'01C

TSM-CPP/SEIAA/TS-01/2024-05/168
November 25, 2024

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 April' 24 to September' 24.

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 M/s. Tata Steel Limited – TSM-CPP (formerly known as Angul Energy Limited), Odisha for the period from April 2024 to September 2024 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 are in line with the statutory requirements.

Thanking you

Yours faithfully,

For TSM-CPP

Rajesh Kumar Agarwal,
(Factory Manager, TSM-CPP)

Encl: As above

30 NOV 2024
S.P.C. BOARD
BHUBANESWAR

30.11.24

REGIONAL OFFICE POLLUTION CONTROL BOARD ANGUL
Received
Dt. 29/11/2024

Copy to:

1. The Deputy Director General of Forests (C), MoEF&CC, Integrated Regional Office, Chandrasekharpur, Bhubaneswar – 751023.
2. The Zonal Officer, Central Pollution Control Board, Southern Conclave Block, 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata – 700107.
3. The Member Secretary, SPCB, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Odisha, Bhubaneswar-751012
4. 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.	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 installed in all CFBC boilers. The existing TR set was replaced with karft make micropulse TR set in one of the boilers to reduce the stack emissions. • Pneumatic ash conveying system have installed followed by 2 numbers of intermediate silos and 4 nos. main silos of adequate capacities. • 02 numbers of vent filters at intermediate silo and 04 numbers of vent filters at main silo have provided. • Mechanical road sweeping machines is being deployed to keep roads and shop floor areas neat and clean. • Wheel washing system have installed to prevent fugitive dust emissions during fly ash vehicles movement. • Dust suppression system had also installed to control fugitive dust emissions during coal handling. **Water Pollution Control measures:** • A Sewage Treatment Plant of 3000 KLD capacity installed for the treatment of domestic sewage. The treated STP water is being 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 provided at primary air and secondary air fans of all four boilers. • Proper greenbelt has designed which acts as a noise barrier. **Solid Waste Management:** • Dry collection and disposal system have adopted for fly ash management. • Fly ash has stored in ash silo and is being supplied to actual users through covered trucks/bulkers/rake to avoid any fugitive emission due to transportation. • Fly ash is also being supplied to o nearby fly ash brick manufacturing units, free of cost, for maximum utilization of ash. o Cement plants through bulker. o Construction of national highway (NH-55 & NH 149). • Balance fly 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 in operation to store and manage ash in case of emergency till 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.	• Various socio - economic development programs covering provision of educational facilities (Green school project in collaboration with TERI), Road making/repairing, provision of safe drinking water, sanitation, sports and health care facilities etc. are being undertaken in nearby villages as per need assessment survey. The above includes social engineering as well as infrastructure projects.
03	The applicant will comply with the points concerned and issues raised by the people	• Issues raised during public hearing were mainly related to drinking water, wastewater management, employment and peripheral

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	during public hearing on 4th February, 2009 in accordance with the commitments made.	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.	• All the statutory approvals like environment clearance, consent to establish, consent to operate and authorization for hazardous waste management 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.	• 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. AEL/SEIAA/AE-01/2024-02/142 dated 30.05.2024
06	High efficiency Electrostatic Precipitators (ESP's) shall be installed to ensure that particulate emission does not exceed 50 mg / Nm^3.	• 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.	• All the boilers of TSM-CPP (AEL) are based on CFBC technology. Lime is being feed along with coal to reduce SO2 emission. Separate bunker for mixing of fluxes (lime along with coal) have provided to control SO2 emission. For further improvement in lime conveying and dosing system to enhance desulphurization ability a separate lime injection system is under construction.
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.	• Dust extraction and dust suppression systems have provided at ash and coal handling areas. • Wheel washing system has installed to prevent fugitive dust emissions during fly ash vehicles movement.
09	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. 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	• Ash is being collected and disposed of in dry form. • Four silos of 1000 MT capacity each and two intermediate silos of 250 MT capacity each have installed for ash holding. • 100% fly ash utilization is ensured as per fly ash notification of MoEF, Govt. of India.

