रामगुण्डम
RAMAGUNDAM

Ref.No:09/EMG/E-10/2024/134

Date: 26.06.2024

To

Dr. G. Trinadh Kumar, IFS
Inspector General of Forests
Ministry of Env., Forest and Climate Change,
Integrated Regional Office, Hyderabad 3rd Floor,
Room No. 309, Aranya Bhawan, Opp. RBI, Safiabad – 500004,
Hyderabad, Telangana.
Email: iro.hyderabad-mefcc@gov.in

Respected Sir,

Sub: Six Monthly EC Compliance Report issued to NTPC Ramagundam - Reg

PARIVESH Portal is upgraded to PARIVESH2.0 and new registration in PARVESH2.0 portal for uploading Half Yearly EC compliance report is in the process.

Hence, NTPC is submitting the Six-Monthly Compliance Reports for EC given to NTPC Ramagundam station pertaining to the period October-23 to March-24. Also, we are submitting the ambient air quality data, stack emission data, dust concentration data and others for the period along with this report.

Thanking you

Yours faithfully

(Ch. Srinivas Reddy)
(AGM-EMG)

Office of the Environmental Engineer Telangana Pollution Control Board Regional Office, Ramagundam, H. No.Special C-3, NTPC, TTS Near Zilla Parishad High School JYOTHINAGAR - 505 215 Dist Peddpalli (TG) 27/06/2024

Copy to:

The Environmental Engineer,
Telangana State Pollution Control Board,
Regional Office – Ramagundam,
Jyothinagar, Peddapalli (Dist), Telangana, India – 505215

STATUS OF IMPLEMENTATION OF CONDITIONS STIPULATED IN ENVIRONMENTAL CLEARANCE

NAME OF THE PROJECT: RAMAGUNDAM STPP STAGE-III (1X500MW)

LETTER NO: OM No : J-1301/20/94-IA-II DATED 25/09/1995.

S. No.	Stipulations	Status as on 31.03.2024
1.	All the conditions stipulated by the State Pollution Control Board shall be implemented effectively.	All the conditions stipulated by the State Pollution Control Board are being implemented effectively.
2.	A stack of height not less than 275 meters shall be provided along with stack monitoring devices.	Stack height of 275 meter along with stack monitoring facilities have been provided.
3.	The Electrostatic Precipitators having efficiency of not less than 99.8 percent shall be installed.	ESP having more than 99.8% efficiency have been installed.
4.	The particulate emission shall not exceed the prescribed limit of 150 mg/Nm^3 at any time.	Particulate Emissions are being maintained within the prescribed limit given by Telangana SPCB.
5.	Space provision shall be made for installation of FGD plant, if felt necessary, at future time.	Adequate space has been provided in the layout for installation of FGD plant in future. Preliminary engineering activities are being taken up for provision of FGD in Stage-III as per the directions given by CPCB vide letter dated 11th December, 2017. As per the MoEF&CC notification dated 5th September, 2022, NTPC Ramagundam is non-retiring station, not located in NCR, not in non-attainment cities and falls in Category C. The timelines for compliance of parameters relating to other than SO_2 and to SO_2 for Category C project like NTPC Ramagundam are 31.12.2024 and 31.12.2026 respectively. *However, NTPC is committed for FGD commissioning activities to start 2yrs ahead ie from 01.01.2025 against the MoEF&CC revised timelines specified as 31.12.2026.*
6.	Regular monitoring of air quality (at least two days a week) in and around the power plant shall be carried out and records maintained. Periodic report (on six monthly basis) on air quality shall be submitted to this Ministry.	Ambient Air Quality monitoring for the station for PM_{10}, $PM_{2.5}$, SO_2 and NO_x is being carried out twice a week at 3 locations identified with TSPCB through NABET & MoEF&CC recognized third party laboratory and its records are maintained. Other parameters as per NAAQ standards are being monitored and submitted along with this report as Table-1.
7.	Recycling and reuse of ash pond effluents shall be undertaken to the extent possible. There shall be no direct discharge into the river Godavari.	The station has AWRS along with treatment system and the ash pond water is treated and reused to the maximum extent. AWRS augmentation scheme has been developed

