



A Maharatna Company

एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)

रिहन्द / RIHAND

संदर्भ संख्या / Ref. no.: 070/EMG/AU/2025 /3701

दिनांक / Date: 30.05.2026

To,
Additional Director,
Ministry of Environment, Forest & Climate Change
Integrated Regional Office
Kendriya Bhawan, 11th Floor, Sector-H, Aliganj,
Lucknow – 226 024.

Ref. No.: Environmental Clearance of Rihand STPP Stage – III (2X500) MW vide ref. J-13011 / 57 / 2008-IA.II (T) dated. 05.02.2009.

Project Code: UP-08-60-1992

Sub: - Status report regarding compliance of conditions stipulated in environmental clearance of NTPC – Rihand Stage – III.

Dear Sir / Madam,

With reference to the Environmental Clearance granted by MoEF & CC for NTPC Rihand vide letter references mentioned as above please find enclosed herewith the status of compliance of conditions stipulated in the environmental clearance of NTPC Rihand Stage - III for the period of **October'25 to March'26.**

Thanking You,

Yours sincerely

(Rajeev Kumar Mittal)
AGM (EMG/AU)

रिहन्द सुपर थर्मल पावर प्रोजेक्ट, पोआ - रिहन्दनगर, जिला - सोनभद्र (उ.प्र.), पिन - 231 223, टेली / Tel: 05446-242021
Rihand Super Thermal Power Project, PO: Rihand Nagar, Dist: Sonbhadra (UP), Pin: 231 223, Fax: 05446-242115
पंजीकृत कार्यालय एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 07 इन्स्टीट्यूट नल एरीया, लोधी रोड, नई दिल्ली - 110 003
Regd Office: NTPC Bhawan, Scope Complex, 7, Institutional Area, Lodhi Road, New Delhi – 110 003

**Status report regarding compliance of conditions stipulated in environmental clearance
of Rihand Stage-III (2x500 MW)**

Name of Project: Rihand Super thermal Power project stage III (2X500MW)

Project Code: UP-37-302-2009

Environment Clearance letter No: J-13011/57/2008-IA-II (T) dated. 05.02.09

Time Period: From: October'25 to March'26

S. No.	Stipulation	Status of Compliance (As on 31.03.2026)
2.	It is noted that the proposal is for grant of environmental clearance for setting up of a 2x500 MW thermal power project as an expansion stage-III within the existing complex. The land requirement for the project is 730 acres, which includes 430 acres for ash disposal, 150 acres for main plant and 150 acres for railway siding and pipeline corridor. Water requirement will be met from the discharge channel of Rihand STPP Stage-I. No additional water will be drawn from Rihand Reservoir. Public hearing was held on 20.6.2008. No National Park and Wildlife Sanctuary is located within 25 Km from project area. Total cost of the project is Rs 4572.96 crores, which includes Rs. 486.50 crores for environmental protection measures.	Noted.
3.	The proposal has been considered and Ministry of Environment & Forests hereby accords environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions:-	Noted
(i)	No additional land shall be used/acquired in excess of 730 acres for any activity/facility of this project.	No additional land has been used / acquired.
(ii)	Ash pond shall be at least 500 m away from FRL of Govind Ballabh Pant Sagar (Rihand Reservoir)	Shall be ensured during construction of ash pond.
(iii)	Sulphur and ash contents in the coal to be used in unit-I shall not exceed 0.3% and 41%, while for unit-II, 0.38% and 37% respectively at any given time.	NTPC Rihand is entirely dependent on linked mines of Northern Coalfields Ltd. for the quality and quantity of coal being

NTPC-RIHAND

		supplied. Average ash content in coal during Oct'25 – Mar'26 was 30.08%.
(iv)	A bi-flue stack of 275 m height shall be provided with continuous online monitoring equipments for SO _x , NO _x , Hg and Particulate. Exit velocity of flue gases shall not be less than 22 m/sec.	A bi-flue stack of 275m height has been constructed. Continuous online monitoring equipment are in service. Average exit velocity in flue gases was more than 22 m/s in Stage – III units during the period of October'25 – March'26
(v)	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	ESPs having efficiency of more than 99.96% have been installed and commissioned to ensure that particulate emission does not exceed 50 mg/Nm ³ . PM concentration during Oct'25 – Mar'26. is enclosed as Annexure - 01.
(vi)	Space provision shall be kept for retrofitting of FGD, if required at a later date.	Provision for FGD is made in General layout Plan. The work of installation of FGD is in progress to meet the new norms of SO ₂ emission from stack. Status of installation of FGD is enclosed as Annexure – 02. It is also submitted that as per MoEF&CC Gazette Notification G.S.R. 465 (E) dated 11.07.2025 the Category 'C' power plants are exempted from compliance of SO ₂ emission norms.
(vii)	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 / Dry Fog Dust Suppression (DFDS), dust suppression system using atomized water spray nozzles in track hoppers, pre wetting system, fog cannons etc. have been commissioned in coal handling plants, and other dust prone areas of Stage - III.