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	monitored in the fly ash bottom ash, leachate and effluents emanating from the ash pond.	• Leachate characteristics of fly ash was carried out by M/s. Visiontek Consultancy Services PVT. LTD., which shows leachate characteristics are well within the USEPA standards. The Leachate characteristics report is attached 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. AEL/SPCB/AE-06/2024-02/140 dated 29.05.2024.
10	The ash pond should be constructed with impervious lining and ash pond embankment should be stone pitched.	• Fly ash is being supplied to nearby fly ash brick manufacturing units at free of cost, for maximum utilization. Ash is also being supplied to cement plants through bulker and used in construction of national highway. Balance ash if any is being utilized in reclamation of low-lying areas & abandoned stone quarries after obtaining permission from SPCB. • In case of any balance ash remaining, it is kept in dry form in the interim ash storage pond till it is finally disposed.
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.	• Wastewater is being treated in Effluent Treatment Plant. • The treated effluents after conforming to the prescribed standards is being recycled and reused for dust suppression and green area irrigation. • 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	• A Sewage treatment plant of capacity 3000 KLD is in operation to treat domestic sewage. The treated water is reused for green area irrigation and low-end application in 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	• Earthen ponds have created to manage surface runoff. However, recently detailed scientific study has carried out for management of surface runoff & rainwater harvesting. Accordingly, site specific

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	clearance and details shall be furnished to the SEIAA, Orissa.	rainwater harvesting structures are being constructed in 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.	• 19 numbers of fire hydrants have provided in the coal yard - 1 & 2 and coal sheds to control spontaneous fire. • 26 numbers of gun sprinklers have also installed in the yards to keep the surface moist. • The coal piles are being leveled by scraping and compacted by rolling. • Coal silos / bins are being operated "First in First out" (FIFO) principle to avoid spontaneous burning. • Fire tenders are kept ready 24x7 hrs to take care of fire emergency.
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%.	• 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. • 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.	• 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	• 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.

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	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.	• Total 44052 nos. saplings have planted during the period from April'24 to September'24 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 made during construction phase of the plant and similar facilities are being maintained during operational phase also for employees and workers.
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 including shifting to non - noisy / less noisy areas.	• Enclosures and silencers have provided at primary air and secondary air fans of all four boilers. • Necessary PPEs are being provided to all the workers working in noisy areas and periodic examination is being conducted for the workers engaged in noise prone areas. • Noise monitoring is carried out regularly in the work zone 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.	• Five ambient air quality monitoring stations have set up in nearby villages, in consultation with SPCB. Odisha, for measuring the monthly ground level concentrations of PM_{10}, SO_2 and NOx. Summary of Ambient Air Quality Report for the period April'24 to September'24 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 of construction workers were made during construction phase of the plant and same facilities are being continued during operational phase also for employees and workers.

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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 established with qualified and experienced officers for implementation of stipulated environmental safeguards and control of pollution. Necessary details have already submitted to 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 was submitted vide letter no. AEL/SEIAA/AE-01/2024-02/142 dated 30.05.2024.
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 last Environment Statement was submitted in Form – V vide letter no. TSM-CPP/SPCB/TS-03/2024-13/160 dated 27.09.2024.
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 to the stipulated conditions is sincerely made in a time bound manner through continual improvement.

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LIST OF ENCLOSURES

Sl. No.	Enclosure	Details
1.	Annexure - I	Ash Leachability Report
2.	Annexure - II	Water Quality Analysis Report
3.	Annexure - III	Noise Monitoring Report
4.	Annexure – IV	Ambient Air 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-III

Summary of Surface Water Quality Analysis

(Period: From April 2024 to September 2024)

S. N	Parameter	Unit	Kishinda Nala		Lingra Nala		Brahamani River	
			U/S	D/S	U/S	D/S	U/S	D/S
1	pH Value	-	6.92-8.58	7.32-8.20	6.78-8.50	7.36-8.4	6.87-8.29	7.02-8.13
2	Colour	Hazen	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)
3	Temperature	Deg C	25-25.3	25-25.2	25-25.2	25-25.2	25-25.1	25-25.2
4	Total Suspended Solids		3.8-15.6	2.6-20.0	3.8-19	8.6-18.2	10.8-90	3.2-120
5	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)
6	BOD, 3days at 27°C	mg/l	2.7-5.6	2.0-5.6	BDL(DL:2.0)	BDL(DL:2.0)	2.4-9.6	3.8-13
7	Boron as B	mg/l	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)	BDL(DL:0.25)
8	Cadmium as Cd	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)
9	Calcium as Ca	mg/l	34-80.8	34-80.8	13-89	26-64.4	12-26	12.12-27
10	Chlorides as Cl	mg/l	35-158.35	35-148.45	14-152	20-126	11-29.69	12-108.0
11	COD	mg/l	9.6-28	16-23	10-20	19-28	8.4-34	13-40
12	Copper (as Cu)	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)
13	Cyanide as CN	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)