S. No.	Stipulations	Status as on 31.03.2024
		for additional pipelines to maximize the recirculation of ash pond water. It is kept in service from October,2020.
8.	The proposed study on leaching of heavy metals from the ash pond to ground water will be undertaken early and report furnished to this Ministry. Based on the results of the study, corrective measures if any felt necessary shall be implemented.	A geo-hydrological study under the Indo-Dutch collaboration has been completed. The report was submitted to MoEF&CC on 02.06.1997.
9.	NOC from State Pollution Control Board shall be obtained and furnished.	No Objection Certificate (NOC) was obtained and submitted to MoEF&CC on 23.08.1999.
10.	Dust suppression and dust extraction devices shall be installed in the coal handling areas to ensure that the level of dust is well within the prescribed limits.	Dust Suppression and Extraction System in coal handling areas are provided to ensure that the level of dust is well within the prescribed limits. Dust Monitoring data is enclosed as Table-3
11.	Closed circuit cooling with induced draft cooling tower shall be provided.	Closed cycle cooling system with induced draft cooling towers has been provided.
12.	The workers in the high noise areas will be provided with ear protection devices.	The workers in the high noise area are provided with appropriate ear protection devices.
13.	A workable plan for ash Utilization starting with at least 20% in the first year and gradually increasing by 10 during subsequent years so as to achieve 100% Utilization by the end of the ninth year shall be prepared and submitted to this Ministry within six months.	Revised Ash Utilization Plan submitted to MoEF&CC on 03.08.2000 and the same is being implemented. As per the MoEF&CC Notification dated: 31.12.2021, in no case shall utilization fall below 80% in any year. NTPC Ramagundam's ash utilization was never below 80% in any given year. We wish to submit that for the last 6 yrs, NTPC Ramagundam average Ash Utilization (AU) percentage is 112.57% and was never below 80% in any given year. In FY 2023-24, due to change in guideline's, sale ash from ash ponds, contractual issues, the station has achieved ash utilization of 86.26%. For Ash Utilization, station has created following facilities. 1. Station has installed Dry Ash Extraction System. Also, Rail loading facilities commissioned in Unit 4&5 to meet the distance customer's demand. 2. Pond ash is utilized in mine stowing purpose, ash dyke raising, clay brick units, etc. Stage-III has been provided with 100% Dry Ash Extraction System since the inception stage itself. The dry ash is being issued to

S. No.	Stipulations	Status as on 31.03.2024
		manufacturers of cement, RMC and brick/blocks, mine stowing and to clay brick manufacturers.
14.	In order to conserve water at thermal power station, efforts should be made to utilize the treated water to the maximum extent possible.	1. The treated DM effluent, Coal settling ponds effluent and plant effluent are reused for ash handling. The cooling tower blowdown is reused in dust suppression system and for other allied process requirements. 2. To conserve precious water a closed-circuit cooling water system with induced draft cooling towers has been adopted. For further reducing water consumption, cooling water treatment is being carried out by chemical dosing to operate the cooling water system at increased COC.
15.	Liquid effluents shall be treated to conform to the standards prescribed by State/Central Pollution Control Board.	An integrated Effluent Treatment Plant (ETP) cum Ash Water Recirculation System (AWRS) has been provided at the station. All effluents from plant area are finally treated and effluent conform to the standards by SPCB/CPCB.
16.	Adequate measures for protection against various hazards such as fire, shall be taken to the satisfaction of the respective authorities concerned.	Extensive fire detection and protection system are provided to the satisfaction of the respective authorities concerned.
17.	Green belt of adequate width shall be developed all around the power plant by selecting suitable species in consultation with the authorities of State Forest Department.	Green belt in and around the plant and township has been developed selecting suitable species in consultation with the authorities of State Forest Department.
18.	As the liquid effluents are finally being discharged into river Godavari, a study on bio-magnification of heavy metals in the aquatic life may be taken up and the report submitted to this Ministry.	The study was undertaken through M/s. Shriram Institute of Industrial Research, Delhi and the report has been submitted to MoEF&CC vide letter dated 16.08.2004.
19.	During ash pond reclamation, the selection of species to be planted may be made very carefully taking into consideration the nature of the soil and the total climatic conditions in consultation with the authorities of the State Forest Department.	A pioneering attempt of growing selected species like *Casuarinas Equisetifolia, Acacia Auriculiformis, Cassia Siamea, Eucalyptus Globules* on the ash directly has already been successfully implemented in the abandoned temporary ash pond of RSTPS (before 1990). In the present ash pond reclamation has not yet started. It shall be complied as and when the ash pond will reclaimed.
20.	Stack data to be furnished within three months.	Data is regularly being furnished through six monthly compliance reports. Continuous emission monitoring system (CEMS) for

