'25	
1	AFBC	SD	SD	SD	SD	SD	SD	-
2	Sinter Plant -1 (85 M2 ESP)	23.31	19.7	21.3	18.6	17.63	17.5	100
3	Blast Furnace –I, Cast House	9.58	8.2	14.1	16.1	15.4	9.3	100
4	Blast Furnace –I, Stock House	11.79	9.9	9.5	8.4	7.14	7.1	100
5	SMS- 1	Shut Down (Plant not in Operation)						100
6	SMS 2 (FES 1)	11.66	12.1	8.7	9.1	10.83	11.3	100
7	SMS 2 (FES 2)	13	8.3	11.1	10.6	9.48	4.7	100
8	BFPP ESP 1	27.88	25.8	22.8	23.8	21.11	23.8	50
9	BFPP ESP 2	29.55	27.7	30.8	18.6	22.13	19.8	50
10	BFPP ESP 3	UM	12.1	12.9	9.9	11.59	11.2	50
11	Sinter Plant- 2	32.07	31.4	30.1	29.8	31	30.6	50
12	Sinter Plant- 3	33.64	32.5	32.2	32.8	33.2	35.3	50
13	SMS- 3 BOF (secondary chimney)	31.11	21.9	7.6	6.8	8.22	8.9	50
14	BFPP- 2 Boiler- 2	4.74	6.4	23.8	14.3	12.4	12.9	50
15	BFPP- 2 Boiler- 3							
16	Coke oven (Battery- 1)	32.46	29.5	31.2	27.1	27.02	20.9	50
17	Coke oven (Battery- 2)	29.21	29.3	29.9	17.9	10.46	10.4	50
18	Coke oven- 2 (Battery- 2)	15.66	15.7	15.8	15.9	27.16	31.1	50
19	Blast Furnace –2, Cast House	10.99	16	14.5	14.8	16.37	16.7	50
20	Blast Furnace –2, Stock House	11.24	12.5	13.3	12.7	9.32	10	50
21	WHRB-1	25.93	SD	SD	14	19.89	31.4	50
22	WHRB-2	34.47	SD	38	42.3	28.53	30.9	50
23	WHRB-3	25.23	22.5	19.4	30.8	33.71	18.2	50
24	WHRB-4	20.09	20.8	24.2	14.2	14.24	10.8	50
25	WHRB-5	18.6	19.5	22.5	19.9	7.16	14.3	50
26	WHRB-6	12.37	19.9	23.8	SD	SD	18.4	50
27	WHRB-7	15.32	14.6	14.2	SD	12.78	21.8	50
28	WHRB-8	23.64	31.2	16.8	11	23.9	12.1	50
29	WHRB-9	28.01	33.4	30.3	40.6	30.64	10.4	50
30	WHRB-10	17.93	23.4	26.6	29.9	23.33	11.9	50
31	DRI, Dedusting- 1	17.26	SD	39.2	32.6	17.16	16.9	100
32	DRI, Dedusting- 2	32.72	36.5	44.4	35.8	29.58	26.5	100
33	DRI, Dedusting- 3	15.79	27.1	25.1	21.2	12.9	18.7	100
34	DRI, Dedusting- 4	11.86	12.8	11.6	13.3	17.78	12.6	100
35	DRI, Dedusting- 5	17.04	19.7	19.5	14.5	8.48	11.8	100

36	Lime Kiln- 2	3.24	6.60	12.60	10.00	4.70	3.80	50
37	Lime Kiln- 3	8.96	12.00	3.80	10.20	10.99	5.80	50
38	Lime Kiln- 4	9.18	10.40	16.00	14.50	9.91	13.10	50
39	Lime Kiln- 5	7.71	9.20	14.60	8.80	6.37	7.00	50
40	Lime Kiln- 6	3.48	7.90	12.80	13.80	9.53	9.30	50
41	Coke oven- 1, CDQ Bag filter	33.48	28.4	31.8	31.6	31.18	27.4	50

SD- Shut Down (Plant not in Operation)

SUMMARY OF STACK MONITORING

Period: From April 25 to September, 25

S.N.	Stack Attached to	Apr'24		May'24		Jun'24		Jul'25		Aug'25		Sept'25	
		Result in mg/Nm3											
		SO_2	NO_X	SO_2	NO_X	SO_2	NO_X	SO_2	NO_X	SO_2	NO_X	SO_2	NO_X
1	BFPP ESP 1	1369.48	136.53	1390.57	124.41	1291.11	137.45	1221.76	190.03	1194.44	194.54	1241.55	225.35
2	BFPP ESP 2	1711.83	392.55	1700.97	483.21	1731.48	403.57	1449.15	384.83	1524.75	391.43	1110.83	391.41
3	BFPP ESP 3	SD		1103.65	404.67	1088.41	386.55	1125.96	373.29	1376.57	360.92	1166.35	379.17
4	Sinter Plant- 2	253.51	146.70	285.37	167.05	128.51	103.00	140.12	114.20	215.85	109.19	246.14	116.98
5	Sinter Plant- 3	311.76	141.10	410.38	196.34	272.15	163.89	313.26	154.30	262.81	122.74	204.65	129.72
6	BFPP- 2 Boiler- 2	1033.25	43.46	1039.87	35.79	586.99	28.18	1228.87	45.22	1038.98	62.71	1170.81	55.01
7	BFPP- 2 Boiler- 3												
8	Coke oven (Battery- 1)	253.51	148.00	285.37	111.51	25.41	128.14	20.61	126.62	50.16	93.59	81.00	114.88
9	Coke oven (Battery- 2)	311.76	153.40	410.38	119.89	47.77	174.73	103.34	294.71	94.15	312.55	63.60	194.60
10	Coke oven- 2 (Battery- 2)	159.02	204.89	150.19	207.12	176.55	187.69	200.66	182.66	256.49	198.97	254.39	211.84
11	WHRB-1	517.94	48.13	SD		SD		583.07	29.94	584.84	30.30	783.45	26.61
12	WHRB-2	344.03	32.45	SD		616.52	109.41	567.68	238.60	565.57	31.03	855.00	25.00
13	WHRB-3	872.65	223.23	668.55	258.15	693.55	297.87	810.64	315.03	1091.71	315.00	941.57	161.27
14	WHRB-4	1044.63	26.77	986.02	26.77	831.92	26.80	825.42	28.31	970.41	26.38	781.00	26.69
15	WHRB-5	842.96	58.66	789.24	91.33	785.52	91.30	856.59	91.30	878.49	91.30	1024.83	45.32
16	WHRB-6	810.15	41.00	570.20	41.00	571.12	41.00	SD		SD		708.84	41.00
17	WHRB-7	728.24	133.33	641.19	133.33	534.94	95.66	SD	0.00	539.66	99.48	720.68	116.24
18	WHRB-8	648.00	70.33	648.00	70.33	388.00	70.00	388.00	70.00	388.00	70.00	388.00	70.00
19	WHRB-9	877.05	26.50	875.16	26.50	827.21	26.50	789.46	43.03	826.25	25.00	872.83	25.00
20	WHRB-10	550.00	180.00	460.00	112.00	460.00	112.00	744.21	35.46	752.03	32.57	751.93	25.29
21	Sinter Plant- 1	137.00	86.00	98.29	158.07	57.68	155.23	72.20	124.50	105.15	117.62	50.93	71.49
22	Gas fired boiler 60TPH & 125 TPH	68.70	49.60	28.00	69.00	28.00	69.00	31.12	65.57	89.05	46.38	140.09	64.00
23	Gas fired boiler 250 TPH	137.00	86.00	46.00	119.00	46.00	119.00	65.65	92.43	90.22	144.02	73.79	78.91