S. N	Parameter	Unit	Kishinda Nala		Lingra Nala		Brahamani River	
			U/S	D/S	U/S	D/S	U/S	D/S
14	Fluoride as F-	mg/l	0.22-2.65	0.21-1.8	0.26-0.38	0.19-1.54	0.25-0.41	0.20-0.52
15	Hexa Chromium as Cr +6	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)
16	Iron as Fe	mg/l	0.96-4.9	0.17-4.9	0.18-2.0	0.59-1.04	0.17-2.1	2.1-2.24
17	Lead (as Pb)	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)
18	Manganese (as Mn)	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)
19	Mercury (as Hg)	mg/l	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)	BDL(DL:0.0002)
20	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)
21	O&G	mg/l	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)	BDL(DL:1.4)
22	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)
23	Phosphate as P	mg/l	0.11-0.85	0.07-0.84	0.1-0.29	0.1-0.4	0.08-0.35	0.12-0.59
24	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)
25	Selenium (as Se)	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)
26	TKN	mg/l	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)	BDL(DL:0.3)
27	Zinc (as Zn)	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)

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.

Summary of Treated Domestic Effluent Analysis

(Period: From April 2024 to September 2024)

S.N.	Location	Parameters in Range		
		pH	Suspended Solid in mg/l	BOD (3 days at 27°C) in mg/l
1.	Colony STP	7.4-7.85	23-36	9.0-10.7
2.	AEL STP	7.04-7.81	18-28	8.7-11.3
3.	BF-1 STP	6.91-7.85	18-32	7.8-9.8

Summary of Effluent Treatment Plant Analysis

(Period: From April 2024 to September 2024)

S.N	Location	Parameters in Range					
		pH	Suspended Solid in mg/l	Chemical Oxygen Demand in mg/l	BOD (3days at 27°C) in mg/l	Oil & Grease	Iron as Fe
1.	ETP-1 (Outlet)	7.18-8.15	13-26	19-45	3.5-7.0	<4.0	0.27-0.72
2.	ETP-2 (Outlet)	6.53-7.88	18-24	18-30	3.3-5.2	<4.0	0.1-0.6
3.	ETP-3 (Outlet)	6.76-8.02	25-41	29-37	3.7-5.2	<4.0	0.29-0.89
4.	CRM (ETP Outlet)	7.16-8.13	18-58	100-160	14.6-24.9	<4.0	0.79-2.8
5.	BF-1 (Thickener Outlet)	6.63-7.86	35-86	33-48	4.5-9.5	<4.0	-
6.	BF-2 (Thickener Outlet)	6.69-7.58	42-76	36-47	4.4-9.5	<4.0	-
7.	BOF (Thickener Outlet)	>10.0	63-78	36-51	4.5-8.0	<4.0	-

S.N.	Location	Parameters in Range						
		pH	Suspended Solid in mg/l	Chemical Oxygen Demand in mg/l	BOD (3days at 27°C) in mg/l	Oil & Grease	TCN	Phenol
8.	Coke Oven-1 (BOD-1 Outlet)	6.8-7.64	28-80	120-210	16.5-28.5	<4.0	0.12-0.18	0.76-0.87
9.	Coke Oven-2 (BOD-2 Outlet)	6.77-7.23	22-41	130-180	20.1-26.8	<4.0	0.11-0.14	0.71-0.81

Summary of ground water level monitoring report inside plant premises

(Period: From April 2024 to September 2024)

S.N.	Location with description	Sample Code	Depth of Monitoring Bore Well	Longitude	Latitude	Ground Water Level (m)
1	Colony near STP	GW-1	165ft	20°49.045'	85°15.734'	4.1
2	RMHS Near Wagon Tippler	GW-2	300ft	20°47.752'	85°15.993'	2.12
3	Near Blast Furnace-2	GW-3	162ft	20°47.25'	85°15.613'	5.20
4	Near Railway bridge	GW-4	156ft	20°48.920'	85°15.858'	2.50