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(viii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. The project authorities should adhere to the provision stipulated in the fly ash notification of September, 1999 and as amended in August, 2003 in regard to fly ash utilization. Unutilized fly ash and bottom ash shall be disposed off in the ash pond.	Dry ash extraction system & dry fly ash silos of 04 x 1000 MT capacity is in operation in Stage – III. NTPC Rihand is making best possible efforts for maximum utilization of fly ash and only unused fly ash is being disposed off in the ash pond through wet slurry mode. Ash generated at NTPC Rihand is utilized in the following areas: a) Providing pond ash to NHAI and other road construction projects. b) Filling of low-lying areas at NTPC Rihand premises. c) Issue of fly ash to cement industries through rail (BTAP wagons) d) Issue of fly ash to asbestos industries. d) Manufacturing of ash bricks. Fly ash utilization report during Oct’25 – March’26 is enclosed as Annexure – 03. <table><tr><td></td><td>Oct’25 – Mar’26</td></tr><tr><td>Ash Gen. (MT)</td><td>2032655 MT</td></tr><tr><td>Ash Util. (MT)</td><td>909330 MT</td></tr><tr><td>Ash Util.%</td><td>44.74%</td></tr></table>		Oct’25 – Mar’26	Ash Gen. (MT)	2032655 MT	Ash Util. (MT)	909330 MT	Ash Util.%	44.74%
	Oct’25 – Mar’26									
Ash Gen. (MT)	2032655 MT									
Ash Util. (MT)	909330 MT									
Ash Util.%	44.74%									
(ix)	Closed cycle cooling system with cooling towers shall be provided. COC of at least 4 shall be adopted and the effluents shall be treated as per the prescribed norms.	Closed cycle cooling system with cooling towers has been provided in Stage III. Effluent treatment plant of capacity 200 m3/Hr has also been installed in Stage – III and treated effluent is recycled and used in the power generation process. The quality of treated effluents is well within the prescribed norms (Annexure – 04). Efforts are being taken to ensure COC of 04.								
(x)	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	The treated effluent is being re-circulated and reused within plant in raw water, ash handling water makeup, spraying on coal stockpiles etc. Arrangement has been made that effluent and storm water does								

NTPC-RIHAND

		not get mixed. Zero Liquid Discharge is being ensured.
(xi)	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.	Sewage treatment plant based on MBBR technology of capacity 03 MLD has been installed and it is in regular operation. Treated sewage water is being used in greenbelt & Miyawaki plantation.
(xii)	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.	Rihand STPP is located in the bank of Rihand Reservoir where water levels are comparatively high. It is further submitted that 117 nos. of groundwater recharging structures & 02 nos. of surface water collection structures have been installed at NTPC Rihand. Total installed capacity of rainwater harvesting structures is approx. 1.1 Lac cubic meters.
(xiii)	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 along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry at Lucknow.	Fire Fighting System and safety measures, i.e. sprinkler system, fire hydrant etc. have been provided in stage- III coal yard. Additionally, coal stock yards are being compacted using chain dozers for prevention of fire. Details are already submitted.
(xiv)	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. Disaster Management Plan 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 DMP. Sulphur content in the liquid fuel shall not exceed 0.5%.	Storage facility of auxiliary liquid fuels like LDO has been developed in risk free area. Onsite and off-site Disaster Management Plan has already been prepared and implemented. Periodical mock drills are being conducted regularly by safety department.
(xv)	Regular monitoring of ground water in and around the ash pond area including heavy metals (Arsenic, Mercury, Cr, lead etc.) shall be carried out, records maintained and six monthly reports shall be furnished to the Regional Office of this Ministry.	Shall be complied after construction of ash dyke. However, monitoring of ground water quality including heavy metals is being carried out in the surrounding areas of existing ash dykes. Ground water monitoring report is enclosed as Annexure – 05.
(xvi)	A green belt of adequate width and density shall be developed around the plant periphery covering 1/3 of project area preferably with local species.	As units under Stage-III are located within the existing premises of Stage-I and II, hence no separate green belt has been envisaged for Stage-III. Mass scale plantation and green belt development has already been undertaken in Stage-I, II, III in township and in nearby areas on Govt.

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		Land. Approx. 24 Lac trees have been planted till date in and around plant premises. NTPC Rihand has also entered into a MoU of 10 years with U.P. Forest Department for 38000 nos. of tree plantation every year on forest land. 49000 nos. of trees have been planted in the year 2025-26 till date. Report on green belt development is enclosed as Annexure – 06.
(xvii)	Adequate funds shall be allocated for undertaking CSR activities.	Sufficient funds are being allocated by NTPC Rihand for CSR activities. Rs. 673.73 Lacs has been spent on CSR during the FY 2024-25. And, Rs. 740.84 Lacs has been spent on CSR activities during FY 2025-26.
(xviii)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Construction of the plant is already completed. First aid center is available in the plant.
(xix)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/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.	Noted and being ensured.
(xx)	Regular monitoring of the ambient air quality in the impact zone shall be carried out and records maintained. In case the air quality levels exceed the prescribed standards, necessary corrective measures shall be taken.	03 numbers of Continuous Ambient Air Quality Monitoring Station have been installed at NTPC Rihand and these are in service since the year 2010.
(xxi)	Regular monitoring of ground level concentration of SO ₂ , NO _x , SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry.	Being done. Third party monitoring reports are enclosed as Annexure – 07.

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(xxii)	A detailed plan for health monitoring in the area within the impact zone shall be prepared and implemented along with local administration. The plan should, besides others, also provide for monitoring of respiratory disorders. The plan should be submitted within 3 months to this Ministry and its Regional Office at Lucknow.	Health monitoring survey was carried out by CSMMU, Lucknow. Copy of Final Report has already been submitted. Health checkup details during the period of October'25 to March'26 is enclosed as Annexure – 08.
(xxiii)	Provision shall be made for the housing of construction labour 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.	Now the construction activity is completed and the project is in operation.
(xxiv)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in .	Complied Advertisement issued as follows: Newspaper name Date of publication POINEER, 22.02.2009 LUCKNOW AMAR UJALA 23.02.2009 VARANASI
(xxv)	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	A separate environment management cell with qualified staff has already been established at NTPC Rihand. Details are enclosed as Annexure – 09.
(xxvi)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/ Regional Office/CPCB/SPCB.	Being complied.
(xxvii)	A) Regional Office of the MoEF located at Lucknow will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.	A) Already submitted. B) The Data is being displayed on Main Gate

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	B) Project proponent will upload the compliance status in their website and update the same from time to time. Criteria pollutant levels (stack and ambient levels) will be displayed at the main gate of the power plant.	
(xxviii)	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. This 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 to the Ministry.	Noted. The project work is already completed and Stage – III units are in operation. An expenditure of Rs. 164.25 Crores has been done under Environment Action Plan during the year 2025-26.
(xxix)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	The unit 5th has been commercialized on 19.11.2012 & unit 6th on.27.03.2014
(xxx)	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Lucknow /the CPCB/the SPCB who would be monitoring the compliance of environmental status.	Noted.
4.	The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. MOEF may impose additional environmental conditions or modify the existing ones, if necessary.	Noted.
5.	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.	Noted.
6.	In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.	Noted.