SD: Shut Down (Plant not in Operation); UM: Under Maintenance

---------- End of Report ----------

Annexure-XVIII

SUMMARY OF AMBIENT AIR QUALITY
MONTHLY AVERAGE VALUES

Month	Locations of Monitoring	Monthly Average				
		Unit in µg/m^3				Unit in mg/m^3
	Pollutant	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO
	Standard	100	60	80	80	2
April'25	CAAQMS-1	152.35	44.82	11.85	6.24	0.65
	CAAQMS-2	251.32	69.18	22.64	4.6	0.73
	CAAQMS-3	125.13	54.26	13.28	10.06	0.74
	CAAQMS-4	76.41	36.33	5.73	18.98	0.26
	CAAQMS-5	94.00	32.23	16.13	13.98	0.28
	CAAQMS-6	111.13	43.79	16.1	11.1	1
	CAAQMS-7	119.90	53.13	19.95	14.41	0.74
May'25	CAAQMS-1	108.09	36.62	4.65	6.62	0.71
	CAAQMS-2	135.98	47.92	19.13	10.08	0.71
	CAAQMS-3	101.00	43.57	13.46	10.07	0.75
	CAAQMS-4	61.77	31.32	6.06	17.23	0.27
	CAAQMS-5	93.50	34.09	16.23	9.43	0.96
	CAAQMS-6	93.71	38.19	15.5	9.88	0.97
	CAAQMS-7	97.97	38.79	14.49	14.47	0.74
June'25	CAAQMS-1	93.25	36.63	5.23	6.03	1.19
	CAAQMS-2	81.73	38	11.9	22.93	0.72
	CAAQMS-3	75.16	37.06	13.9	10.79	0.77
	CAAQMS-4	55.30	23.98	5.82	12.67	0.31
	CAAQMS-5	75.82	34.21	16.59	7.98	0.68
	CAAQMS-6	105.94	42.48	15.68	10.25	0.43
	CAAQMS-7	128.83	42.84	14.42	11.93	0.86
July'25	CAAQMS-1	65.06	24.99	6.61	6.24	0.99
	CAAQMS-2	50.08	24.47	11.89	22.86	0.71
	CAAQMS-3	62.72	31	13.14	10.53	0.57
	CAAQMS-4	34.95	15.28	5.43	10.22	0.27
	CAAQMS-5	36.58	9.92	17.06	10.96	0.6
	CAAQMS-6	80.71	24.71	15.61	10	0.42
	CAAQMS-7	97.37	29.79	14.72	12.91	0.78
August'25	CAAQMS-1	69.18	25.47	5.22	7.48	0.77
	CAAQMS-2	85.27	29.54	8.31	22.95	0.69
	CAAQMS-3	104.10	40.69	14.51	10.96	0.71
	CAAQMS-4	45.07	21.48	5.62	10.44	0.47
	CAAQMS-5	50.69	20.51	16.31	12.3	0.54
	CAAQMS-6	65.36	24.53	15.6	10.11	0.48

	CAAQMS-7	84.69	28.86	16.06	5.36	0.72
September'25	CAAQMS-1	79.78	31.07	7.2	9.44	0.92
	CAAQMS-2	81.55	34.26	5.92	22.76	0.69
	CAAQMS-3	102.04	54.41	13.64	11.82	0.87
	CAAQMS-4	59.44	23	7.7	16.26	0.36
	CAAQMS-5	68.17	24.61	16.96	13.41	1.93
	CAAQMS-6	62.23	25.55	13.99	10.67	0.67
	CAAQMS-7	77.10	35.17	18.63	5.41	0.75

All values are in µg/m3 except CO values are in mg/m3. All Values are derived from 24 hourly average data except CO values which are derived from 8 hourly average data.

CAAQMS 1: Near Township; CAAQMS 2: Near Utility Department; CAAQMS 3: Near CRM; CAAQMS 4: Near Water Complex; CAAQMS 5: Near Coke Oven 2; CAAQMS 6: Near Wagon Tippler; CAAQMS 7: Near Material Gate, UM: Under Maintenance.

Ambient air quality (12 parameters) monitoring report
(Reporting period: Apr'2025 to Sep'2025)

PARAMETER	Unit	COLONY			TSM CPP			CRM			WATER COMPLEX		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Ammonia (as NH_3)	$\mu g/m^3$	23.7	26.1	25.3	20.9	25.4	23.5	17.6	20.8	18.7	21.6	31.8	27.20
Arsenic as (as As)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	$\mu g/m^3$	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)Pyrene	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon monoxide (as CO)	mg/m^3	0.18	0.59	0.33	0.5	0.8	0.7	0.3	0.7	0.4	0.2	0.41	0.30
Lead (as Pb)	$\mu g/m^3$	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (as Ni)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrogen Dioxide (as NO_2)	$\mu g/m^3$	25.7	28.4	26.6	24.6	26.4	25.8	21.8	24.8	23.8	25.9	26.1	26.0
Ozone (as O_3)	$\mu g/m^3$	21.9	22.9	22.6	21.2	28.1	25.1	21.4	24.8	22.5	21.7	28.4	25.6
PM10(Particulate Matter<10 µm)	$\mu g/m^3$	58.6	69.8	66.5	62.4	84.6	75.6	66.5	79.4	74.9	22.1	74.6	58.9
PM2.5 (Particulate Matter < 2.5 µm)	$\mu g/m^3$	29.4	34.7	32.8	31.8	46.2	40.2	32.8	38.6	36.7	33.5	66.4	44.7
Sulphur Dioxide as (SO_2)	$\mu g/m^3$	6.6	6.7	6.7	6.8	7.1	7.0	6.9	8.2	7.8	6.7	7.8	7.3

BDL Values: Arsenic as (As): 1.0 ng/m^3, Benzene: 4.2$\mu g/m^3$, Benzo(a)Pyrene: 0.5ng/m^3, Lead (as Pb): 0.01$\mu g/m^3$, Nickel (as Ni): 5.0ng/m^3.

PARAMETER	Unit	COKE OVEN-2			WAGON TIPPLER			MATERAIL GATE		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Ammonia (as NH_3)	$\mu g/m^3$	25.1	36.7	32.3	26.1	30.4	28.5	19.8	25.2	21.5
Arsenic as (As)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	$\mu g/m^3$	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)Pyrene	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon monoxide (as CO)	mg/m^3	0.3	0.9	0.6	0.6	0.8	0.7	0.4	0.9	0.6
Lead (as Pb)	$\mu g/m^3$	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (as Ni)	ng/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nitrogen Dioxide as (NO_2)	$\mu g/m^3$	27.6	45.4	39.5	29.6	38.5	35.5	26.8	27.1	27.0
Ozone (as O_3)	$\mu g/m^3$	23.8	34.8	29.5	26.4	28.1	27.3	21.6	24.8	23.3
PM10(Particulate Matter<10 µm)	$\mu g/m^3$	26.4	90.6	68.8	72.6	90.5	83.3	69.4	76.5	73.7
PM2.5 (Particulate Matter < 2.5 µm)	$\mu g/m^3$	36.1	77.6	54.8	37.2	47.2	44.0	38.5	42.1	40.7
Sulphur Dioxide as (SO_2)	$\mu g/m^3$	7.1	8.1	7.7	7.5	9.2	8.6	6.6	7.4	6.9

BDL Values: Arsenic as (As): 1.0 ng/m^3, Benzene: 4.2$\mu g/m^3$, Benzo(a)Pyrene: 0.5ng/m^3, Lead (as Pb): 0.01$\mu g/m^3$, Nickel (as Ni): 5.0ng/m^3.