Ground Water Quality Analysis

S.N.	Parameter	Unit	GW-2	GW-3	GW-4	GW-6	Standard as per IS-10500-2012
1	p H	-	7.55	7.21	7.80	7.76	6.5-8.5
2	Colour	Hazen	Colourless	Colourless	Colourless	Colourless	15
3	Odour	-	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	-
4	T. Hardness (as CaCO3)	mg/l	278	310	244	282	300
5	Calcium as Ca	mg/l	67.33	74.54	58.52	68.14	75
6	Magnesium as Mg	mg/l	26.84	30.26	23.91	27.33	30
7	Iron as Fe	mg/l	0.13	0.20	0.16	0.15	0.3
8	Chloride as Cl	mg/l	94.3	114.15	71.96	81.89	250
9	Fluoride as F-	mg/l	0.64	0.49	0.68	0.72	1
10	Dissolved solids	mg/l	344	390	298	366	500
11	Nitrate as NO3	mg/l	4.8	6.2	4.2	7.8	45
12	Chromium as Cr+6	mg/l	0.016	0.02	0.024	0.012	0.05
13	Alkalinity as CaCO3	mg/l	78	108	66	86	200

Summary of ground water level monitoring report inside plant premises

Ground Water Level
Period: May 2024

S.NO	Location	Sample Code	Longitude	Latitude	Water Level from GL (m) BGL
					March'24
1	Kharagprasad	GW-01	20^0 49.299'	85^0 18.923'	4.0
2	Charadagadia	GW-02	20^0 47.768'	85^0 17.083'	7.1
3	Sibpur	GW-03	20^0 46.941'	85^0 14.394'	6.2
4	Kochilamada	GW-04	20^0 47.541'	85^0 16.802'	5.2
5	Galapada	GW-05	20^0 48.142'	85^0 18.600'	4.1
6	Motonga	GW-06	20^0 48.143'	85^0 18.599'	3.8
7	Asanabania	GW-07	20^0 47.534'	85^0 16.802'	4.6
8	Narendrapur	GW-08	20^0 49.483'	85^0 15.530'	8.9
9	Khaliberena	GW-09	20^0 46.946'	85^0 14.396'	4.3
10	Ganthigadia	GW-10	20^0 48.501'	85^0 15.118'	2.1

Ground Water Quality Analysis Report of surrounding villages

May 2024

S.N.	Parameters	unit	GW-01	GW-02	GW-03	GW-04	GW-05	GW-06	GW-07	GW-08	GW-9	GW-10
1	pH	-	6.8	7.32	6.9	7.22	7.2	6.67	7.44	6.96	6.78	7.7
2	Odour	-	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE
3	Colour	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)	BDL(DL:1.0)	BDL(DL:1.0)
4	Turbidity	N.T. U	4.2	5.2	BDL(DL:1.0)	4.3	2.1	7	6.4	6.3	3.5	4.2
5	Total Dissolved Solids (as TDS)	mg/l	1080	420	960	460	1200	490	480	440	600	460
6	Aluminium as Al	mg/l	0.02	BDL (DL:0.01)	BDL (DL:0.01)	0.02	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	0.02	BDL (DL:0.01)	0.02
7	Anionic Surface-Active Agents as (MBAS)	mg/l	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL and (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)
8	Boron as B	mg/l	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)
9	Calcium as Ca	mg/l	169.48	64.64	113.12	60.6	161.6	60.6	64.64	64.64	96.96	64.64
10	Chloride as Cl	mg/l	247.42	84.12	148.45	79.18	287.01	98.97	108.87	89.07	7.42	59.38
11	Copper as Cu	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)	BDL (DL:0.02)	BDL (DL:0.02)
12	Fluoride as F	mg/l	0.21	0.24	0.58	0.25	0.28	0.27	0.22	0.26	0.49	0.23
13	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)	BDL(DL:0.1)	BDL(DL:0.1)
14	Iron as Fe	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)	BDL (DL:0.05)	BDL (DL:0.05)
15	Magnesium as Mg	mg/l	53.33	24.24	38.78	29.09	72.72	24.24	29.09	24.24	38.78	29.09
16	Manganese as Mn	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)	BDL (DL:0.02)	BDL (DL:0.02)
17	Mineral Oil	mg/l	BDL(D:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)
18	Nitrate as NO3	mg/l	1.04	0.89	0.78	0.98	1.52	0.86	1.02	0.95	0.98	0.8
19	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)	BDL (DL:0.001)	BDL (DL:0.001)