NTPC-RIHAND

7.	The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.	Noted.
8.	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted.



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ANNEX- 01

Ref. IITR/SSP-532/December-2025

Date: 07/11/2026

10.10 - ANALYTICAL TEST REPORT FOR STACK EMISSION MONITORING

Sampling Season : Winter Season
Date of sampling : December 10 to 12, 2025
Date of Samples Received in Lab : December 14, 2025
Date of Analytical Analysis Completion : January 03, 2026

Sl. No	Particulars	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI
1	Date of Sampling	10/12/2025	10/12/2025	11/12/2025	11/12/2025	12/12/2025	12/12/2025
2	Stack Attached to	ESP Outlet	ESP Outlet	ESP Outlet	ESP Outlet	ESP Outlet	ESP Outlet
3	Stack Height from Ground (m)	225	225	275	275	275	275
4	Type of Stack	Multi Flue	Multi Flue	Multi Flue	Multi Flue	Multi Flue	Multi Flue
5	Type of Duct	Circular	Circular	Circular	Circular	Circular	Circular
6	Material of Construction of Duct	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel
7	Height of Sampling Port from the Ground (m)	110	110	88	88	88	88
8	Diameter of Duct (m)	7	7	6.75	6.75	6.75	6.75
9	Duct Area (m ²)	38.48	38.48	35.76	35.76	35.76	35.76
10	Diameter of Sampling Port (mm)	150	150	150	150	150	150
11	Type of Fuel Used	Coal	Coal	Coal	Shut Down	Coal	Coal
12	Atmospheric Pressure (mm of Hg)	745	745	745		745	745
13	Sampling Period (min)	24	25	24		26	24
14	Ambient Temperature (K)	297	297	296		296	297
15	Stack Gas Temperature (K)	414	418	492		496	495
16	Total Coal Flow (MT/hr)	315	310	342		352	348
17	Unit Load (MW)	502	498	485		498	492
18	Flue Gas Exit Velocity (m/sec)	26.2	25.8	25.5		26.0	25.5
19	Concentration of Pollutants	PM (mg/Nm ³)	84	80		46	48
		SO ₂ (mg/Nm ³)	1075	1048		1124	1068
		NO _x (mg/Nm ³)	538	502		384	355
		Hg (mg/Nm ³)	0.0033	0.0032		0.0038	0.0042
		Ni (μg/Nm ³)	1.37	1.48		1.24	1.05
		As (μg/Nm ³)	ND	ND		ND	ND
		Pb (μg/Nm ³)	1.58	1.62		1.44	1.28

- Data for Sl. No. 2 to 11 are based on information provided by the M/s NTPC Rihand.
- Method of Measurement: stack emissions were measured and tested as per the method(s) prescribed in PO No.: 4000370822-037-1035, date: 29.10.2025.
- Unit - IV was not working at the time of monitoring by CSIR-IITR team.

Limits as provided by NTPC Rihand						
	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI
PM (mg/Nm ³)	100	100	50	50	50	50
SO ₂ (mg/Nm ³)	Not applicable as per MoEFCC notification dated 11.07.2025					
NO _x (mg/Nm ³)	600	600	450	450	450	450
Hg (mg/Nm ³)	0.03	0.03	0.03	0.03	0.03	0.03

Dr. B. Sreekanth
07/10/2026
Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/March-2026

Date 16.1.24 2026

10.10 - ANALYTICAL TEST REPORT FOR STACK EMISSION MONITORING

Sampling Season : Summer Season
Date of sampling : March 16 to 18, 2026
Date of samples received in lab : March 24, 2026
Date of Analytical Analysis Completion : April 09, 2026

Sl. No	Particulars	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI
1	Date of Sampling	16-03-2026	16-03-2026	17-03-2026	17-03-2026	18-03-2026	18-03-2026
2	Stack Attached to	ESP Outlet	ESP Outlet	ESP Outlet	ESP Outlet	ESP Outlet	ESP Outlet
3	Stack Height from Ground (m)	225	225	275	275	275	275
4	Type of Stack	Multi Flue	Multi Flue	Multi Flue	Multi Flue	Multi Flue	Multi Flue
5	Type of Duct	Circular	Circular	Circular	Circular	Circular	Circular
6	Material of Construction of Duct	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel	Mild Steel
7	Height of Sampling Port from the Ground (m)	110	110	88	88	88	88
8	Diameter of Duct (m)	7	7	6.75	6.75	6.75	6.75
9	Duct Area (m ²)	38.48	38.48	35.76	35.76	35.76	35.76
10	Diameter of Sampling Port (mm)	150	150	150	150	150	150
11	Type of Fuel Used	Coal	Coal	Coal		Coal	Coal
12	Atmospheric Pressure (mm of Hg)	745	745	745		745	745
13	Sampling Period (min)	30	29	28	28	26	28
14	Ambient Temperature (K)	302	302	303	303	302	302
15	Stack Gas Temperature (K)	418	422	445	438	435	438
16	Total Coal Flow (MT/hr)	325	321	342	340	350	344
17	Unit Load (MW)	495	492	498	496	494	492
18	Flue Gas Exit Velocity (m/sec)	26.1	25.4	25.5	26.4	26.1	25.8
19	Concentration of Pollutants	PM (mg/Nm ³)	88	85	48	42	44
		SO ₂ (mg/Nm ³)	1064	1028	998	1039	1020
		NO _x (mg/Nm ³)	543	520	398	386	352
		Hg (mg/Nm ³)	0.0037	0.0039	0.0034	0.0036	0.0031
		Ni (μg/Nm ³)	1.31	1.46	0.99	1.08	1.26
		As (μg/Nm ³)	ND	ND	ND	ND	ND
		Pb (μg/Nm ³)	1.56	1.64	2.01	2.09	1.41