S. No.	Stipulations	Status as on 31.03.2024
		gaseous emissions also has been installed and being monitored continuously. Data is transmitted to TSPCB and CPCB severs also.
21.	Information on change of emission load with ESP field failures may be furnished.	Adequate care has been taken in the ESP design and function to ensure emission within stipulated standards all the time. Prior information is given to TSPCB, wherever ESP fields/passes taken into isolation for maintenance.
22.	Copy of the confirmation regarding coal linkage to be provided.	Coal linkage had been accorded vide letter dated 02.09.1999. A copy of this letter was submitted to MoEF&CC on 03.08.2000.
23.	Only washed coal shall be used for the project. Fuel analysis of the washed coal so used shall be carried out every month and records maintained. The analysis report shall form part of the six-monthly report to be submitted to this Ministry.	Permission has been granted for uses of raw coal vide MoEF&CC letter dated 14.12.1998.
24.	Reduction in freshwater requirement may be examined taking into account the plant as a combined unit by adopting suitable size of the condenser, flow rate and drift.	The closed cooling water system along with dedicated treatment system for CW water enabled the COC increase, which has reduced the water requirement. Blow down of CW system is used for equipment cooling and service water purpose before joining plant effluent.
25.	Separate funds should be allocated for implementation of environment protection measures along with item wise breakup. These costs should be included as part of the project cost. The funds earmarked for the environmental protection measures should not be diverted for other purposes and year wise expenditure should be reported to this Ministry.	The funds on environmental protection measures along with item – wise break-up is provided in the project cost. The total funds earmarked for environmental protection has not been diverted for other purposes.
26.	Regional office of this Ministry at Bangalore will monitor the implementation of above conditions.	Noted.
27.	The project authorities shall submit to this Ministry a half yearly report on the implementation of the stipulated conditions and environmental safeguards.	Six monthly EC Compliance Report and environmental safeguards for the period April 2023 to September 2023 is submitted herewith.