Annexure-XIX

Noise Monitoring Report
Environment Management Laboratory
TATA Steel Limited Meramandali, Odisha
Reporting Period: April'2025-Sep'2025

S. No	Name of the unit	Location	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25
			Leq					
1	BF-2 Cast House	Near Motor I D fan 1	81.7	81.3	81.2	81.7	81.7	80.6
		Near Motor I D fan-2	85.1	82.7	82.7	84.5	84.2	85.7
		Near Motor I D fan-3	84.3	85.4	85.1	85.9	85.8	84.7
		Near Cooling tower area	81.4	81.1	80.5	80.4	80	80.6
		Near Fire Pump House Building area	92.5	90.2	89.4	90.1	91.2	89.4
		PCI-1	82.6	83.2	81.6	82.2	82.6	82
		PCI-2	84.9	84	82.6	84.6	83.8	83.5
		CA Fan-1,2,3	86.3	86.6	86.7	86.2	86.5	86.8
		Control room	59.7	58.2	59.4	61.3	59.1	59.2
		Near B F-2 Furnace area	82.5	80.4	82.3	81.5	81.9	80
2	BF-2 Stock House	Near ID fan 1	83.7	84.1	84.5	83.3	84.1	83.3
		Near ID fan -2	84.8	84.5	83.2	82.8	84.3	82.8
		Control room office	58.7	58.3	58.8	58.6	58.5	57.5
3	Lime Plant	Near De dusting-2 ID fan	82.6	82.4	82.4	83.7	84.5	83.1
		Near Blower room area	95.8	90.8	97.5	92.5	91.1	97.3
		Near Cooling tower area	80.5	81.8	80.3	81.1	81.6	80.5
		Near De dusting-3 ID fan	81.7	81	81.6	80.7	80.8	81.4
		Near De dusting-4 ID fan	83.9	81.7	82.7	82.5	81.7	83.8
		Near Pump House area	85.4	84.5	85.2	85.1	85.3	85.2
		Screening House 01	85	84.6	83.6	SD	83.6	SD
		Screening House 02	85.9	SD	85.3	SD	82.4	83.7
		Screening House 03	87.3	83.9	84.9	SD	84.3	SD
		Screening House 04	86.1	82.4	83.8	84.8	84.7	85.8
		Screening House 05	87.2	82.1	84	SD	82.5	85.3
		Delivery Building	86.5	87.3	88.1	87.6	85.4	86.5
		Near Outside Office area	80.2	80.4	80	80.3	81.1	80.2
		Gas Boosting Station	89.3	89.7	89.7	89.1	87.5	91.5
		Inside office building	61.7	60	59.4	59.4	59	59.2
4	BF PP-1 Boiler-01	Near ID Fan -1	81.8	82.7	SD	82.5	SD	80.7
		Near ID Fan -2	82.9	83.4	SD	81.9	SD	81.6
		Near FD fan	87.5	86.6	SD	87.1	SD	86.3
		Near Boiler-1 Area	81.5	81.5	SD	81.2	SD	81.1
5	BF PP-1 Boiler-02	Near ID Fan -1	83.6	SD	83.3	SD	84.6	SD
		Near ID Fan-2	85.4	SD	85.1	SD	85.8	SD
		Near FD fan	93.2	SD	90.2	SD	91.6	SD
		Near Boiler-2 Area	84.8	SD	82.4	SD	82.7	SD
6	BF PP-1 Boiler-03	Near ID Fan -1	SD	84.8	81.7	84.5	83.5	84.2
		Near ID Fan -2	SD	85.2	85.3	85.1	85.4	85.3
		Near FD fan	SD	92.7	91.4	92.7	90.7	91.6
		Near Blower (9 m)	87.2	86.5	85.8	81.3	86.1	87.6
		TG Floor (8.5 m)	86.8	87.6	86.3	85.3	85	85.8
		Near Boiler-3 Area	SD	84.3	81.8	85.8	83.2	84.8
		Near Control room office	62.4	61.5	62.1	62.3	61.3	58.5
7	Gas fired boiler 60 TPH Area	Near ID fan -1	81.2	80.2	80.4	81.2	81.4	80.4
		Near ID fan -2	80.5	82.6	80.7	81.4	81.6	80.2
		Near FD fan -1	82.7	81.7	82.8	82	80.7	81.1
		Near FD fan -2	82.8	83.6	82.5	81.5	80.3	81.3
		60 TPH Blower feed water pump	85	85.4	85.4	84.8	84.9	83.2

Annexure-XIX

Noise Monitoring Report
Environment Management Laboratory
TATA Steel Limited Meramandali, Odisha
Reporting Period: April'2025-Sep'2025

		Near Boiler area	81.6	82.1	81.1	82.3	82.5	80.4
8	Gas fired boiler 125 TPH Area	Near ID fan -1	81.4	SD	SD	SD	81.7	81.5
		Near ID fan -2	84.8	SD	SD	SD	82.5	82
		Near FD fan -1	87.4	SD	SD	SD	86.2	86.2
		Near FD fan -2	88.3	SD	SD	SD	88.1	86.8
		Near Boiler area	82.5	SD	SD	SD	82.1	81.1
		125 TPH Blower feed Water pump	84.8	SD	SD	SD	86.3	85.1
9	Gas fired boiler 250 TPH Area	Near ID fan -1 area	81.6	81.5	82.8	81.5	SD	80.2
		Near ID fan -2 area	82.1	82.6	82.3	83.6	SD	80.3
		Near FD fan -1 area	84.2	84.9	84.9	84.3	SD	83.7
		Near FD fan -2 area	84.8	82.1	84.2	84.8	SD	82.8
		Near Boiler area	82.7	82.7	82.1	82.1	SD	81.6
		250 TPH Blower feed water pump	86.2	86.3	86.7	86.8	SD	85.3
		Office and Control Room	63.1	61	61.2	61.7	59.3	58.9
10	DRI	KILN NO-1						
		Near Cooling tower area	SD	SD	SD	79.7	79.6	80.3
		Near De-dusting 01 ID Fan	85.1	SD	85.8	85.6	86.1	85.9
		Near 1& 2 control room office	58.8	58.5	59.4	58.5	58.4	57.2
		Near Cooler area	SD	SD	SD	80.1	79.2	80.7
		Near Lobe Compressor room	SD	SD	SD	84.5	85.5	85.5
		KILN NO-2						
		Near Cooling tower area	80.1	SD	80	SD	78.7	78.7
		Near Cooler area	80	SD	80.2	SD	79.3	80.1
		Near Lobe Compressor room	84.8	SD	85	SD	83.6	83.2
		KILN NO-3						
		Near Cooling tower area	79.8	80.1	80.3	79.3	80	79.6
		Near De-dusting 02 ID Fan	86.7	85.8	85.4	85.6	86.8	86.2
		Near 3& 4control room office	60.4	61.1	61.5	61.2	57.8	58.4
		Near Cooler area	80.1	80	78.5	80.4	80.6	80.7
		Near Lobe Compressor room	84	86.2	83.8	84.1	84.1	82.5
		KILN NO-4						
		Near Cooling tower area	SD	78.2	81.4	80.2	80.4	SD
		Near Cooler area	SD	79.5	81.3	79.9	79.8	SD
		Near Lobe Compressor room	SD	82.6	84.8	83.7	83.7	SD
		KILN NO-5						
		Near Cooling tower area	81.6	81.4	79.5	81.1	80.6	81.5
		Near De-dusting 03 ID Fan	86.2	86.8	86.8	86.2	85.9	85.7
		Near 5& 6 control room office	59.1	69.3	60.5	60.2	59.7	58.5
		Near Cooler area	79.2	80.7	80.06	80.4	79.5	80.7
		Near Lobe Compressor room	83.7	84.6	83.5	84.1	83.3	82.4
		KILN NO-6						
		Near Cooling tower area	78.7	81.5	80.2	SD	SD	80
		Near Cooler area	79.5	80.4	79.8	SD	SD	80.2
		Near Lobe Compressor room	84.1	84.3	86.2	SD	SD	83.5
		KILN NO-7						
		Near Cooling tower area	80.4	79.6	SD	SD	81.5	79.5
		Near De-dusting 04 ID Fan	85.5	85.4	85.4	85.1	85.7	85.8
		Near 7& 8 control room office	57.5	59.3	59.3	65.6	58.1	57.6
		Near Cooler area	81.2	80.5	SD	SD	78.4	79.1
		Near Lobe Compressor room	85	85.7	SD	SD	83.1	83.5
		KILN NO-8						
		Near Cooling tower area	80.3	78.5	79.7	80.2	80.5	79.1