- Data for Sl. No. 2 to 11 are based on information provided by the M/s NTPC Rihand.
- Method of Measurement: stack emissions were measured and tested as per the method(s) prescribed in PO No.: 4000370822-037-1035, date: 29.10.2025.

Limits as provided by NTPC Rihand						
	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI
PM (mg/Nm ³)	100	100	50	50	50	50
SO ₂ (mg/Nm ³)	Not applicable as per MoEFCC notification dated 11.07.2025					
NO _x (mg/Nm ³)	600	600	450	450	450	450
Hg (mg/Nm ³)	0.03	0.03	0.03	0.03	0.03	0.03

Dr. B. Sreekanth
Dr. B. Sreekanth
Project Investigator

FGD Status (Apr'26)

Annexure - 02

Unit No.	Target date of completion	% Completion of Civil works	Details of Civil Works completed	Details of Civil works due	% Completion of Mech. works	Details of Mech. Works completed	Details of Mech. works due
1.	Apr'27	Civil- 95%	Chimney Shell painting ip, U#2 flue can erection ip. GSS - steel super structure compl, sheeting ip. GDB- all floor casting compl ECR bldg.- finish civil work ip. Duct foundation completed RCPH#2 steel roof structure IP RCPH#1 RCC structure ip, Tapping point RCC completed. Other finish civil works in progress	U#1 Flue can erection, balance Pipe rack foundations, ECR building finishing work, GDB- sheeting work finish civil works	Mech-99 % fabrication(site) Erection- 59%	Absorber#1 Shell assembly compl, Hot work completed Common - Tanks rubber lining ip GDB structure ip, Pipe rack gallery erection ip RC Pumps alignment compl Booster Fans alignment compl Duct assembly & erection IP	Absorber#1 internal erection, Duct support structure and ducting- assembly & erection, Pipe rack balance works, Piping works, GDB equipment erection GSS equipment erection
2.	Feb'27					Absorber#2 Shell assembly completed, Hot work ip, RC Pumps alignment compl Booster Fans alignment compl Duct assembly & erection IP	Absorber balance hot work, internal erection Duct support structure and ducting- assembly & erection
3.	May'27	Civil-98%	Chimney Stage II shell painting ip U#3 Flue can – 3 of 4 segment erection completed, U#4 Flue can – 3 of 4 segment completed,	U#3 & #4 flue can balance erection, borosilicate lining finish civil works, Paving, drains etc	Mech-92% fabrication(site)	Interconnection 3&4 compl, Booster fan 3&4 erection completed, Ducting- U#3&4 ICD to BUF inlet duct erection compl, U3 duct insulation IP Absorber-3 Internals erection ip Absorber-4 shell erection compl, Roof assembly ip.	RCPH-3, 4 structures Balance, U#3 Duct supporting Structure and duct erection ip Absorber-3&4 balance works Booster fan 3&4 alignment Piping
4.	Sept'27				Total 20230 / 26532 MT erection completed		
5.	Dec'26		Chimney Shell St – III painting compl U#6 flue can complete, U#5 flue can 4 of 4 segment erection compl. Borosilicate work ip, Electrical building and LHS-GHS switchgear - civil work compl, GSS & GDS- finish civil work ip Finish civil works, Paving & drain ip	U#5 flue can balance borosilicate lining Balance finish work of GDS & GSS. Balance Paving & drains		Interconnection 5 &6 compl U#6 Flue gas path ready Absorber#5 -water fill test compl, Booster fan #5 oil flushing ip Ducting- U#5 duct insulation ip, Lime handling – commissioning ip GDS- Equipment erection compl GSS- Equipment erection IP Piping- laying compl, hydro test ip, Common system cabling ip	Common system commissioning – truck tipplers, Lime conveyors, Ball mills, Tanks readiness, Gypsum Dewatering system, Gypsum handling System
6.	Nov'26						

Fly Ash Utilization from October'2025 to March'2026

	Particulars	From ESP Dry Ash	From Pond Ash	From Bottom Ash	Total
1	Ash pond dyke raising	-	-	-	-
2	Cement industry	131580	-	-	131580
3	Land fill / Reclamation of low lying area	294803	--	-	294803
4	Own Brick Unit	3337	-	-	3337
5	Outside Brick units other than brick kilns	93505	-	-	93505
6	Brick Kilns	-	-	-	-
7	Own ash based products (other than bricks)	-	-	-	-
8	Outside ash based products	-	-	-	-
9	Road and Flyover Embankments	--	188642	-	188642
10	Back filling of mines and Mixing Ash with OB	-	-	-	-
11	Agriculture	-	-	-	-
12	Ready mix concrete	-	-	-	-
13	Asbestos	14495	-	-	14495
14	Exports	-	-	-	-
15	Others	-	-	-	-
	(i) Bottom Ash as substitute of sand	-	-	182967	182967
	(ii) Cenosphere	-	-	-	-
	(iii) Agriculture	-	-	-	-
	(iv) Geopolymer road	-	-	-	-
	Total	537720	188642	182967	909329