S.N.	Parameters	unit	GW-01	GW-02	GW-03	GW-04	GW-05	GW-06	GW-07	GW-08	GW-9	GW-10
20	**Selenium as Se**	**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)	BDL (DL:0.005)	BDL (DL:0.005)
21	**Sulphate as SO4**	**mg/l**	48.2	30.6	22.4	12.85	60.2	15.24	25.8	24.4	38.6	30.2
22	**Total Alkalinity as CaCO3**	**mg/l**	411.6	186.2	490	186.2	431.2	176.4	176.4	176.4	490	196
23	**Total Hardness as CaCO3**	**mg/l**	646.4	262.6	444.4	272.7	707	252.5	282.8	262.6	404	282.8
24	**Zinc as Zn**	**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)	0.35	BDL (DL:0.02)	BDL (DL:0.02)	BDL (DL:0.02)
25	**Cadmium as Cd**	**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)	BDL (DL:0.001)	BDL (DL:0.001)
26	**Cyanide as CN**	**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)	BDL (DL:0.02)	BDL (DL:0.02)
27	**Lead as Pb**	**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)	BDL (DL:0.005)	BDL (DL:0.005)
28	**Mercury as Hg**	**mg/l**	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)
29	**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)	BDL (DL:0.01)	BDL (DL:0.01)
30	**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:0.05)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)
31	**E. coli**	**/100ml**	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Detected	Detected

August 2024

S.N.	Parameters	unit	GW-01	GW-02	GW-03	GW-04	GW-05	GW-06	GW-07	GW-08	GW-09	GW-10
1	pH	-	7.98	7.85	8.12	8.06	7.85	8.23	7.9	7.9	7.9	7.93
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Colour	mg/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)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)	BDL(DL:2.0)
4	Turbidity	N.T. U	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)	BDL(DL:1.0)	BDL(DL:1.0)
5	Total Dissolved Solids (as TDS)	mg/l	528	814	1865	932	924	544	580	942	652	1012
6	Aluminium as Al	mg/l	0.28	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)	BDL (DL:0.01)
7	Anionic Surface-Active Agents as (MBAS)	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)	BDL (DL:0.05)	BDL (DL:0.05)
8	Boron as B	mg/l	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)	BDL (DL:0.25)
9	Calcium as Ca	mg/l	51	51	29	58	47	54	54	54	22.4	86
10	Chloride as Cl	mg/l	67	116	297	68	116	59	12	118	14	164
11	Copper as Cu	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)	BDL (DL:0.02)	BDL (DL:0.02)
12	Fluoride as F	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)	BDL(DL:0.1)	BDL(DL:0.1)
13	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)	BDL(DL:0.1)	BDL(DL:0.1)
14	Iron as Fe	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)	BDL (DL:0.05)	BDL (DL:0.05)
15	Magnesium as Mg	mg/l	40.9	39.5	25.3	41.5	27.5	34.8	17	37.2	37.4	69.4
16	Manganese as Mn	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)	BDL (DL:0.02)	BDL (DL:0.02)
17	Mineral Oil	mg/l	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)	BDL(DL:0.5)
18	Nitrate as NO3	mg/l	31.4	BDL(DL:0.2)	BDL(DL:0.2)	32.6	BDL(DL:0.2)	11.6	8.6	8.9	25.6	12.4
19	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)	BDL (DL:0.001)	BDL (DL:0.001)
20	Selenium as Se	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)	BDL (DL:0.005)	BDL (DL:0.005)
21	Sulphate as SO4	mg/l	87	65	142	54	59	27	46	97	52	88

S.N.	Parameters	unit	GW-01	GW-02	GW-03	GW-04	GW-05	GW-06	GW-07	GW-08	GW-9	GW-10
22	**Total Alkalinity as CaCO3**	**mg/l**	270	356	749	272	360	372	447	349	437	312
23	**Total Hardness as CaCO3**	**mg/l**	298	292	178	318	232	280	206	290	212	504
24	**Zinc as Zn**	**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)	BDL (DL:0.02)	BDL (DL:0.02)
25	**Cadmium as Cd**	**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)	BDL (DL:0.01)	BDL (DL:0.01)
26	**Cyanide as CN**	**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)	BDL (DL:0.02)	BDL (DL:0.02)
27	**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)	BDL (DL:0.01)	BDL (DL:0.01)
28	**Mercury as Hg**	**mg/l**	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)	BDL (DL:0.0002)
29	**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)	BDL (DL:0.01)	BDL (DL:0.01)
30	**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)	BDL (DL:0.005)	BDL (DL:0.005)
31	**E. coli**	**/100ml**	Detected	Detected	Detected	Detected	Detected	Not Detected	Detected	Not Detected	Detected	Detected

