TSM-CPP/MoEF&CC/TS-01/2026-07/218
May 29, 2026

The Member Secretary
State Level Environmental Impact Assessment Authority,
5RF-2/1, Unit-IX
Bhubaneswar-751022

Subject: Submission of half yearly EC compliance reports for setting up of 2x150 MW coal based TPP at M/s. Tata Steel Limited-TSM-CPP (formerly known as Angul Energy Limited), Odisha for the period from October' 2025 to March' 2026.

Reference: EC vide letter No. SEIAA/35; dated: 12.12.2009.

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 for setting up of 2x150 MW coal based thermal power plant at Tata Steel Limited-TSM-CPP(formerly known as Angul Energy Limited), Odisha for the period from October' 2025 to March' 2026 along with monitoring reports for your kind perusal.

The soft copies of the aforesaid compliance report are also being sent through mail to roez.bsr-mef@nic.in & seiaaodisha@gmail.com for your kind information and necessary record please. Also copy of EC compliance is being uploaded on MoEF&CC web site on portal http://environmentalclearance.nic.in.

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

Thanking you
Yours faithfully,
For TSM-CPP

Sanjeeb Kumar Pal
(Head Environment, TSM)

Encl: As above

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. The Regional Officer, State Pollution Control Board, Angul, Odisha.

SL	STIPULATED CONDITIONS	COMPLIANCE STATUS
01	The applicant (project proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including solid waste management as mentioned in Form-I, final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.	**Complied** Adequate pollution control measures had taken for the prevention and mitigation of air pollution, water pollution, noise pollution and land pollution including solid waste management. The details are as follows: **Air Pollution Control measures:** • Electrostatic precipitators (ESPs) have been installed in all CFBC boilers. The existing TR set was replaced with a Kraft make micropulse TR set in one of the boilers to reduce stack emissions. • A pneumatic ash conveying system has been installed, followed by two intermediate silos and four main silos of adequate capacity. • Two vent filters have been provided at the intermediate silo and four vent filters at the main silo. • Mechanical road sweeping machines are being deployed to keep the roads and shop floor areas neat and clean. • wheel washing system has been installed to prevent fugitive dust emissions during the movement of fly ash vehicles. • Dust suppression system has also been installed to control fugitive dust emissions during coal handling. **Water Pollution Control measures:** • A Sewage Treatment Plant with a capacity of 3000 KLD has been installed for the treatment of domestic sewage. The treated STP water is used for dust suppression and irrigation of green areas. • The water quality parameters are well within the limit as per the prescribed standard.

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		Noise Pollution Control measures: • Enclosures and silencers have been provided for the primary and secondary air fans of all four boilers. • Proper greenbelt has been designed to act as a noise barrier. **Solid Waste Management:** • Dry collection and disposal system have adopted for fly ash management. • Fly ash is stored in an ash silo and is supplied to end users through covered trucks, bulkers, or rakes to avoid fugitive emissions during transportation. • 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 & NH 149). • The remaining fly ash is utilized for the reclamation of low-lying areas and abandoned stone quarries, following the guidelines of the Central Pollution Control Board (CPCB) and the Odisha State Pollution Control Board (OSPCB) after obtaining the necessary consents. • An interim ash pond is in operation to store and manage ash in case of an emergency until final disposal.
02	The applicant will take necessary steps for socio-economic development of the people of the area Primary Socio Economic Survey of the core area on need based assessment for providing employment, education, health care, drinking water, sanitation, road and communication facilities etc. A detailed report is to be submitted to the proposal to SEIAA on 1st June & 1st December of each calendar year.	**Complied** • Various socio-economic development programs are being undertaken in nearby villages based on a need assessment survey. These programs encompass the provision of educational facilities, such as the Green School Project in collaboration with TERI, as well as road construction and repair. Additionally, initiatives include the provision of safe drinking water, sanitation facilities, sports, and healthcare services. These efforts represent a combination of social engineering and infrastructure projects aimed at improving the overall quality of life in the communities served.