Total Ash Generated (Oct'25 – Mar'26)	2032655 MT
Total Ash Utilized (Oct'25 – Mar'26)	909329 MT
Ash Utilization % (Oct'25 – Mar'26)	44.74%



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ANNEX-04

Ref. IITR/SSP-532/December-2025

Date: 7.1.2026

10.50 - ANALYTICAL TEST REPORT OF ASH POND EFFLUENT MONITORING

Sampling Season : Winter Season
Date of sampling : December 13, 2025
Date of Samples Received in Lab : December 14, 2025
Date of Analytical Analysis Completion : January 03, 2026

Sl. No.	Parameters	Units	Ash Pond-Methini Dyke	Ash Pond-Central Dyke	*General Standards
1.	pH	--	7.67	7.85	6.5 – 8.5
2.	Total Suspended Solids	mg/L	44	66	100
3.	BOD (5 day) at 20 °C	mg/L	2.8	3.0	30
4.	COD	mg/L	32.5	28.6	250
5.	Oil & Grease	mg/L	2.6	3.2	10
6.	Fluoride as F	mg/L	0.56	0.60	2.0
7.	Mercury as Hg	mg/L	BDL	BDL	0.01
8.	Arsenic as As	mg/L	BDL	BDL	0.2
9.	Selenium as Se	mg/L	BDL	BDL	0.05
10.	Lead as Pb	mg/L	0.05	0.07	0.1
11.	Cadmium as Cd	mg/L	0.06	0.07	2.0
12.	Total Chromium as Cr,	mg/L	0.25	0.32	2.0
13.	Hexavalent Chromium (Cr ⁺⁶)	mg/L	0.04	0.06	0.1
14.	Copper as Cu	mg/L	0.05	0.07	3.0
15.	Iron as Fe	mg/L	1.14	1.26	3.0
16.	Zinc as Zn	mg/L	1.46	1.75	5.0
17.	Nickel as Ni	mg/L	0.82	0.96	3.0

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines.
- (2) Method of Measurement: Measurement for testing Ash Pond Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) BDL – Below Detection Limit.

B. Sreekanth
07/01/2026
Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/December-2025

Date 27.1.26 2026

10.60 - ANALYTICAL TEST REPORT OF DOMESTIC EFFLUENT MONITORING

Sampling Season : Winter Season
Date of sampling : December 13, 2025
Date of Samples Received in Lab : December 14, 2025
Date of Analytical Analysis Completion : January 03, 2026

Sl. No.	Parameters	Units	STP Plant	STP Township	*General Standards
1.	pH	--	7.8	7.6	5.5 – 9.0
2.	Total Suspended Solids	mg/L	18	15	20
3.	BOD (5 day) at 20 °C	mg/L	8.3	7.2	10
4.	COD	mg/L	36.8	32.5	50
5.	Oil & Grease	mg/L	3.2	2.8	10
6.	Fluoride	mg/L	0.64	0.52	2.0
6.	Nitrate -Total	mg/L	6.0	5.8	10
7.	Phosphorus - Total	mg/L	0.26	0.24	1.0
8.	Fecal Coliform	MPN / 100 ml	64	58	100
9.	Iron as Fe	mg/L	1.32	1.18	3.0
10.	Zinc as Zn	mg/L	0.98	0.86	5.0
11.	Copper as Cu	mg/L	0.95	0.82	3.0
12.	Lead as Pb	mg/L	0.03	0.028	0.1
13.	Total Chromium as Cr	mg/L	0.22	0.19	2.0
14.	Hexavalent Chromium as Cr ⁺⁶	mg/L	0.06	0.08	0.1
15.	Cadmium as Cd	mg/L	0.02	0.018	2.0
16.	Mercury as Hg	mg/L	BDL	BDL	0.01
17.	Arsenic as As	mg/L	BDL	BDL	0.2
18.	Selenium as Se	mg/L	BDL	BDL	0.05
19.	Nickel as Ni	mg/L	0.30	0.25	3.0

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines & EPA.
- (2) Method of Measurement: Measurement for testing Domestic Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) BDL - Below Detection Limit.

Sreekanth
Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/December-2025

Date 07/01/2026

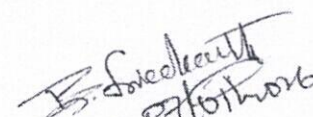
10.90 - ANALYTICAL TEST REPORT OF ETP EFFLUENT MONITORING

Sampling Season : Winter Season
Date of sampling : December 13, 2025
Date of Samples Received in Lab : December 14, 2025
Date of Analytical Analysis Completion : January 03, 2026

Sl. No.	Parameters	Units	ETP Stage-I	ETP Stage-II	*General Standards
1	pH	--	7.72	7.65	6.5 – 8.5
2	Total Suspended Solids	mg/L	52	48	100
3	BOD (5 day) at 20 °C	mg/L	4.6	4.4	30
4	COD	mg/L	31.4	30.2	250
5	Oil & Grease	mg/L	4.2	3.8	10
6	Fluoride as F	mg/L	0.54	0.78	2.0
7	Iron as Fe	mg/L	1.75	1.98	3.0
8	Zinc as Zn	mg/L	1.58	2.90	5.0
9	Copper as Cu	mg/L	1.05	1.60	3.0
10	Lead as Pb	mg/L	ND	ND	0.1
11	Total Chromium as Cr	mg/L	0.68	0.75	2.0
12	Hexavalent Chromium Cr ⁺⁶	mg/L	ND	ND	0.1
13	Cadmium as Cd	mg/L	0.82	1.04	2.0
14	Nickel as Ni	mg/L	0.89	1.12	3.0
15	Arsenic as As	mg/L	ND	ND	0.2
16	Selenium as Se	mg/L	ND	ND	0.05
17	Mercury as Hg	mg/L	ND	ND	0.01