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

Annexure-III

Environment Laboratory
TATA Steel Meramandali, Odisha

Ref.No.EMD/LAB/2024/0002

S. N	Name of the unit	Location	April-24	May-24	June-24	July-24	August-24	September-24
			Leq					
1	RMPP	Near CSB-1 I D Fan	81.7	SD	83	82.5	SD	83.5
		Near CSB-2 I D Fan	SD	85.1	84.1	85.1	SD	84.9
		Near BB plant site office	78.5	80.3	79.3	78.6	77.9	80.2
		Near P.C.S building	80	81.5	78.4	80.9	SD	81.1
		Near T.C.S building	79.6	81.7	80	81.6	SD	82.3
		Near S.C.S building	79.8	82	79.9	81.4	SD	80.7
		Control Room Office	58.7	56	58.4	58.1	60.7	58.5
		Near Pumphouse Area	80.4	80.5	83.4	81.2	80.6	81.1
		Near O.P.S building	81.8	81.4	82.6	81.5	80.1	80.6
		Near O.S.C building	82.5	82.4	82	81.7	79.6	80.4
		Near O.T.C building	83	82.6	81.5	82.3	83.5	83.6
2	110 MW Compressor House AEL	Near Entrance Point	84.1	82.1	83.8	84.2	84.5	83.5
		Near Compressor	90.2	92.3	90.7	91.5	92.3	92.8
		Inside Operator office	79.7	80.3	75.1	80	75.9	80.3
	150 MW Ash Conveying Compressor House AEL	Near Entrance Point	85.1	84.4	84.5	85.8	85.2	85.1
		Near Compressor	91.7	90.4	91	92	90.3	93.6
		Inside Operator office	81.4	80.6	76.3	79.9	76.5	81.4
3	165 MW Compressor House AEL	Near Entrance Point	81.7	82.5	79.3	81.5	85.1	80.5
		Near Compressor	92	90.3	92	91.7	91.9	92.8
		Inside Operator office	78.6	77.5	69.2	80.2	80.1	80.4
4	300 MW Power Plant AEL	**CFBC Boiler-1**						
		Near ID Fan-1	SD	SD	SD	SD	SD	SD
		Near ID Fan-2	SD	SD	SD	SD	SD	SD
		Near S A Fan	SD	SD	SD	SD	SD	SD
		Near P.A. Fan	SD	SD	SD	SD	SD	SD
		Near Boiler -1 Area	SD	SD	SD	SD	SD	SD
		CFBC- Boiler-2						
		Near ID Fan-1	SD	85.4	85.9	SD	SD	85.9
		Near ID Fan-2	SD	85.8	86	SD	SD	85.7
		Near S A Fan	SD	91	95.5	SD	SD	91.3
		Near P.A. Fan	SD	91.1	96	SD	SD	91.5
		Near Boiler -2 Area	SD	84.5	84.9	SD	SD	85.8
		CFBC- Boiler-3						
		Near ID Fan-1	85.8	84.9	86.8	85.1	SD	85.2
		Near ID Fan-2	86.1	85.1	86.2	85.4	SD	85.9
		Near S A Fan	90.7	90.4	94.5	94.1	SD	91.8
		Near P.A. Fan	90.9	91.6	94.3	94.7	SD	91.2
		Near Boiler -3 Area	85.6	85.1	84.8	84.1	SD	85
		CFBC- Boiler-4						
		Near ID Fan-1	85.4	SD	84.1	84.4	SD	85.1
		Near ID Fan-2	86	SD	83.6	84	SD	85.4
		Near S A Fan	90.5	SD	94.3	93.7	SD	92
		Near P.A. Fan	91	SD	93.7	94.2	SD	91.3
		Near Boiler -4	85.2	SD	83.9	84.6	SD	85.8