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03	The applicant will comply with the points concerned and issues raised by the people during public hearing on 4th February, 2009 in accordance with the commitments made.	**Completed** • Issues raised during public hearing were mainly related to drinking water, wastewater management, employment and peripheral development which had already been complied.
04	The applicant will take statutory clearance / approval / permissions from the concerned authorities in respect of the project as and when required.	**Complied** • All the statutory approvals like environment clearance, consent to establish, consent to operate and authorization for hazardous waste Authorization was obtained and are being renewed from time to time.
05	For post environmental clearance monitoring, the applicant will submit half yearly compliance report in respect of the stipulated terms and conditions of this Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Orissa on 1st June and 1st December of each calendar year.	**Complied** • Half-yearly environmental compliance report is being submitted to SEIAA, MOEF&CC, CPCB and SPCB, Odisha at stipulated intervals. • The last half yearly compliance report was submitted vide letter no. TSM-CPP/SEIAA/TS-01/2024-05/168 dated 27.11.2024
06	High efficiency Electrostatic Precipitators (ESP's) shall be installed to ensure that particulate emission does not exceed 50 mg / Nm^3.	**Complied** • Four Electrostatic Precipitators (ESPs) with 99.97 % efficiency have installed to meet the emission level below 50 mg/Nm3.
07	The proponent shall treat the flue gas through Flue Gas De-sulphurization (FGD), if SO_2 emission levels exceed the prescribed norm.	**Complied** • CFBC (Circulating Fluidized Bed Combustion) coal-fired boiler has been installed, and to control SO_2 emissions, lime is being fed along with the coal. Adequate space has been provided for the installation of a lime injection system, and a lime sizing plant is currently under construction to supply sized lime for the effective reduction of SO_2 emissions.
08	Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	**Complied** • Dust extraction systems and dust suppression measures are actively implemented at ash silos and coal handling areas. • Wheel washing systems is in operation to prevent fugitive dust emissions during the movement of fly ash vehicles.
09	Fly ash shall be collected in dry form and storage facility (silos) shall be provided.	• Ash is being collected in dry form in the ash silo.

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	100% fly ash utilization shall be ensured as per fly as notification of MoEF, Govt. of India. Unutilized fly ash and bottom ash shall be stored in the ash pond separately through high concentration slurry disposal method. Mercury levels along with other heavy metals (Pb, Cr, As etc.) should be monitored in the fly ash bottom ash, leachate and effluents emanating from the ash pond.	• Four silos with a capacity of 1,000 MT each and two intermediate silos with a capacity of 250 MT each have been installed. • 100 % ash utilization is being ensured as per fly ash notification of MoEF&CC, Govt. of India. • Leachate characteristics of ash is being carried out at regular interval. Latest analysis was carried out by M/s. Visiontek Consultancy PVT. LTD., which shows leachate characteristics data is well within the USEPA standards. The report is enclosed as **Annexure -I**. • Annual implementation report w.r.t. fly ash generation and utilization is being submitted periodically. The last report was submitted vide letter no. TSM-CPP/SPCB/TS-06/2026-01/214 dated 15.04.2026.

10	The ash pond should be constructed with impervious lining and ash pond embankment should be stone pitched.	**Complied**
		• Fly ash has been stored in ash silo and is being supplied to actual user through covered trucks/bulker/rake to avoid any fugitive emission due to transportation.
		• Fly ash is being supplied to
		  ○ nearby fly ash brick manufacturing units, free of cost, for maximum utilization of ash.
		  ○ Cement plants through rake & bulker.
		  ○ Construction of national highway.
		  ○ Balance ash is being used for reclamation of low-lying areas & abandoned stone quarries as per guidelines of CPCB/OSPCB after grant of necessary Consents.
		• An interim ash pond is currently in operation to Store and manage ash in case of emergencies to ensure proper handling until final disposal can be arranged.

11	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary. Arrangements shall be made so that effluents and storm water do not get mixed.	**Complied** • Wastewater is being treated in Effluent Treatment Plant. • The treated effluents, after conforming to the prescribed standards, are recycled and reused for dust suppression and irrigation of green areas.