STATUS OF IMPLEMENTATION OF CONDITIONS STIPULATED IN ENVIRONMENTAL CLEARANCE

NAME OF THE PROJECT: RAMAGUNDAM STPP STAGE-III (1X500MW)
LETTER NO.J.13011/20/94-I AII (T) DT.NOVEMBER 8, 2000

S. NO.	STIPULATIONS	STATUS AS ON 30.09.2023
1.	All the stipulations made in our environmental clearance letter dated 25th September 1995 referred to above should be strictly implemented	Compliance status of Letter No: OM No J-1301/ 20/94-IA-II Dated 25/09/1995 is given in the table above.
2.	100% fly ash utilization should be ensured by 9th year as per the broad utilization Plan submitted along with NTPC's communication no. CC: ESE: 3100:2000: GEN: 4B dated 3rd August 2000.	The Stage-III has been provided with 100% Dry Ash Extraction System since the inception stage itself. The dry ash is being issued to manufacturers of cement, RMC and brick/blocks. Balance ash of Stage-III is being issued to mine stowing and clay brick manufacturers. Revised Ash Utilization Plan submitted to MoEF&CC on 03.08.2000 and the same is being implemented. In compliance to latest fly ash notification dated 03.11.2009, revised action plan has also been submitted. As per the MoEF&CC Notification dated: 31.12.2021, in no case shall utilization fall below 80% in any year. NTPC Ramagundam's ash utilization was never below 80% in any given year. We wish to submit that for the last 6 yrs, NTPC Ramagundam average Ash Utilization (AU) percentage is 112.57% and was never below 80% in any given year. In FY 2023-24, the station has achieved ash utilization of 86.26%. For ash utilization, station has created following facilities. Station has installed Dry Ash Extraction System. Rail loading facilities commissioned in unit 4&5 to meet the distance customer's demand. Pond ash is utilized for mine stowing purpose, ash dyke raising, clay brick units, etc.
3.	The findings of the study on Bio-magnification of heavy metals in the aquatic life due to discharge of liquid effluents into Godavari river should be submitted along with the Management Plan within one year.	The study was undertaken through M/s. Shriram Institute of Industrial Research, Delhi and the report was submitted to MoEF&CC vide letter dated 16.08.2004.
4.	A copy of the Geo-hydrological study under Indo-Dutch collaboration should be submitted along with the plans for	A Geo-hydrological study under the Indo-Dutch collaboration has been completed. The report was submitted to MOEF&CC on 2nd

S. NO.	STIPULATIONS	STATUS AS ON 30.09.2023
	necessary corrective measures to avoid leaching of heavy metals from ash pond area to ground water.	June, 1997. (A detailed study to understand Geology of N2 Ash Pond as recommended in the Indo-Dutch Report has been completed).
5.	Rs.162.38 crores earmarked for environmental measures should not be diverted for any other activity and provision should be made for additional funds, if required.	The earmarked amount for environmental measures was not diverted for any other activity. Any additional funds required for environmental mitigation measures would be met from miscellaneous fund kept in the Operation & Maintenance fund of the project.

RECOMMENDATIONS GIVEN BY MOEF FOR IMMEDIATE CORRECTIVE ACTIONS

(F.No.EP/12.1/109/AP/1430 dtd-05.10.2015)

S. No.	Recommendations Of RO, MoEF&CC	Compliance Status and Action Plan
i.	Condition in EC-6: Regular monitoring of air quality (at least two days a week) in and around the power plant shall be carried out and records maintained. Periodic report (on six monthly basis) on air quality shall be submitted to this ministry. Certified compliance: Ambient air quality monitoring is being carried out twice in a week by third party at 3 locations identified with SPCB and records are being maintained. However, third party monitored AAQ parameters are not conformed to the latest NAAQ standards. Further the unit has installed 3 online continuous AAQ monitoring stations which are connected to the server of state PCB. The monitored AAQ data is well within prescribed limits. The monitored data is being submitted along with six monthly compliance report to the MoEF&CC.	Third party AAQ monitoring for the NAAQ parameters are being carried out through NABET and MoEF&CC recognized labs and data is submitted to MoEF&CC and state PCB. The parameters conform to latest NAAQ standards.
ii.	Condition in EC-7: Recycling and Re-use of ash pond effluents shall be undertaken to the extent possible. There shall be no direct discharge into river Godavari. Certified compliance: It appears that 70% of ash pond water is being treated and reused for ash handling. However, part of ash pond water is being discharged without treatment to the nearby agricultural fields.	Station has installed AWRS for all its units where in ash water to the maximum extent is brought back, treated and reused. AWRS augmentation scheme has been developed for additional pipelines to maximize the recirculation of ash pond water. It is kept in service from October, 2020.
iii.	EC-13 Certified compliance: Reportedly Ash utilization plan submitted. However, PA has not achieved 100% ash	Ash utilization (%) for the past 5 years is as follows FY 2019-20 is 118.23%,