Annexure-III

Environment Laboratory
TATA Steel Meramandali, Odisha

			April-24	May-24	June-24	July-24	August-24	September-24
S. N	Name of the unit	Location	Leq					
5	185 MW Power Plant AEL	**CFBC- Boiler-5**						
		Near ID Fan-1	78.2	80	83.1	80.4	80.3	SD
		Near ID Fan-2	79.3	80.3	82.6	80.5	80.5	SD
		Near S A Fan	92.1	91.7	87.1	91.5	91.7	SD
		Near P.A. Fan	91.3	91.5	88.8	91.1	91.5	SD
		Near Boiler -5	85.4	85.8	84.7	85.1	85.1	SD
		CFBC- Boiler-6						
		Near ID Fan-1	80	80.8	SD	80.1	81.6	SD
		Near ID Fan-2	80.2	81.6	SD	80.4	80.7	SD
		Near S A Fan	91.5	91	SD	90.5	91.6	SD
		Near P.A. Fan	90.8	91.6	SD	91.4	91.4	SD
		Near Boiler -6	86	85.4	SD	85.3	83.9	SD
		Near Silo Area	84.8	84.3	84.5	83.5	83.7	82.5
		Near 150 MW TG	91.1	90.4	89.8	90.1	90	90.1
		Near 165 MW TG	91.5	90.2	90.6	90	89.6	90.5
		Control Room Office	59.3	61.5	61.8	61.8	59.3	60.8

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
Apr'24	CAAQMS-1	102.28	62.32	10.93	18.19	0.65
	CAAQMS-2	175.93	65.91	21.66	11.29	0.73
	CAAQMS-3	190.14	57.82	6.32	17.72	0.74
	CAAQMS-4	188.94	92.00	6.74	15.49	0.25
	CAAQMS-5	242.45	103.72	14.83	10.14	0.26
	CAAQMS-6	187.03	42.24	9.46	21.26	0.60
	CAAQMS-7	171.23	56.78	47.08	22.41	0.75
May'24	CAAQMS-1	96.68	42.29	10.96	18.44	0.65
	CAAQMS-2	197.94	49.97	21.52	10.88	0.73
	CAAQMS-3	188.34	46.43	2.46	17.04	0.73
	CAAQMS-4	180.35	64.39	5.92	8.59	0.25
	CAAQMS-5	212.01	79.43	12.89	8.09	0.96
	CAAQMS-6	119.63	54.33	8.74	26.53	1.00
	CAAQMS-7	88.12	30.45	42.26	15.57	0.74
June'24	CAAQMS-1	69.79	33.19	10.94	18.23	0.65
	CAAQMS-2	133.17	44.09	22.35	10.14	0.73
	CAAQMS-3	140.52	38.25	2.47	17.10	0.74
	CAAQMS-4	129.88	46.72	5.63	7.52	0.25
	CAAQMS-5	172.83	66.47	14.20	8.11	0.29
	CAAQMS-6	111.10	43.96	9.98	25.51	0.61
	CAAQMS-7	81.98	31.77	42.92	14.76	0.74
July'24	CAAQMS-1	60.65	23.87	11.18	18.23	0.65
	CAAQMS-2	69.64	26.84	23.40	10.92	0.73
	CAAQMS-3	130.47	40.19	2.88	18.68	0.73
	CAAQMS-4	64.11	26.06	6.57	7.56	0.25
	CAAQMS-5	70.88	23.19	12.56	7.37	0.26
	CAAQMS-6	93.72	32.33	14.15	22.00	1.00
	CAAQMS-7	79.19	31.86	42.77	15.56	0.74

Aug'24	CAAQMS-1	39.77	13.36	10.94	18.17	0.66
	CAAQMS-2	70.70	26.51	22.80	10.40	0.73
	CAAQMS-3	116.34	44.98	2.42	18.57	0.73
	CAAQMS-4	41.51	14.87	5.50	7.25	0.25
	CAAQMS-5	64.21	22.33	17.89	8.22	0.96
	CAAQMS-6	103.24	34.32	17.38	22.77	1.00
	CAAQMS-7	81.22	32.12	44.71	16.96	0.74
Sept'24	CAAQMS-1	53.36	14.71	12.02	19.18	0.65
	CAAQMS-2	117.33	33.27	22.93	12.45	0.73
	CAAQMS-3	109.91	35.40	2.13	18.83	0.74
	CAAQMS-4	41.72	16.18	5.62	7.97	0.24
	CAAQMS-5	69.92	23.59	16.41	14.66	0.26
	CAAQMS-6	85.08	35.78	15.30	21.52	1.00
	CAAQMS-7	82.82	36.70	46.91	15.00	0.74

All values are in $\mu g/m^3$ 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.