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		• Rainwater collected from the plant area are being channelized through drains into a series of storage pond for harvesting.
12	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt / plantation	**Complied** • A sewage treatment plant with a capacity of 3000 KLD is currently in operation to treat domestic sewage. The treated water serves two primary purposes: it is reused for irrigation of green areas and for low-end applications within the plant.
13	Rainwater harvesting should be adopted. Central Groundwater Authority Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished to the SEIAA, Orissa.	**Complied** • Earthen ponds have been created to manage surface runoff. However, a detailed scientific study has recently been conducted to explore more effective methods for managing surface runoff and rainwater harvesting. As a result, site-specific rainwater harvesting structures are being constructed in a phased manner.
14	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Details of these measures to be taken along with location plant layout shall be submitted to the SEIAA, Orissa.	**Complied** • Fire Hydrants: 19 fire hydrants have been installed in coal yards 1 and 2, as well as in the coal sheds, to control spontaneous fires. • Gun Sprinklers: 26-gun sprinklers have been installed in the yards to maintain surface moisture. • Coal Piles: The coal piles are being leveled by scraping and compacted by rolling. • FIFO Principle: Coal silos/bins are operated on a "First In, First Out" (FIFO) principle to prevent spontaneous combustion. • Fire Readiness: Fire tenders are on standby 24/7 to handle any fire emergencies.
15	Storage facilities for auxiliary liquid fuel such as LDO and/HFO shall be made in the plant area where risk is minimum. On site and off site Disaster Management Plans shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modifications required, if any shall be incorporated in the Disaster Management Plan (DMP). Sulphur content in the liquid fuel will not exceed 0.5%.	**Complied** • LDO/HSD is being stored in the plant area where the risk is minimum. There is a dyke around the storage tanks to contain LDO/HSD in case of any leakage. • On- site emergency plan was prepared and approved to meet any eventuality in case of an accident takes place. • Regular mock drills are being conducted to respond to emergency situations.

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		• As per specification of the supplier, the sulfur content in the fuel is less than 0.5 % by mass.
16	Regular monitoring of ground water in and around the ash pond area shall be carried out, records maintained and half yearly reports shall be furnished to the SEIAA, Orissa.	**Complied** • Monitoring of ground water in the peripheral villages is being carried out in every quarter. The results are submitted to the SEIAA in every six months along with the half yearly compliance report. • The summarized data is enclosed as **Annexure-II.**
17	A green belt of adequate width and density preferably with local species along the periphery of the plant & alongside roads etc shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33 % of the total land area shall be under permanent green cover. The project proponent shall ensure proper maintenance of green belt throughout the year & for this purpose they may engage professionals in this field for creation and maintenance of the green belt. An action plan for this purpose shall be prepared accordingly and submitted to the SEIAA, Orissa.	**Complied** • Wherever feasible, greenery have developed in and around the plant premises using mainly native plant species. • Green belt development is under progress in and around the plant complex by planting indigenous species as per CPCB guidelines. 33 % of total plant area has been covered under green belt. • Total 7,821 nos. saplings have planted during the period from Oct'24 to March'25 both inside and outside the plant premises. Proper maintenance of green coverage is being ensured throughout the year.
18	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	• Adequate first aid and sanitation arrangements were established during the construction phase of the plant, and similar facilities are being maintained during the operational phase for employees and workers. This ensures a safe and healthy environment for all personnel involved in the project.
19	Noise levels emanating from turbines and air compressors shall be limited to 75 dB (A). For people working in the high noise area, requisite personal protective equipment's like ear plugs/earmuffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss	• Enclosures and silencers have been provided for the primary and secondary air fans of all four boilers. • Necessary personal protective equipment (PPE) is being supplied to all workers in noisy areas, and periodic examinations are conducted for those engaged in noise-prone environments. • Noise monitoring is carried out regularly in the work zone areas.

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	including shifting to non - noisy / less noisy areas.	• The summery of noise monitoring report is enclosed as **Annexure-III.**
20	Regular monitoring of ground level concentration of SO_2, NOx, SPM, RSPM and mercury shall be carried out in the impact zone and records to be maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be taken immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB, Orissa.	• Seven ambient air quality monitoring stations have been established in nearby villages in consultation with the SPCB, Odisha, to measure the monthly ground-level concentrations of PM10, SO2, and NOx. A summary of the Ambient Air Quality Report for the period from October 2024 to March 2025 is attached as **Annexure-IV.**
21	Provision shall be made for housing of construction laborers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	• Adequate arrangements for housing construction workers were made during the construction phase of the plant. These same facilities are being continued during the operational phase for both employees and workers.
22	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards. A report is to be submitted to SEIAA, Orissa.	• Environment Management Department has been established with qualified and experienced officers to implement the stipulated environmental safeguards and control pollution. Necessary details have already been submitted to the State Environment Impact Assessment Authority (SEIAA), Orissa
23	Half yearly report of the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to the appropriate authorities.	• Half yearly environmental compliance report is being submitted to SEIAA, MOEF&CC, CPCB and SPCB, Odisha. • Last compliance report has been submitted vide letter no. TSM-CPP/MoEF&CC/TS-01/2025-04/204 dated 20.11.2025.
24	Separate funds shall be allocated for implementation of pollution control measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported.	• The funds earmarked for pollution control measures are not diverted for any other activity. The details of expenditure made for controlling pollution is being submitted as ap part of annual Environment Statement. • The environment statement for each financial year ending 31st March in Form-V is being submitted regularly to the Regional