S. No.	Recommendations Of RO, MoEF&CC	Compliance Status and Action Plan
	utilization. As informed by PA in the year 2014-15 the unit has achieved 64.4% of ash utilization.	FY 2020-21 is 111.08% and FY 2021-22 is 140.92% FY 2022-23 is 93.94% FY 2023-24 is 86.26%
iv.	EC-15 Certified compliance: An integrated effluent treatment cum ash water recirculation system (AWRS) has been provided. All effluents from plant area are finally treated and treated effluent confirmed to the discharge standards. However, during the visit inadequate treatment of effluent was observed due to maintenance of clarifier. Further the parameters monitored for the inlet and outlet of the ETP are not in uniform manner and it needs to be analysed on daily basis. Domestic effluents are being treated in the STP.	Sufficient care is taken during design and O&M that effluent parameters are well within limits during the maintenance of clarifier as two clarifiers are available. The inlet and outlet effluent parameters are monitored daily basis. Online monitoring of ETP outlet through Effluent Quality Monitoring System is installed. Transmitting data to TSPCB and CPCB on continuous basis.
v.	Certified compliance: Presently ash pond reclamation has not yet started, since it is under use. PA assured to comply with the condition.	Shall be complied.
vi.	Certified compliance: Stack emissions are being monitored by MoEF&CC approved third party and data is being furnished along with six monthly compliance reports. Further continuous on-line stack monitoring has been installed and connected to the server of state PCB. However, in the continuous stack monitoring system, project authority needs to monitor gaseous emission also apart from SPM	Stack emissions are being monitored by MoEF&CC approved third and report is enclosed as Table-2. Continuous Emission Monitoring System installed to monitor gaseous emission along with PM and transmitting data to TSPCB and CPCB on continuous basis.
vii.	Certified compliance: PA informed they have spent more than the earmarked amount. However, no separate account is being maintained under environmental protection measures.	Capital nature expenditure of environment is already captured separately.
viii.	Certified compliance: PA submitted hard copy of six monthly compliance report to the MoEF&CC. Soft copy of the six monthly compliance report has not been submitted to RO of the MoEF&CC regularly. Six monthly compliance report needs to be submitted by Project Authority both in hard and soft copies along with monitored data to the Regional office of MoEF&CC. The same needs to be uploaded on the website of the company and periodically	Soft copy and hard copy both are being submitted. Last report for the period April 2023 to September 2023 was submitted on 10.11.2023.

S. No.	Recommendations Of RO, MoEF&CC	Compliance Status and Action Plan
ix.	Certified compliance: Treated water is partly utilized for ash handling/ash slurry pumping and partly discharged in to River Godavari. It appears that unit do not have dedicated pipeline till the discharge point of the river rather the treated water of the unit getting mixed up with domestic waste water drainages before confluence into the river Godavari. Necessary corrective action needs to be taken to avoid conflict in near future regarding treatment of effluents by M/s.NTPC.	As mentioned in point ii.