Noise Monitoring Report
Environment Management Laboratory
TATA Steel Limited Meramandali, Odisha
Reporting Period: April'2025-Sep'2025

		Near Cooler area	80.1	80	80.1	80.3	81.4	79.8
		Near Lobe Compressor room	84.9	85.3	84.1	83	82.1	84.8
		KILN NO-9						
		Near Cooling tower area	78.5	79.7	81.1	80.5	SD	SD
		Near 9&10 control room office	59.3	59	62.7	61.7	57.4	57.8
		Near Cooler area	79.6	81.7	79.2	79.8	SD	SD
		Near Lobe Compressor room	84.2	85	84.8	82.7	SD	SD
		KILN NO-10						
		Near Cooling tower area	81.2	81.6	78.8	80	80.9	80.7
		Near De-dusting 05 ID Fan	86.5	85	86.5	85.2	85.6	85.2
		Near Cooler area	80.1	80.8	79.2	79.8	80.7	80.4
		Near Lobe Compressor room	81.7	81	80.1	79.4	80	80.6
11	110 MW Power Plant	Boiler-01						
		ID Fan	SD	SD	SD	82.2	81.7	81.7
		Near Boiler area	SD	SD	SD	84.3	83.8	84.8
		Boiler-02						
		ID Fan	SD	SD	81.3	81.3	81.6	SD
		Near Boiler area	SD	SD	82.8	82.5	82.5	SD
		Boiler-03						
		ID Fan	80.4	81.6	81.7	82	82.3	81.5
		Near Boiler area	82.5	82.4	81.2	82.4	81.6	81.8
		Boiler-04						
		ID Fan	82.1	80.6	SD	81.8	84.2	SD
		Near Boiler area	81.6	81.7	SD	84	83.2	SD
		Boiler-5						
		ID Fan	85.2	85.4	85.7	SD	85.4	85.4
		Near Boiler area	82.3	81.1	82.2	SD	83	81.3
		Boiler-6						
		ID Fan	84.8	84.9	84.5	SD	SD	85.8
		Near Boiler area	81.7	80.8	83.2	SD	SD	80.2
		Boiler-7						
		ID Fan	85.1	85.1	85.1	SD	86.1	83.8
		Near Boiler area	83.4	81.5	81.7	SD	81.3	81.1
		Boiler-8						
		ID Fan	84.8	86.4	85.4	84.9	84.8	84.8
		Near Boiler area	81	80.2	82.6	82.8	80.4	80
		Boiler-9						
		ID Fan	SD	84.5	85.3	85.1	SD	84.9
		Near Boiler area	SD	80	80.2	83.3	SD	83.1
		Boiler-10						
		ID Fan	SD	85	85.7	85.2	SD	84.2
		Near Boiler area	SD	80.5	81.6	82.6	SD	79.8
		AFBC Boiler Area	SD	SD	SD	SD	SD	SD
		Near 33 TG MW	SD	85.5	SD	SD	SD	85.3
		Near 77 TG MW	85.8	SD	85.7	86.2	86.2	86.7
12	BF-1 Cast House	Near Bag House Motor I D fan-1	85.1	85.1	84.8	84.2	85.2	85.1
		Near Bag House Motor I D fan-2	SD	84.7	85.1	85.8	85.4	85.5
		Near Bag House Motor I D fan-3	84.8	SD	84.5	84.7	84.8	84.7
		Near Bag House Motor I D fan-4	84.2	84.6	84.8	85.1	SD	84.8
		Near secondary Cooling tower area	80.1	81.2	81.3	80.2	81.1	81.6
		Near Main Pump House Building area	85.1	86.3	86.8	86.4	87	86.8
		Near PCI building	88.5	SD	87.2	86.5	86.2	SD