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		Office of MoEF&CC, CPCB and SPCB, Odisha.
25	The above-mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of environment protection (EP) Act, 1986.	• Compliance with the stipulated conditions is diligently pursued within a specified timeframe through a process of continual improvement.

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LIST OF ENCLOSURES

Sl. No.	Enclosures	Details
1.	Annexure -I	Leachate study report
2.	Annexure -II	Water analysis report
3.	Annexure-III	Noise monitoring report
4.	Annexure-IV	CAAQMS report

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017 Certified

Ref. no: Envlab/24-25/TR-12306 **Date: 18.11.2024**

ASH ANALYSIS REPORT

1. Name of the Indus : **M/s TATA Steel Limited Meramandali, Dhenkanal**
2. Sampling Location : **S-1**: Fly Ash collected from BFPP-1
   : **S-2:** Bed Ash collected from BFPP-1
   :S-3: Fly ash collected from AEL-165
   :S-4: Bed ash collected from ASL-165
3. Date of Sampling : 11.11.2024
4. Date of Analysis : 12.11.2024 to 18.11.2024
5. Sample Collected by : VCSPL Representative

Sl. No.	Name of the Parameters	Unit	Govt. of India, MoEF & CC Schedule-II based on leachable concentration limits (TCLP) orSoluble Threshold limit Concentration (STLC), Class A2016	Analysis Results			
				S-1	S-2	S-3	S-4
01	Arsenic as As	mg/l	5.0 mg/l	0.004	0.002	0.003	0.002
02	Barium as Ba	mg/l	100.0 mg/l	BDL	BDL	BDL	BDL
03	Cadmium as cd	mg/l	1.0 mg/l	BDL	BDL	BDL	BDL
04	Chromium as Cr	mg/l	5.0 mg/l	BDL	BDL	BDL	BDL
05	Lead as Pb	mg/l	5.0 mg/l	BDL	BDL	BDL	BDL
06	Mercury as Hg	mg/l	0.2 mg/l	BDL	BDL	BDL	BDL
07	Selenium as Se	mg/l	1.0 mg/l	0.003	0.003	0.003	0.003
08	Iron as Fe	mg/l	--	0.81	0.41	0.69	0.36
09	Nickel as Ni	mg/l	20.0 mg/l	0.22	0.16	0.24	0.17
10	Zinc as Zn	mg/l	250.0 mg/l	0.48	0.35	0.49	0.33
11	Manganese as Mn	mg/l	10.0 mg/l	0.41	0.28	0.50	0.32
12	Cobalt as Co	mg/l	80.0 mg/l	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	25.0 mg/l	0.37	0.28	0.39	0.26
14	Vanadium as V	mg/l	24.0 mg/l	BDL	BDL	BDL	BDL
15	Aluminium as Al	mg/l	--	4.7	4.3	5.3	4.8
16	Fluoride as F	mg/l	180.0 mg/l	1.79	1.31	1.89	1.36

Reviewed By: **Approved By**

Annexure-II

Summary of Surface Water Quality Analysis

(Period: From Oct. 2025 to March 2026)