Table 1 : Ambient Air from October'2023 to March'2024

Parameter	PM_{10}			$PM_{2.5}$			SO_2			NO_X		
Location*	BR	RPH	GH	BR	RPH	GH	BR	RPH	GH	BR	RPH	GH
Oct' 2023												
03.10.2023	46.00	45.00	48.00	21.00	21.00	23.00	7.30	6.90	7.90	13.30	13.60	15.90
04.10.2023	37.00	41.00	45.00	19.00	19.00	21.00	7.60	5.90	8.30	12.90	12.70	15.30
09.10.2023	42.00	39.00	53.00	20.00	18.00	26.00	6.90	6.60	7.70	13.10	14.20	16.30
10.10.2023	44.00	43.00	49.00	20.00	21.00	23.00	7.30	7.30	6.90	12.90	13.60	14.50
16.10.2023	38.00	41.00	50.00	18.00	19.00	24.00	7.70	7.80	7.80	13.30	12.90	14.70
17.10.2023	47.00	38.00	46.00	22.00	18.00	22.00	6.30	6.90	7.10	13.90	13.30	15.90
25.10.2023	43.00	44.00	51.00	20.00	21.00	25.00	7.10	6.70	6.90	14.30	13.70	16.30
26.10.2023	46.00	42.00	48.00	22.00	20.00	23.00	6.80	7.30	8.10	13.00	13.90	14.40
Nov' 2023												
01.11.2023	31.25	38.56	40.33	14.76	21.32	23.66	8.56	7.23	6.18	11.23	12.32	10.87
02.11.2023	50.24	58.31	50.87	15.00	20.14	20.14	9.27	6.35	7.77	12.25	10.26	13.25
06.11.2023.	35.17	50.26	49.37	17.98	18.25	15.26	7.56	8.26	6.91	13.45	9.63	12.15
07.11.2023	41.26	47.26	53.88	22.50	19.64	17.26	6.45	9.63	8.05	13.88	13.25	11.03
13.11.2023	33.92	48.05	53.44	16.29	17.45	19.57	7.55	8.26	7.35	10.28	10.61	14.05
14.11.2023	36.38	53.07	42.78	20.34	16.24	21.03	8.36	5.63	7.11	12.45	11.62	12.39
20.11.2023	48.63	45.02	56.01	16.52	15.24	14.12	9.66	7.89	7.64	8.56	8.56	9.34
21.11.2023	49.67	44.06	37.57	18.26	14.26	18.34	10.24	5.26	6.66	11.25	13.74	13.88
27.11.2023	42.78	42.56	43.69	19.57	12.03	16.20	6.54	8.66	8.21	8.26	12.85	10.58
28.11.2023	44.27	55.24	53.74	21.01	11.09	20.88	7.39	7.54	7.41	12.84	9.45	12.07
Dec' 2023												
04.12.2023	42.54	38.92	41.43	13.85	18.11	20.54	11.45	8.92	5.32	17.72	12.20	8.34
05.12.2023	39.84	39.97	50.12	14.09	16.00	21.14	8.36	8.31	6.30	18.70	8.79	12.63
11.12.2023	36.33	31.76	46.53	17.07	17.90	19.23	12.75	10.22	5.43	19.98	8.31	8.30
12.12.2023	40.35	37.68	59.34	21.59	21.51	18.32	17.46	7.90	7.14	14.46	10.08	9.98
18.12.2023	37.2	41.89	40.32	15.38	27.11	15.35	14.21	6.92	6.37	17.85	13.11	10.24
19.12.2023	35.47	36.01	47.61	26.47	24.64	20.23	7.45	4.29	5.44	16.09	11.57	13.34
26.12.2023	39.2	41.00	44.30	23.52	27.31	17.31	5.63	6.55	7.16	13.32	13.72	15.21
27.12.2023	40.36	35.62	41.21	25.09	20.91	24.32	6.48	6.20	5.94	14.72	7.11	11.92

Note*: BR = Balancing Reservoir RPH= Ramagundam Pump House GH=Guest House.