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines.
- (2) Method of Measurement: Measurement for testing Domestic Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) ND - Not detected


Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/December-2025

Date: 27.12.2026

10.140 - ANALYTICAL TEST REPORT OF INDUSTRIAL EFFLUENT (CEA) MONITORING

Sampling Season : Winter Season
Date of sampling : December 13, 2025
Date of Samples Received in Lab : December 14, 2025
Date of Analytical Analysis Completion : January 03, 2026

Sl. No.	Parameters	Units	ETP Stage-III	*General Standards
1	pH	--	7.5	6.5 – 8.5
2	Total Suspended Solids	mg/L	42	100
3	BOD (5 day) at 20 °C	mg/L	4.2	30
4	COD	mg/L	34.0	250
5	Oil & Grease	mg/L	3.80	10
6	Fluoride (F)	mg/L	0.61	2.0
7	Chloride	mg/L	36.2	NS
8	Total residual chlorine	mg/L	ND	1.0
9	Sulphate as SO ₄	mg/L	44.2	NS
10	Sulphide as S	mg/L	0.45	2.0
11	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	0.04	1.0
12	Mercury (Hg)	mg/L	ND	0.01
13	Selenium (Se)	mg/L	ND	0.05
14	Arsenic (As)	mg/L	ND	0.2
15	Lead (Pb)	mg/L	ND	0.1
16	Cadmium (Cd)	mg/L	0.38	2.0
17	Copper (Cu)	mg/L	1.16	3.0
18	Total Chromium (Cr)	mg/L	0.82	2.0
19	Iron (Fe)	mg/L	2.10	3.0
20	Zinc (Zn)	mg/L	1.92	5.0
21	Nickel (Ni)	mg/L	0.96	3.0
22	Ammonical Nitrogen	mg/L	5.4	50
23	Total Kjeldahl Nitrogen	mg/L	17.5	100
24	Nitrate Nitrogen	mg/L	4.2	10
25	Phosphate as P	mg/L	1.9	5.0
26	Hexavalent Chromium	mg/L	ND	0.1
27	Manganese (Mn)	mg/L	0.54	2.0
28	Cyanide as (CN)	mg/L	ND	0.2
29	Vanadium	mg/L	ND	0.2

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines.
- (2) Method of Measurement: Measurement for testing Domestic Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) NS - Not specified
- (4) ND - Not detected

B. Sreekanth
Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/March-2026

Date. 16/04/2026

10.50 - ANALYTICAL TEST REPORT OF ASH POND EFFLUENT MONITORING

Sampling Season : Summer Season
Date of sampling : March 16 to 18, 2026
Date of samples received in lab : March 24, 2026
Date of Analytical Analysis Completion : April 09, 2026

Sl. No.	Parameters	Units	Ash Pond-Methini Dyke	Ash Pond-Central Dyke	*General Standards
1.	pH	--	7.71	7.89	6.5 – 8.5
2.	Total Suspended Solids	mg/L	38	62	100
3.	BOD (5 day) at 20 °C	mg/L	3.1	3.2	30
4.	COD	mg/L	34.6	28.2	250
5.	Oil & Grease	mg/L	3.1	3.4	10
6.	Fluoride as F	mg/L	0.59	0.66	2.0
7.	Mercury as Hg	mg/L	ND	ND	0.01
8.	Arsenic as As	mg/L	ND	ND	0.2
9.	Selenium as Se	mg/L	ND	ND	0.05
10.	Lead as Pb	mg/L	0.06	0.07	0.1
11.	Cadmium as Cd	mg/L	0.06	0.08	2.0
12.	Total Chromium as Cr,	mg/L	0.24	0.34	2.0
13.	Hexavalent Chromium (Cr ⁺⁶)	mg/L	0.05	0.05	0.1
14.	Copper as Cu	mg/L	0.04	0.09	3.0
15.	Iron as Fe	mg/L	1.18	1.31	3.0
16.	Zinc as Zn	mg/L	1.49	1.81	5.0
17.	Nickel as Ni	mg/L	0.84	0.98	3.0

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines.
- (2) Method of Measurement: Measurement for testing Ash Pond Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) ND – Not Detected.

Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/March-2026

Date..16/04/2026

10.60 - ANALYTICAL TEST REPORT OF DOMESTIC EFFLUENT MONITORING

Sampling Season : Summer Season
Date of sampling : March 23, 2026
Date of samples received in lab : March 24, 2026
Date of Analytical Analysis Completion : April 10, 2026

Sl. No.	Parameters	Units	STP Plant	STP Township	*General Standards
1.	pH	--	7.8	7.6	5.5 – 9.0
2.	Total Suspended Solids	mg/L	18	13	20
3.	BOD (5 day) at 20 °C	mg/L	8.6	7.2	10
4.	COD	mg/L	36.8	32.6	50
5.	Oil & Grease	mg/L	3.4	2.9	10
6.	Fluoride	mg/L	0.69	0.58	2.0
6.	Nitrate -Total	mg/L	6.1	5.4	10
7.	Phosphorus - Total	mg/L	0.26	0.22	1.0
8.	Fecal Coliform	MPN / 100 ml	62	56	100
9.	Iron as Fe	mg/L	1.38	1.21	3.0
10.	Zinc as Zn	mg/L	0.98	0.85	5.0
11.	Copper as Cu	mg/L	0.92	0.84	3.0
12.	Lead as Pb	mg/L	0.034	0.026	0.1
13.	Total Chromium as Cr	mg/L	0.24	0.19	2.0
14.	Hexavalent Chromium as Cr ⁺⁶	mg/L	0.04	0.06	0.1
15.	Cadmium as Cd	mg/L	0.03	0.01	2.0
16.	Mercury as Hg	mg/L	ND	ND	0.01
17.	Arsenic as As	mg/L	ND	ND	0.2
18.	Selenium as Se	mg/L	ND	ND	0.05
19.	Nickel as Ni	mg/L	0.29	0.23	3.0

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines & EPA.
- (2) Method of Measurement: Measurement for testing Domestic Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) ND – Not Detected.

Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/March-2026

Date: 16/04/2026

10.90 - ANALYTICAL TEST REPORT OF ETP EFFLUENT MONITORING

Sampling Season : Summer Season
Date of sampling : March 23 2026
Date of samples received in lab : March 24 2026
Date of Analytical Analysis Completion : April, 09 2026

Sl. No.	Parameters	Units	ETP Stage-I	ETP Stage-II	*General Standards
1	pH	--	7.74	7.61	6.5 – 8.5
2	Total Suspended Solids	mg/L	54	49	100
3	BOD (5 day) at 20 °C	mg/L	4.8	4.6	30
4	COD	mg/L	30.5	31.2	250
5	Oil & Grease	mg/L	4.4	4.0	10
6	Fluoride as F	mg/L	0.56	0.74	2.0
7	Iron as Fe	mg/L	1.71	2.12	3.0
8	Zinc as Zn	mg/L	1.68	2.99	5.0
9	Copper as Cu	mg/L	1.01	1.14	3.0
10	Lead as Pb	mg/L	ND	ND	0.1
11	Total Chromium as Cr	mg/L	0.71	0.79	2.0
12	Hexavalent Chromium Cr ⁺⁶	mg/L	ND	ND	0.1
13	Cadmium as Cd	mg/L	0.88	1.06	2.0
14	Nickel as Ni	mg/L	0.96	1.12	3.0
15	Arsenic as As	mg/L	ND	ND	0.2
16	Selenium as Se	mg/L	ND	ND	0.05
17	Mercury as Hg	mg/L	ND	ND	0.01

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines.
- (2) Method of Measurement: Measurement for testing Domestic Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) ND - Not detected

B. Sreekanth
16/04/2026
Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/March-2026

Date: 16.04/2026

10.140 - ANALYTICAL TEST REPORT OF INDUSTRIAL EFFLUENT (CEA) MONITORING

Sampling Season : Summer Season
Date of sampling : March 23 2026
Date of samples received in lab : March 24 2026
Date of Analytical Analysis Completion : April, 09 2026

Sl. No.	Parameters	Units	ETP Stage-III	*General Standards
1	pH	--	7.7	6.5 – 8.5
2	Total Suspended Solids	mg/L	52	100
3	BOD (5 day) at 20 °C	mg/L	2.8	30
4	COD	mg/L	33.6	250
5	Oil & Grease	mg/L	4.8	10
6	Fluoride (F)	mg/L	0.39	2.0
7	Chloride	mg/L	28.3	NS
8	Total residual chlorine	mg/L	ND	1.0
9	Sulphate as SO ₄	mg/L	46.2	NS
10	Sulphide as S	mg/L	0.41	2.0
11	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	0.03	1.0
12	Mercury (Hg)	mg/L	ND	0.01
13	Selenium (Se)	mg/L	ND	0.05
14	Arsenic (As)	mg/L	ND	0.2
15	Lead (Pb)	mg/L	ND	0.1
16	Cadmium (Cd)	mg/L	0.43	2.0
17	Copper (Cu)	mg/L	1.69	3.0
18	Total Chromium (Cr)	mg/L	0.59	2.0
19	Iron (Fe)	mg/L	1.53	3.0
20	Zinc (Zn)	mg/L	3.21	5.0
21	Nickel (Ni)	mg/L	0.93	3.0
22	Ammonical Nitrogen	mg/L	7.6	50
23	Total Kjeldahl Nitrogen	mg/L	26.0	100
24	Nitrate Nitrogen	mg/L	3.9	10
25	Phosphate as P	mg/L	1.6	5.0
26	Hexavalent Chromium	mg/L	ND	0.1
27	Manganese (Mn)	mg/L	0.37	2.0
28	Cyanide as (CN)	mg/L	ND	0.2
29	Vanadium	mg/L	ND	0.2

Note: -

- (1) *General Standards for Industrial Effluent Discharge as per CPCB Guidelines.
- (2) Method of Measurement: Measurement for testing Domestic Effluent Monitoring was carried out as per the method(s) prescribed in PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (3) NS - Not specified
- (4) ND - Not detected

Dr. B. Sreekanth
Project Investigator

10.70 - ANALYTICAL TEST RESULTS FOR GROUND - WATER QUALITY MONITORING

Sampling Season : Winter Season
Date of sampling : December 13, 2025
Date of samples received in lab : December 14, 2025
Date of Analytical Analysis Completion : January 03, 2026