PARAMETER	UOM	Brahmani US	Brahmani DS	Kishinda US	Kishinda DS	Lingra US	Lingra DS
pH Value	-	7.75	7.76	7.84	7.6	7.915	7.9
Colour	Hazen	48.5	27	22	19.5	9.5	7
Temperature	Deg C	26.9	27.1	28.3	27.45	28.6	27.65
Total Suspended Solids	mg/l	8.45	7.8	8.8	9.9	11.1	9.6
Arsenic as As	mg/l	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)	BDL(DL:0.005)
BOD, 3days at 27°C	mg/l	BDL(DL-1.0)	BDL(DL-1.0)	BDL(DL-1.0)	BDL(DL-1.0)	1.15	BDL(DL-1.0)
Boron as B	mg/l	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)
Cadmium as Cd	mg/l	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)
Conductivity	µs/cm	143	169	653	859.5	487	585
Odour	-	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
COD	mg/l	BDL(DL-4.0)	BDL(DL-4.0)	BDL(DL-4.0)	10.18	BDL(DL-4.0)	BDL(DL-4.0)
Copper (as Cu)	mg/l	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)
Sulphide as S	mg/l	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)
Fluoride as F-	mg/l	0.318	0.183	1.53	1.57	0.547	0.645
Total Chromium as Cr +6	mg/l	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)
Sulphate as SO4	mg/l	10.94	13.85	62.6	114.0	19.7	50.0
Lead (as Pb)	mg/l	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
Manganese (as Mn)	mg/l	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	0.029	BDL(DL:0.05)
Mercury (as Hg)	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)
Nickel (as Ni)	mg/l	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
O&G	mg/l	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)
Phenolic Comp	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)
Free Ammonia as NH3	mg/l	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
RFC	mg/l	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
Selenium (as Se)	mg/l	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
TKN	mg/l	BDL(DL:1.0)	1.3	1.8	2.1	BDL(DL:1.0)	BDL(DL:1.0)
Zinc (as Zn)	mg/l	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
Total coliform	MPN/100ml	5.71x102	6.50x102	3.02x102	8.85 x102	$1.89x10^2$	$2.55x10^2$
Sodium Absorption	meq/l	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)

ratio(SAR)								
Bio-Assay	%	100% survival after 96 hours in 100% sample	100% survival after 96 hours in 100% sample	100% survival after 96 hours in 100% sample	100% survival after 96 hours in 100% sample	100% survival after 96 hours in 100% sample	100% survival after 96 hours in 100% sample
Vanadium as V	mg/l	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)
Ammonical Nitrogen as NH3-N	mg/l	0.445	0.505	0.85	0.52	0.425	0.39

Ground Water Quality Analysis Report of surrounding villages

	Location		Ganthigadia	Charadagadia	Kochilamada	Galapada	Motonga	Narendrapur	Khaliberena	Kharagprasad
S.N.	**Parameters**	**unit**	**GW-01**	**GW-02**	**GW-03**	**GW-04**	**GW-05**	**GW-06**	**GW-07**	**GW-08**
1	**pH**	-	7.16	7.29	7.3	7.15	7.01	7.06	7.31	7.29
2	**Odour**	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	**Colour**	**Hazen**	4	3.5		4.5	2.5	4.5		1
4	**Taste**		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	**Turbidity**	**N.T. U**	0.695	0.59	0.415	1.085	0.205	1.595	0.37	0.235
6	**Total Dissolved Solids (as TDS)**	**mg/l**	837.5	1411	1414	975.5	874.5	1454.5	833.5	1301.5
7	**Aluminium as Al**	**mg/l**	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)	BDL(DL:0.02)
8	**Anionic Surface-Active Agents as (MBAS)**	**mg/l**	BDL(DL:0.025)	BDL(DL:0.025)	BDL(DL:0.025)	BDL(DL:0.025)	BDL(DL:0.025)	BDL(DL:0.025)	BDL(DL:0.025)	BDL(DL:0.025)
9	**Boron as B**	**mg/l**	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)	BDL(DL:0.2)
10	**Calcium as Ca**	**mg/l**	119.5	151.5	170.5	124	138	188	112	130.5
11	**Chloride as Cl**	**mg/l**	94.15	267	183	102.85	93.65	357	113.05	194.5
12	**Copper as Cu**	**mg/l**	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	
13	**Fluoride as F**	**mg/l**	0.3505	0.6985	0.704	0.435	0.824		0.3375	0.605
14	**Residual Free Chlorine**	**mg/l**	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
15	**Iron as Fe**	**mg/l**	0.059	0.0745	0.077	0.063	0.0625	0.068	0.04	0.051