Parameter	PM10			PM2.5			SO2			NOX		
Location*	BR	RPH	GH	BR	RPH	GH	BR	RPH	GH	BR	RPH	GH
Jan' 2024												
02.01.2024	32.2	54.87	45.39	12.88	33.28	26.23	10.21	10.33	5.39	28.55	20.09	10.76
03.01.2024	28.01	57.43	49.00	12.02	31.39	30.18	9.15	12.29	7.41	21.29	17.24	12.97
09.01.2024	31.64	55.14	54.85	15.98	32.65	38.10	12.63	11.41	7.03	27.30	19.02	15.59
10.01.2024	40.22	59.33	55.23	22.51	34.19	36.11	18.24	9.71	8.05	19.32	18.55	16.89
16.01.2024	31.19	58.23	58.77	14.21	39.28	37.26	17.41	7.33	7.39	22.47	17.23	12.55
17.01.2024	41.38	60.32	59.18	24.11	33.00	38.37	9.13	6.32	7.05	20.19	18.77	18.89
22.01.2024	40.22	59.84	58.35	22.31	32.65	39.21	10.00	7.23	8.63	19.42	20.41	15.71
23.01.2024	42.02	58.41	43.12	22.18	41.19	25.37	9.77	8.34	7.19	20.41	19.57	15.47
29.01.2024	40.81	60.02	45.66	22.06	40.43	27.42	9.62	10.26	7.37	18.29	18.41	14.22
30.01.2024	39.28	57.11	49.23	19.77	38.39	30.29	9.71	7.91	8.00	19.77	8.32	15.19
Feb' 2024												
05.02.2024	33.29	55.27	46.12	13.74	36.32	25.17	11.28	11.51	6.12	29.32	20.84	11.00
06.02.2024	27.52	58.00	49.53	13.27	38.34	29.88	10.13	13.05	7.00	28.41	18.62	13.20
12.02.2024	31.59	56.32	55.00	18.52	37.53	39.23	13.00	12.20	8.19	28.28	20.26	16.12
13.02.2024	41.78	56.29	54.74	21.00	36.80	37.18	19.45	10.27	8.28	20.19	19.40	17.37
19.02.2024	32.38	57.32	59.07	15.39	40.27	38.49	18.10	9.14	8.13	23.00	18.30	13.21
20.02.2024	42.73	59.10	58.49	25.28	38.19	40.23	10.32	7.68	7.56	21.90	19.34	19.20
26.02.2024	41.78	56.32	57.82	23.19	37.56	38.56	11.02	8.47	7.34	20.24	19.82	16.19
27.02.2024	41.85	62.38	44.31	23.36	42.51	24.72	10.15	10.30	8.63	21.04	20.00	16.38
March' 2024												
05.03.2024	35.52	57.36	44.52	11.58	37.45	27.36	9.58	10.25	7.65	30.28	19.80	12.35
06.03.2024	28.65	59.88	51.36	14.82	41.75	31.25	12.55	14.35	6.85	27.10	16.30	14.30
12.03.2024	34.50	54.62	58.63	19.58	38.45	40.10	14.62	11.50	9.65	26.58	23.10	15.26
13.03.2024	42.65	58.12	52.25	22.58	34.58	34.52	17.69	12.53	7.85	18.25	21.58	18.34
19.03.2024	34.52	60.65	61.58	16.54	39.10	39.23	20.12	8.10	9.22	24.54	20.52	11.58
20.03.2024	43.65	61.58	57.16	27.10	40.35	43.82	11.58	9.60	6.74	19.35	18.26	20.64
27.03.2024	39.25	53.82	48.6	21.85	35.13	36.64	13,56	7.90	8.23	21.58	17.46	17.35
28.03.2024	38.85	64.26	45.62	24.65	45.26	27.10	12.20	13.05	9.12	22.52	19.63	13.85