Annexure-XIX

Noise Monitoring Report

Environment Management Laboratory

TATA Steel Limited Meramandali, Odisha

Reporting Period: April'2025-Sep'2025

		Near B F-1 Furnace	80.2	80	80.4	80	80.1	80.2
13	BF-1 Stock House	Near Bag House Motor I D fan-1	84.6	84.3	84.9	SD	84.3	SD
		Near Bag House Motor I D fan-2	SD	SD	SD	84.8	SD	84.9
		BF-1 Office	58.9	58.3	58.2	58.8	57.5	59.3
		Near Fines building Area	81.7	82.5	82.3	82	81.6	80.2
14	*CRM*	Near CRM Mill Complex Area	81.7	81.6	81.1	81.5	82.4	80.5
		Near Fire water pump house area	84.8	85.1	85.3	83.4	85.4	85.2
		Near T.L.L	85.2	87.3	86.7	87.5	SD	86.8
		Near A.R.P building	85.1	85.3	85.6	SD	85.8	84.7
		Near Air Receiver Tank area	92.1	91.5	91.5	91.3	89.5	91.6
		Near ETP area	82.7	81.7	82.2	81.6	82.6	82.2
		Near GP-1 Zinc Pot	SD	SD	SD	SD	SD	SD
		Near GP-2 Zinc Pot	86.1	85.9	87.8	86.3	SD	85.4
		Near GP-3 Zinc Pot	85.5	85.3	87.1	SD	86.2	86.3
		Colour Coating Line	85.8	82.9	84.2	84	84.9	85.1
		Mill-1	86.2	86.7	86.9	87.5	86.1	86.2
		Mill-2	86.7	85.8	87.5	86.5	85.3	85.8
		Mill-3	84.8	86.5	85.8	84.9	SD	85.7
		CRM Plant Office	58.8	60.2	59.5	58.7	59.8	59.3
		ECL	85.1	SD	84.1	88.4	87.4	83.7
		CRCA	84.9	85.1	83.8	85.1	85.9	84
		SPM	83.5	89.3	84.6	84.1	84.7	82.7
		RGM	80.1	82.1	81	81.2	80.8	81.6
15	Sinter Plant-1	Near Main ID fan-1	91.7	91.6	90.5	90.6	90.1	90.3
		Near Cooler fan area 1	83.3	83.5	84.8	82.3	83.6	82.5
		Near Cooler fan area 2	82.6	83.8	83.9	81.7	82.5	81.7
		Near Cooler fan area 3	82.7	84.6	83.1	82.1	82.3	81.8
		Near Cooler fan area 4	84.8	84.7	84.9	84.8	84.8	83.3
		Near 85m2 ESP ID Fan	85.1	85.6	85.2	84.9	85.1	84.8
		Near 110m2 ESP ID fan	86.2	85.8	86.1	85.4	85.3	85.4
		Near Pump House Building area	81.5	80.4	80.2	80.2	81.2	80.5
		Near bag filter ID fan	86.8	85.1	85.5	86.7	85.8	86.2
		Product Screen	85.5	86.8	87	87.8	87.4	87
		Flux and Coke Crushing House	80.4	82.1	80	80.2	80.2	80.4
		Sinter Machine 15 mtr	86.8	84.7	86.3	85.1	85.8	85.5
		9 m office room	59.2	61	58.9	66.9	61.5	59.3
		15 m office	61.3	59.2	60.5	67.8	60.1	60.7
		19 m office	59.5	60.1	61.1	64.7	59.4	59.3
		Store area	80.1	80.3	60.8	61.3	78.5	80
		Electrical office	60.4	59.1	58.4	58.3	58.8	57.8
		Proportioning Building	80	79.8	79	79.3	80.6	79.3
		Mixing House	79.7	80.5	79.6	79.3	79.2	82.5
		Sinter machine 19 mtr	86.2	82.1	84.8	84.8	84.2	84.8
16	Coke Oven-1	Near Stone Cutter Building area	83.5	82.1	82.1	83.6	83.3	82.7
		Near M.H.S I.D fan	SD	SD	84.3	SD	SD	84.9
		Near Coal Pushing & Charging I D Fan Area	SD	SD	SD	SD	SD	SD
		Near Battery-1 area	80.8	80.2	80.5	80.1	80.4	80.7
		Near Battery-2 area	81.4	80.5	80.2	80.4	80.1	80.1
		Control room office	58.5	63.2	59.3	61.2	58.2	59.5
		Laboratory	58.4	61.4	58.7	59.1	59	59.1
17	Sinter Plant-02	Near Main ESP ID	83	84.1	82.5	83.4	83.7	84.4

Annexure-XIX

Noise Monitoring Report
Environment Management Laboratory
TATA Steel Limited Meramandali, Odisha
Reporting Period: April'2025-Sep'2025

		Near PD ESP ID fan	81.5	82.8	80.6	81.6	81.6	82.5
		Near Cooler fan -1	83.4	83.6	83.8	83.7	83.6	83.2
		Near Cooler fan -2	82.5	83.7	83.9	83.8	82.8	83.4
		Near Cooler fan -3	82.8	84.2	82.8	85.2	81.2	84.1
		Control Room Area	59.8	60	58.8	59.3	58.6	58.5
		ESP Area	81.2	81.5	81.5	80.7	80.2	81.2
		Near M. N. D Area	81.3	80.2	80.3	80.4	81.5	80.3
18	Sinter Plant-03	Near Main ESP ID fan	84.8	84.8	84.9	83.5	84.8	83.5
		Near PD ESP ID fan	82.1	83.8	82.1	82.5	81.4	81.6
		Near Cooler fan -1	83.8	85.2	84.5	84.9	84.8	84.9
		Near Cooler fan -2	85.4	85.1	85.5	85.7	84.5	85.3
		Near Cooler fan -3	85.3	84.6	85.3	85	85.1	85.4
		SP2,3RCPHTPM circle	91	89.3	91.4	89.7	90.4	90.7
		ESP Area	81.7	79.8	81	80.1	80.4	81.7
		Pumphouse Area	82	81.2	81.1	80	81.7	81.6
		Near M. N. D Area	80.2	81.2	80.5	80.2	81.6	80.1
		Control Room Area	59.7	59.4	61.2	58.6	58.5	59.3
		Infront of Entrance of DG 250 KVA SP2&SP3 (Door Close Condition)	82.5	83.3	82.6	82.5	82.8	82.6
19	BOF Shop	Near Secondary ID fan 1	SD	91.5	91.7	89.2	88.8	SD
		Near Secondary ID fan 2	89.7	91.8	91.5	91.3	SD	89.9
		Near Secondary ID fan area 3	90.2	SD	91.8	91.8	92.2	89.8
		Near Secondary ID fan area-4	89.4	91	SD	91.4	91.3	90.1
		Near Cooling Tower area	82.4	81.2	84.1	83.5	82.7	84.9
		Near Primary/ Secondary ID fan area-1/2	81.1	80.9	82.7	82.2	82.4	80.3
		BOF Briquetting plant	83.6	83.7	81.5	81.7	80.7	81.1
		Bag House T44B ID fan	84.3	SD	SD	SD	SD	84.2
		BOF office area	60.5	63.5	58.4	59.4	60.3	60.3
		Near Wage bridge area	82.2	79.4	80.2	81.2	79.2	81.7
20	SMS-2-FES-1&2	Near Motor ID fan area-2area	91	88.6	88.7	88.7	88.8	SD
		Near Motor ID fan area-3area	90.8	89.4	88.4	87.5	87.1	87.3
		Near Motor ID fan area-4 area	90.7	90.1	87.5	87.2	88.5	87.6
		Near Motor ID fan area-6 area	91.2	89.2	87.9	86.4	85.2	89
		Booster House (ID Fan)	84.1	84.3	83.8	83.3	83.1	84.5
		Near Control room Area	58.4	58.2	59.5	58.7	59.2	57.3
21	HSM	Near COG Fan Area	84.6	83.6	82.7	83.6	83.5	83
		Near RHF Office area (Pulpit)	81.6	63.1	64.1	59.4	81.2	58.8
		Near RM-2 area	85.7	85.1	85.4	89.2	87.8	87.6
		Near Roll Shop area	80.5	80.4	80.8	80.3	80.4	81.3
		Near HSM Quality Lab area	59.3	59.5	59.9	59.7	61.5	58.1
		Near B F G Motor fan RHF area	82.1	83	83.2	81.5	80.1	82.5
		Near Combustion air blower - 1	86.2	85.6	85.9	85.8	86.1	85.3
		Near Combustion air blower- 2	86.8	85.8	86.1	87.9	84.8	85
		DC pulpit office area	62.1	60.3	60.8	60.3	59.3	58.5
		Near RM-1 area	87.5	84.2	84.7	88.8	86	86.8
		FM area	85	84.8	85.1	89.2	85.8	85.3
		Laminar area	85.1	85	85.7	87.9	84.2	84.8
		Near DC sampling Station	83.7	83.1	84.3	83.6	83.8	84.1
		Near Re-heating Furness area	82.7	81.5	81.8	81.4	81.7	81.7
22	Coke Oven-2	Near Exhauster house area	86.3	86.8	85.8	86.3	86.5	86.1