16	**Magnesium as Mg**	**mg/l**	41.9	86.9	49.3	38.6	70	69.05	31.9	50.5
17	**Manganese as Mn**	**mg/l**	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)	BDL(DL:0.05)
18	**Mineral Oil**	**mg/l**	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
19	**Nitrate as NO3**	**mg/l**	38	108.9	BDL(DL:0.5)	62.25	21.4	7.935	80.4	10.125
20	**Phenolic Compounds as C6H5OH**	**mg/l**	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)
21	**Selenium as Se**	**mg/l**	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
22	**Sulphate as SO4**	**mg/l**	86.8	148	130.3	160.5	152.5	72.05	108.6	177
23	**Total Alkalinity as CaCO3**	**mg/l**	444.5	558.5	455	389	475.5	404.5	413	630.5
24	**Total Hardness as CaCO3**	**mg/l**	470.5	735.5	629	469	569.5	754.5	412.5	534.5
25	**Zinc as Zn**	**mg/l**	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
26	**Cadmium as Cd**	**mg/l**	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)	BDL(DL:0.003)
27	**Cyanide as CN**	**mg/l**	BDL(DL:0.012)	BDL(DL:0.012)	BDL(DL:0.012)	BDL(DL:0.012)	BDL(DL:0.012)	BDL(DL:0.012)	BDL(DL:0.012)	BDL(DL:0.012)
28	**Lead as Pb**	**mg/l**	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
29	**Mercury as Hg**	**mg/l**	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)
30	**Nickel (as Ni)**	**mg/l**	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)	BDL(DL:0.01)
31	**Total Arsenic (as As)**	**mg/l**	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)
32	**TC**	**/100ml**	Detected	Detected	Detected	Detected	Detected	Detected	Detected	Detected
33	**E. coli**	**/100ml**	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
34	**Sulphide asH_2 S**	**mg/l**	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)	BDL(DL:0.04)
35	**Ammonia as NH3**	**mg/l**	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
36	**Barium as Ba**	**mg/l**	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
37	**Total Chromium as Cr +6**	**mg/l**	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)	BDL(DL:0.03)
38	**Silver as Ag**	**mg/l**	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)	BDL(DL:0.1)
39	**Chloramines as Cl_2**	**mg/l**	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)	BDL(DL:1.0)
40	**Molybdenum as Mo**	**mg/l**	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)	BDL(DL:5.0)

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

Source: Monitoring/ Analysis report of Environmental Laboratories & Engineering Services Pvt. Ltd,Ranchi

Average data for the month of Oct-2025 & Jan-2026.

(AMBIENT AIR QUALITY REPORT)

(Period: From October 2025 to March 2026)

S. No	Location	PM 10 in µg/m3	PM2.5 in µg/m3
		Avg	Avg
1	Motanga	93.1	49.65
2	Galpada	173.25	96.6
3	Nalachandrapur (Nalatangra)	118.8	69
4	Narandrapur	160.9	90.15
5	Mangalpur	127.1	80.85
6	Khaliberana	90.05	56
7	Kochilamara	120.25	70.4
8	Itapa	152	89.85

Source: Monitoring/ Analysis report of Environmental Laboratories & Engineering Services Pvt. Ltd,Ranchi
Average data for the month of Oct-2025 & Jan-2026.

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

Annexure-III

Environment Laboratory
TATA Steel Meramandali, Odisha

S. N	Name of the unit	Location	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26
1	**110 MW Compressor House CPP**	Near Entrance Point	82.2	81.8	81.4	81.6	82.4	82.3
		Inside Operator office	70.1	60.7	66.2	70	60.2	63.8
2	**150 MW Ash Conveying Compressor House CPP**	Inside Operator office	75.3	62.4	62.3	70.1	64.5	64.8
3	**165 MW Compressor House CPP**	Near Entrance Point	80.0	80.3	80	80.2	80.2	81.8
		Inside Operator office	60.2	61.3	61.8	60.2	57.3	57.4
4	**300 MW CPP**	CFBC Boiler-1						
		Near Boiler -1 Area	83.5	SD	84.7	SD	83.5	84.8
		CFBC- Boiler-2						
		Near Boiler -2 Area	84.7	SD	83.8	83.8	84.1	SD
		CFBC- Boiler-3						
		Near Boiler -3 Area	SD	84.3	84.8	84.6	83.5	83.8
		CFBC- Boiler-4						
		Near Boiler -4	SD	83.8	SD	84.5	SD	SD
		CFBC- Boiler-5						
		Near ID Fan-1	80.5	80.2	80.2	80.5	81.9	82.7
		Near ID Fan-2	80.8	80.3	80.5	80.4	81.2	82.2
		Near Boiler -5	84.9	82.8	83.4	84.1	84.2	82.8
		CFBC- Boiler-6						
		Near ID Fan-1	80.4	80.0	SD	SD	SD	81.4
		Near ID Fan-2	80.7	80.5	SD	SD	SD	81.2
		Near Boiler -6	84.2	83.8	SD	SD	SD	84.1
		Near Silo Area	83.4	83.6	83.1	82.7	83.5	82.6
		Control Room Office	62.5	66.2	78.6	63.5	61.7	61.3
		New Control Room Office	62.2	58.2	58.7	58.5	57.4	58.8