Note: BR = Balancing Reservoir RPH= Ramagundam Pump House GH=Guest House.*

	O3	Pb	CO	NH3	As	Ni	C6H6	B(a)P
	(µg/m3)	(µg/m3)	(mg/m3)	(µg/m3)	(ng/m3)	(ng/m3)	(µg/m3)	(ng/m3)
Oct -2023								
Balancing Reservoir	12.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ramagundam Pump House	12.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Guest House	13.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nov -2023								
Balancing Reservoir	6.32	BLQ	0.68	20.50	BLQ	BLQ	BLQ	BLQ
Ramagundam Pump House	21.36	BLQ	0.51	35.00	BLQ	BLQ	BLQ	BLQ
Guest House	5.00	BLQ	0.52	22.36	BLQ	BLQ	BLQ	BLQ
Dec -2023								
Balancing Reservoir	7.94	BLQ	0.59	21.07	BLQ	BLQ	BLQ	BLQ
Ramagundam Pump House	7.45	BLQ	0.64	23.00	BLQ	BLQ	BLQ	BLQ
Guest House	6.08	BLQ	0.61	21.5	BLQ	BLQ	BLQ	BLQ
Jan -2024								
Balancing Reservoir	10.52	BLQ	0.65	22.16	BLQ	BLQ	BLQ	BLQ
Ramagundam Pump House	15.65	BLQ	0.7	21.14	BLQ	BLQ	BLQ	BLQ
Guest House	6.14	BLQ	0.59	19.87	BLQ	BLQ	BLQ	BLQ
Feb -2024								
Balancing Reservoir	11.28	BLQ	0.72	21.62	BLQ	BLQ	BLQ	BLQ
Ramagundam Pump House	13.00	BLQ	0.72	20.89	BLQ	BLQ	BLQ	BLQ
Guest House	7.00	BLQ	0.61	18.38	BLQ	BLQ	BLQ	BLQ
Mar -2024								
Balancing Reservoir	12.74	BLQ	0.70	22.30	BLQ	BLQ	BLQ	BLQ
Ramagundam Pump House	13.90	BLQ	0.62	24.50	BLQ	BLQ	BLQ	BLQ
Guest House	9.12	BLQ	0.65	21.76	BLQ	BLQ	BLQ	BLQ

Table 2 : Stack Monitoring Data from October - 2023 to March – 2024

DATE	PM (mg/Nm^3)						
	Unit -1	Unit -2	Unit -3	Unit -4	Unit -5	Unit -6	Unit -7
Oct -2023							
	65.60	59.7	62.00	S/D	55.1	57.1	44.2
Nov-2023							
	54.26	51.49	58.57	58.16	52.68	49.88	38.58
Dec-2023							
	51.69	50.94	59.22	59.58	51.81	47.77	43.54
Jan -2024							
	71.90	62.65	62.43	77.06	72.80	68.98	43.55
Feb -2024							
	72.53	63.69	S\D	78.48	72.88	68.71	44.97
Mar -2024							
	59.27	55.59	49.12	66.62	52.18	62.27	45.55

Table 3: Ambient Air Quality Monitoring Data from October - 2023 to March – 2024

Date	Location	Dust Concentration (PM_{10}) in $\mu g/m^3$
Oct -2023		
04.10.2023	ESP Stage –I area	95
07.10.2023	DAETP Stage-I	92
14.10.2023	Burner Floor Stage-II	90
19.10.2023	Bricks Plant	56
27.10.2023	Ash Pond Area	52
30.10.2023	Mill Area Stage-I	94
Nov -2023		
02.11.2023	ESP Stage –II area	97
06.11.2023	DAETP Stage-II	88
13.11.2023	Burner Floor Stage-I	94
18.11.2023	Bricks Plant	49
23.11.2023	Ash Pond Area	57
29.11.2023	Mill Area Stage-II	96
Dec -2023		
02.12.2023	ESP Stage –I area	99
09.12.2023	DAETP Stage-I	95
11.12.2023	Burner Floor Stage-II	92
16.12.2023	Bricks Plant	36
22.12.2023	Ash Pond Area	65
28.12.2023	Mill Area Stage-I	97
Jan -2024		
04.01.2024	ESP Stage –II area	97
09.01.2024	DAETP Stage-II	93
12.01.2024	Burner Floor Stage-I	95
16.01.2024	Bricks Plant	42
20.01.2024	Ash Pond Area	75
27.01.2024	Mill Area Stage-II	92
Feb - 2024		
05.02.2024	ESP Stage –I area	99
08.02.2024	DAETP Stage-I	96
13.02.2024	Burner Floor Stage-II	97
21.02.2024	Bricks Plant	54
23.02.2024	Ash Pond Area	82
28.02.2024	Mill Area Stage-I	94
Mar-2024		
04.03.2024	ESP Stage –II area	94
06.03.2024	DAETP Stage-II	92
11.03.2024	Burner Floor Stage-I	95
19.03.2024	Bricks Plant	58
20.03.2024	Ash Pond Area	76
26.03.2024	Mill Area Stage-II	88