Annexure-XIX

Noise Monitoring Report

Environment Management Laboratory

TATA Steel Limited Meramandali, Odisha

Reporting Period: April'2025-Sep'2025

		Near Chemical Dosing E.T.P room area	80.6	80.6	80	80.2	80.3	81.4
		Near Pusher car Emission control system ID Fan	81.2	82	81.4	80.7	81.6	81.7
		Near Guide car emission I D Fan	81.3	82.5	81.1	80.1	80.4	80.5
		Near Water pumphouse area	86.8	87.2	85.3	85.8	85.8	85.5
		Near Battery cellar ventilation blower	SD	SD	SD	SD	SD	SD
		Near Battery coke oven gas de-graphitizing blower	SD	SD	SD	SD	SD	SD
		Pushing emission control system ID fan	82.4	81.3	80.3	81.5	81.5	81.3
		Control Room Office	58.9	58.7	58.5	58.8	58.4	58.1
23	BFPP-2 Boiler-2	Near I.D. fan-1	83.2	81.6	82.5	82.4	SD	82.2
		Near I.D. fan-2	82.5	82.3	82.1	82.1	SD	82.3
		Near P.A. fan	90.4	89.1	90.5	91.5	SD	90
		Near S.A. fan	90.6	89.8	90.1	91.2	SD	89.3
		Near Boiler -2 area	85.8	84.5	83.5	84.1	SD	84.3
		Near cooling tower-area	85.3	84.4	84.8	84.8	84.8	84.7
24	BFPP-2 Boiler-3	Near I.D. fan-1	SD	SD	81.3	81.3	82.7	SD
		Near I.D. fan-2	SD	SD	82	81.5	82.2	SD
		Near P.A. fan	SD	SD	91	90.5	90.2	SD
		Near S.A. fan	SD	SD	90.2	90.7	90.1	SD
		Near TG floor	87.8	86.7	85.4	85.8	85.3	85.8
		Near Blower	86.2	87.1	85.8	85.1	87	86.4
		Control room	61.7	60.2	61.2	60.7	58.8	59.2
		Near Boiler -3 area	SD	SD	84.2	85.1	84.8	SD
25	Oxygen Plant-02	Near Nitrogen compressor House-1	106.3	105.1	105.3	91.7	104.6	105.2
		Near Nitrogen compressor House-2	107.2	SD	106.2	91.2	105.9	105.3
		Near Nitrogen compressor House-3	107.6	SD	106.8	90.6	106.1	SD
		Near Air compressor House area-1	109.2	109.3	96.7	90.5	108.5	106.1
		Near Control room office out side area	93.2	92.6	92.4	89.6	95	92.1
		Control Room Office	62.1	62	61.3	59.3	60.5	58.8
		Near A/ C Package room area	82.4	82.3	82.7	81.7	84.2	81.5
		Near Argon cold box area	81.8	81.2	80.5	80.4	82.4	80.7
		Near cooling tower	80.1	81.4	81	80.5	81.9	80.3
		Near 340 TPD new compressor House exit	83.8	104.5	83.5	SD	90.8	100.1
		Near 340 TPD new compressor House Entrance	82.3	83.8	84.6	81.8	89.2	101.3
		Near 1120 TPD air compressor house	84.9	87.5	88.6	90	93.5	86.3
		Pump House area	85	85.7	85.1	85.1	85.6	85.5
		Near Turbine-1 area	84.8	85.9	84.8	84.4	84.7	84.9
26	BB Plant	Near BB Plant Bunker ID fan-1	81.5	83.1	81.5	81.6	82.5	81.4
		Near BB Plant flux building ID fan-2	SD	84.2	82	82.9	83.1	82.8
		Near BB Plant crushing & screening building	80.5	82.7	81.6	83.1	81.7	81.2
		Near BB Plant coke screening building	80	SD	80.4	79.5	80.5	80.7
		Near BB Plant compressor house 1 &2	SD	SD	SD	SD	SD	SD
		BB Plant Office	58.6	58.9	58.8	59.1	58.2	58.4
27	RMPP	Near CSB-1 I D Fan	82.4	82.2	81.3	SD	SD	SD
		Near CSB-2 I D Fan	85.3	84.9	83.3	84.8	SD	SD

Annexure-XIX

Noise Monitoring Report
Environment Management Laboratory
TATA Steel Limited Meramandali, Odisha
Reporting Period: April'2025-Sep'2025

		Near BB plant site office	80.7	79.4	80.2	80.5	80.1	79.7
		Near P.C.S building	82.5	81.1	82.2	81.1	82.6	80
		Near T.C.S building	80.4	81.2	80.9	82.1	81.4	80.4
		Near S.C.S building	80	80.3	80.6	81.2	80.8	81
		Control Room Office	58.8	59.2	60.3	57.4	57.5	58.8
		Near Pumphouse Area	81.1	81.5	80.9	80.4	81.9	80.1
		Near O.P.S building	83.1	80.1	80.5	80.1	82.6	80.3
		Near O.S.C building	82.7	81.6	82.9	80.7	80.7	81.3
		Near O.T.C building	84.5	83.5	82.9	83.6	83.3	82.3
28	Coal Washary	Hammer Building Area	80.5	82.2	83.6	82.1	81.4	80.2
		Screening Building	80.2	80.6	80.6	78.6	80.5	80.5
		Power Plant Feeding Silo	84.7	84.4	82.4	83.8	84.8	84.1
		Lab & Office Area	59.1	58.7	59.1	58.8	58.3	58
29	RMHS	Yard No-1 to 4	80.6	79.4	78.4	80.1	79.6	79.8
		Yard No-5 to 6	80	80	79.9	79	78.5	80
		Near 3 EP-2 RMHS-III Electrical Building	68.8	60.2	60.3	59.3	58.4	68.2
		RMHS Office	59	58.5	58.4	58.9	58.1	58.4
		Wagon Tippler -1	80.5	81.3	81.5	SD	SD	81.7
		Wagon Tippler -4	SD	SD	81.7	SD	SD	82.5
		Wagon Tippler -3	SD	SD	82.1	80.3	SD	SD
		Wagon Tippler -2	79.2	80.1	81	81	81.2	SD
		Tunnel area	83.7	83.6	83.3	82.7	82.5	83.7
		RMHS-2 offline crusher Screen area	SD	SD	84.8	SD	SD	SD
		RMHS-2 offline crusher area	SD	SD	81.5	SD	SD	SD
30	CCH 2	Entrance of air compressor house gate 1	82.3	83.5	80.6	83.9	81.5	83.8
		Entrance of air compressor gate 2	82.8	82.3	81.8	82.3	82.4	80.5
		Inside store cum rest house	80.8	75.6	79.2	80.2	80.2	80.1
		Inside compressor house	88.5	92.6	92.4	92.8	90.7	90.1
		Near air compressor	92.3	102.5	97.8	95.5	95.5	92.8
		Inside office area	59.4	59.8	59.3	61.4	59.7	61.3
		Inside compressor operator cabin	80.1	70.3	81.2	80.4	80	80
31	BFPP2 ash conveying compressor house	Entrance of air compressor house	82.6	82.1	81.2	82.6	82.4	81.6
		Inside compressor house	85.2	84.9	84.8	84.1	84.7	84.7
		Near air compressor	86.5	86.2	85.1	85.2	85.8	85.3
32	IBMD	Crusher Tata office (container)	58.2	57.5	58.3	58.5	56.1	57.1
		Entrance of Weigh Bridge	79.4	80.7	81.2	78.8	80.4	69.5
		Scraped Yard	80	81.2	81.4	80	81.5	80.3
		New Sarpa MRP-II (Operator Cabin)	57.3	58.1	57.8	56.3	55.2	57.3
		New MRP Screen-II-New MRP	SD	SD	SD	SD	SD	SD
		New MRP Screen-I-New MRP	SD	SD	SD	SD	SD	SD
		New MRP-Loading Point Area	SD	SD	SD	SD	SD	SD
		Office & Operator Cabin (Old MRP)	60.1	59.3	60	57.8	57.3	56.3
		Old MRP Screen-I&II-New MRP	80.7	81.4	80.5	79.6	80.2	80.5
		Old MRP Screen-III-New MRP	81	80.5	80.1	80.2	80.5	80.1
		Old MRP-Loading Point	81.2	81.3	81.4	80.3	81.3	81.7