Annexure – IV

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
October'25	CAAQMS-1	101.88	42.35	7.79	9.83	0.79
	CAAQMS-2	104.07	51.14	6.01	23.11	0.68
	CAAQMS-3	142.5	73.02	15.96	13.35	1.21
	CAAQMS-4	83.72	22.98	19.77	16.61	0.54
	CAAQMS-5	83.19	35.53	23.7	10.21	0.7
	CAAQMS-6	82.66	34.68	6.88	12.82	0.95
	CAAQMS-7	120.66	54.34	20.16	5.28	0.79
November'25	CAAQMS-1	131.12	52.16	8.99	9.85	1.46
	CAAQMS-2	158.07	84.8	6.21	22.98	0.68
	CAAQMS-3	168.89	83.11	16.22	13.3	1.04
	CAAQMS-4	113.16	56.02	18.15	16.39	0.53
	CAAQMS-5	144.67	68.17	32.05	9.91	0.75
	CAAQMS-6	196.02	75.6	6.68	12.71	1.05
	CAAQMS-7	282.91	113.16	22.42	5.43	0.91
December'25	CAAQMS-1	206.13	76.22	10.44	8.54	1.59
	CAAQMS-2	225.39	151.14	6.09	23.2	0.66
	CAAQMS-3	242.11	129.87	24.13	13.72	0.67
	CAAQMS-4	184.79	61.22	11.43	29.5	0.38
	CAAQMS-5	214.3	116.78	30.82	10.79	0.82
	CAAQMS-6	255.66	124.95	9.88	12.58	0.98
	CAAQMS-7	342.98	184.53	27.39	5.41	1.38
January'26	CAAQMS-1	204.42	92.27	7.69	5.7	0.25
	CAAQMS-2	206.2	122.99	5.44	23.03	0.68
	CAAQMS-3	231.82	107.94	35.85	15.46	0.59
	CAAQMS-4	158.45	68.18	10.32	42.4	0.32
	CAAQMS-5	204.72	107.74	32.94	11.6	0.58
	CAAQMS-6	242.72	104.97	15.78	13.06	0.66
	CAAQMS-7	318.22	150.07	32.93	7.77	1.21

February'26	CAAQMS-1	201.7	102.3	12.4	6	0.8
	CAAQMS-2	193.2	80.3	5.6	22.9	0.7
	CAAQMS-3	232.4	91.6	36.4	16.2	0.6
	CAAQMS-4	157	57.3	10.4	41.2	0.4
	CAAQMS-5	189.3	80.2	6.6	12.3	0.2
	CAAQMS-6	232.4	84.9	16.9	12.9	0.8
	CAAQMS-7	277.1	118.6	32.6	5.5	1
March'26	CAAQMS-1	175.36	71.99	11.68	5.94	0.21
	CAAQMS-2	197.83	57.85	6.27	22.75	0.7
	CAAQMS-3	211.78	77.09	17.71	16.01	0.6
	CAAQMS-4	120.8	51.03	10.57	27.69	0.49
	CAAQMS-5	153.77	60.81	10.38	12.03	0.72
	CAAQMS-6	175.12	63.68	17.29	12.76	0.75
	CAAQMS-7	190.58	81.4	34.97	5.53	0.9

All values are in µg/m^3 except CO values are in mg/m^3. 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 REPORT-Manual Monitoring

(Period: Oct'25-Mar'26)

S. No	Location	PM 10 in µg/m3	PM2.5 in µg/m3
1	Motanga	98.9	51.9
2	Galpada	133.7	76.2
3	Nalachandrapur (Nalatangra)	104.2	61.9
4	Narandrapur	121.2	66.7
5	Mangalpur	113.3	74.5
6	Khaliberana	91.6	57.3
7	Kochilamara	117.2	63.6
8	Itapa	129.4	68.2

Source: Monitoring/ Analysis report of Environmental Laboratories & Engineering Services Pvt. Ltd