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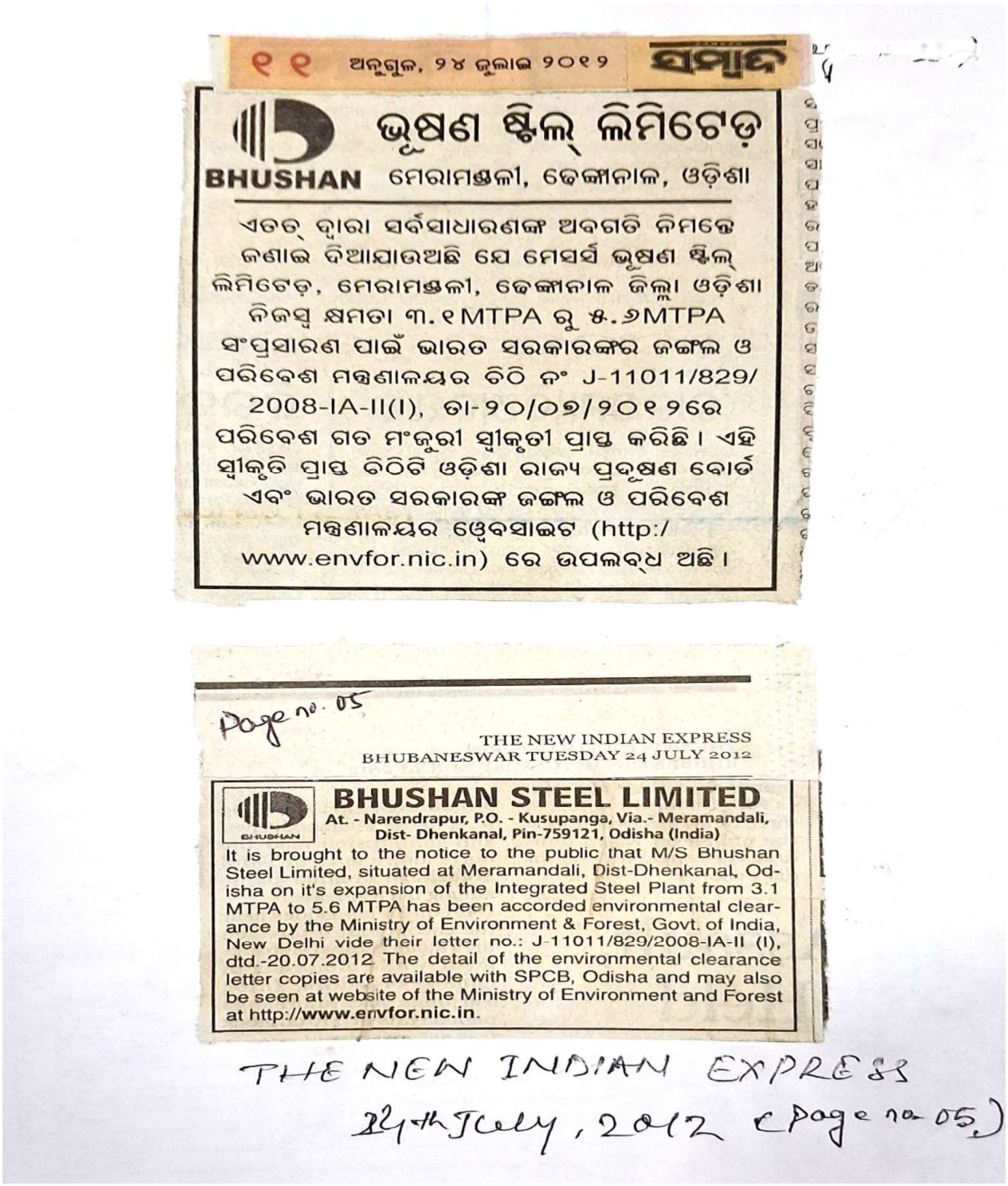
Annexure-XX

Newspaper Advertisement Clips of Accorded ECs



୧୧ ଅନୁଗୁଳ, ୨୪ ଜୁଲାଇ ୨୦୧୨ ସମ୍ବାଦ

ଭୂଷଣ ଷ୍ଟିଲ୍ ଲିମିଟେଡ୍

BHUSHAN ମେରାମଣ୍ଡଳୀ, ଢେଙ୍କାନାଳ, ଓଡ଼ିଶା

ଏତଦ୍ ଦ୍ୱାରା ସର୍ବସାଧାରଣଙ୍କ ଅବଗତି ନିମନ୍ତେ ଜଣାଇ ଦିଆଯାଉଅଛି ଯେ ମେସର୍ସ ଭୂଷଣ ଷ୍ଟିଲ୍ ଲିମିଟେଡ୍, ମେରାମଣ୍ଡଳୀ, ଢେଙ୍କାନାଳ ଜିଲ୍ଲା ଓଡ଼ିଶା ନିଜସ୍ୱ କ୍ଷମତା ୩.୧MTPA ରୁ ୫.୬MTPA ସଂପ୍ରସାରଣ ପାଇଁ ଭାରତ ସରକାରଙ୍କର ଜଙ୍ଗଲ ଓ ପରିବେଶ ମନ୍ତ୍ରଣାଳୟର ଚିଠି ନଂ J-11011/829/2008-IA-II(I), ତା-୨୦/୦୭/୨୦୧୨ରେ ପରିବେଶ ଗତ ମଂଜୁରୀ ସ୍ୱୀକୃତୀ ପ୍ରାପ୍ତ କରିଛି। ଏହି ସ୍ୱୀକୃତି ପ୍ରାପ୍ତ ଚିଠିଟି ଓଡ଼ିଶା ରାଜ୍ୟ ପ୍ରଦୂଷଣ ବୋର୍ଡ ଏବଂ ଭାରତ ସରକାରଙ୍କ ଜଙ୍ଗଲ ଓ ପରିବେଶ ମନ୍ତ୍ରଣାଳୟର ଓ୍ୱେବସାଇଟ (http:/www.envfor.nic.in) ରେ ଉପଲବ୍ଧ ଅଛି।

Page no. 05

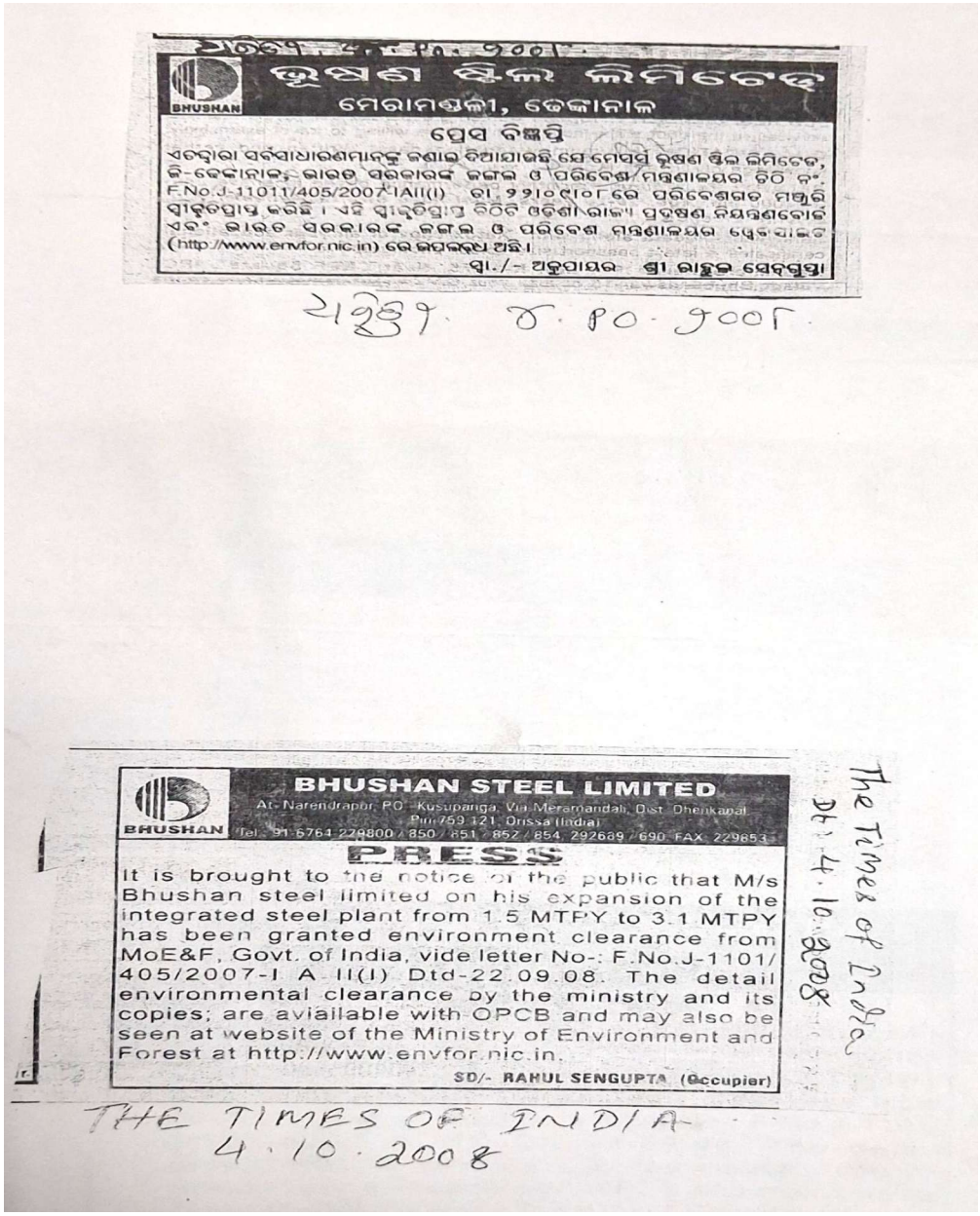
THE NEW INDIAN EXPRESS
BHUBANESWAR TUESDAY 24 JULY 2012

BHUSHAN STEEL LIMITED
At. - Narendrapur, P.O. - Kusupanga, Via.- Meramandali,
Dist- Dhenkanal, Pin-759121, Odisha (India)

It is brought to the notice to the public that M/S Bhushan Steel Limited, situated at Meramandali, Dist-Dhenkanal, Odisha on it's expansion of the Integrated Steel Plant from 3.1 MTPA to 5.6 MTPA has been accorded environmental clearance by the Ministry of Environment & Forest, Govt. of India, New Delhi vide their letter no.: J-11011/829/2008-IA-II (I), dtd.-20.07.2012 The detail of the environmental clearance letter copies are available with SPCB, Odisha and may also be seen at website of the Ministry of Environment and Forest at http://www.envfor.nic.in.

THE NEW INDIAN EXPRESS
24th July, 2012 (Page no. 05)

(Accorded EC from 3.1MTPA to 5.6MTPA)



ଭୂଷଣ ଷ୍ଟିଲ ଲିମିଟେଡ୍
ମେରାମଣ୍ଡଳୀ, ଢେଙ୍କାନାଳ

ପ୍ରେସ ବିଜ୍ଞପ୍ତି

ଏତଦ୍ଦ୍ୱାରା ସର୍ବସାଧାରଣଙ୍କୁ ଜଣାଇ ଦିଆଯାଉଛି ଯେ ମେସର୍ସ ଭୂଷଣ ଷ୍ଟିଲ ଲିମିଟେଡ, ଢି-ଢେଙ୍କାନାଳ, ଭାରତ ସରକାରଙ୍କ ଜଙ୍ଗଲ ଓ ପରିବେଶ/ମନ୍ତ୍ରଣାଳୟର ଚିଠି ନଂ. F.No.J-11011/405/2007-IAII(I) ତା. ୨୨।୦୯।୦୮ ରେ ପରିବେଶଗତ ମଞ୍ଜୁରି ପ୍ରାପ୍ତ ହୋଇଛି । ଏହି ପ୍ରାପ୍ତିପତ୍ର ଚିଠି ଓଡିଶା ରାଜ୍ୟ ପ୍ରଦୂଷଣ ନିୟନ୍ତ୍ରଣବୋର୍ଡ ଏବଂ ଭାରତ ସରକାରଙ୍କ ଜଙ୍ଗଲ ଓ ପରିବେଶ ମନ୍ତ୍ରଣାଳୟର ୱେବ୍ ସାଇଟ (http://www.envfor.nic.in) ରେ ଉପଲବ୍ଧ ଅଛି ।

ସ୍ୱା./- ଅନୁପାୟକ ଶ୍ରୀ ରାହୁଲ ସେନ୍‌ଗୁପ୍ତା

ସମୟ ୪.୧୦.୨୦୦୮

BHUSHAN STEEL LIMITED

At- Narendrapur, PO- Kusupanga, Via-Meramandali, Dist- Dhenkanal, Pin-759 121, Orissa (India)
Tel. 91-6764-229800 / 850 / 851 / 852 / 854, 292689 / 690 FAX 229853

PRESS

It is brought to the notice of the public that M/s Bhushan steel limited on his expansion of the integrated steel plant from 1.5 MTPY to 3.1 MTPY has been granted environment clearance from MoE&F, Govt. of India, vide letter No-: F.No.J-1101/405/2007-I A II(I) Dtd-22.09.08. The detail environmental clearance by the ministry and its copies; are aviallable with OPCB and may also be seen at website of the Ministry of Environment and Forest at http://www.envfor.nic.in.

SD/- RAHUL SENGUPTA (Occupier)

The Times of India
Dt: 4.10.2008

THE TIMES OF INDIA
4.10.2008

(Accorded EC from 1.5MTPA to 3.1MTPA)