S.No.	Parameter	Unit	Punarnwas -1	Punarnwas -2	Ircan Colony	Central Ash Dyke	Sirsoti Village	Acceptable Limit*
Physico-Chemical Parameters:								
1	pH	-	7.50	7.40	7.35	7.35	7.25	6.5-8.5
2	Colour	Hazen	1	1	1	2	1	5
3	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Total Dissolved Solids	mg/L	352	248	345	367	248	500
5	Total Alkalinity as CaCO ₃	mg/L	115	98	118	126	102	200
6	Total Hardness as CaCO ₃	mg/L	172	155	188	196	166	200
7	Nitrate as NO ₃	mg/l	57	30	34	35	27	45.0
8	Turbidity	NTU	Nil	Nil	Nil	Nil	Nil	1.0
9	Fluoride (as F)	mg/L	0.56	0.58	0.62	0.68	0.65	1.0
10	Free Residual Chlorine	mg/L	ND	ND	ND	ND	ND	0.2
11	Anionic Detergents	mg/L	ND	ND	ND	ND	ND	0.2
12	Sulphide (as H ₂ S)	mg/L	ND	ND	ND	ND	ND	0.05
13	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	ND	ND	ND	ND	ND	0.001
14	Coliforms (MPN)	MPN / 100 ml	Absent	Absent	Absent	Absent	Absent	Absent
15	Ammonia (As total Ammonia - (NH ₃))	mg/l	ND	ND	ND	ND	ND	0.5
16	Chloride	mg/l	36.8	39.5	41.2	47.8	35.2	250
17	Sulphate as SO ₄	mg/l	26.50	20.24	27.2	28.25	28.8	200
Analysis of Metals / Heavy Metals:								
18	Aluminum as Al	mg/l	ND	ND	ND	ND	ND	0.03
19	Cadmium (as Cd)	mg/l	ND	ND	ND	ND	ND	0.003
20	Tot. chromium (as Cr)	mg/l	ND	ND	ND	ND	ND	0.05
21	Copper (as Cu)	mg/l	ND	ND	ND	ND	ND	0.05
22	Lead (as Pb)	mg/l	ND	ND	ND	ND	ND	0.01
23	Iron (as Fe)	mg/l	0.18	0.11	0.13	0.16	BDL	0.3
24	Zinc (as Zn)	mg/l	0.72	0.60	0.74	1.0	0.82	5.0
25	Nickel (as Ni)	mg/l	ND	ND	ND	ND	ND	0.02
26	Barium (as Ba)	mg/l	ND	ND	ND	ND	ND	0.7
27	Boron (as B)	mg/l	ND	ND	ND	ND	ND	0.5
28	Calcium (as Ca)	mg/l	18.84	20.12	22.40	24.62	18.48	75.0
29	Manganese (as Mn)	mg/l	ND	ND	ND	ND	ND	0.1

Continued.....



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30	Molybdenum (as Mo)	mg/l	ND	ND	ND	ND	ND	0.07
31	Cyanide (CN)	mg/l	ND	ND	ND	ND	ND	0.05
32	Selenium (as Se)	mg/l	ND	ND	ND	ND	ND	0.01
33	Arsenic (as As)	mg/l	ND	ND	ND	ND	ND	0.01
34	Mercury (as Hg)	mg/l	ND	ND	ND	ND	ND	0.001
35	Magnesium (Mg)	mg/l	10.60	9.85	12.20	15.80	10.70	30

Note: - (1) Method of Measurement: Measurement for testing ground water quality monitoring was carried out as per the method(s) prescribed in the enclosure of PO No.: 4000370822-037-1035, dated: 29.10.2025.

(2) ND - Not detected

(3) *Acceptable limit as per BIS 10500:2012

B. Sreekanth
07/01/2026
Dr. B. Sreekanth
Project Investigator



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Ref. IITR/SSP-532/March-2026

Date. 16/04/2026

10.70 - ANALYTICAL TEST RESULTS FOR GROUND - WATER QUALITY MONITORING

Sampling Season : Summer Season
Date of sampling : March 23, 2026
Date of samples received in lab : March 24, 2026
Date of Analytical Analysis Completion : April 10, 2026

S.No.	Parameter	Unit	Punarwas -1	Punarwas -2	Ircon Colony	Central Ash Dyke	Sirsoti Village	Acceptable Limit*
Physico-Chemical Parameters:								
1	pH	-	7.68	7.72	7.45	7.48	7.35	6.5-8.5
2	Colour	Hazen	1	1	1	2	1	5
3	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Total Dissolved Solids	mg/L	342	258	334	360	270	500
5	Total Alkalinity as CaCO ₃	mg/L	122	105	120	132	116	200
6	Total Hardness as CaCO ₃	mg/L	176	164	192	188	176	200
7	Nitrate as NO ₃	mg/L	34	32	36	35	31	45.0
8	Turbidity	NTU	Nil	Nil	Nil	Nil	Nil	1.0
9	Fluoride (as F)	mg/L	0.53	0.56	0.64	0.69	0.71	1.0
10	Free Residual Chlorine	mg/L	ND	ND	ND	ND	ND	0.2
11	Anionic Detergents	mg/L	ND	ND	ND	ND	ND	0.2
12	Sulphide (as H ₂ S)	mg/L	ND	ND	ND	ND	ND	0.05
13	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	ND	ND	ND	ND	ND	0.001
14	Coliforms (MPN)	MPN / 100 ml	Absent	Absent	Absent	Absent	Absent	Absent
15	Ammonia (As total Ammonia - (NH ₃))	mg/L	ND	ND	ND	ND	ND	0.5
16	Chloride	mg/L	42.8	38.2	43.8	50.2	39.8	250
17	Sulphate as SO ₄	mg/L	22.98	26.81	27.91	30.54	28.27	200
Analysis of Metals / Heavy Metals:								
18	Aluminum as Al	mg/L	ND	ND	ND	ND	ND	0.03
19	Cadmium (as Cd)	mg/L	ND	ND	ND	ND	ND	0.003
20	Tot. chromium (as Cr)	mg/L	ND	ND	ND	ND	ND	0.05
21	Copper (as Cu)	mg/L	ND	ND	ND	ND	ND	0.05
22	Lead (as Pb)	mg/L	ND	ND	ND	ND	ND	0.01
23	Iron (as Fe)	mg/L	0.21	0.14	0.16	0.19	BDL	0.3
24	Zinc (as Zn)	mg/L	0.86	0.71	0.89	1.08	0.98	5.0
25	Nickel (as Ni)	mg/L	ND	ND	ND	ND	ND	0.02
26	Barium (as Ba)	mg/L	ND	ND	ND	ND	ND	0.7
27	Boron (as B)	mg/L	ND	ND	ND	ND	ND	0.5
28	Calcium (as Ca)	mg/L	20.21	23.64	26.31	28.67	19.98	75.0

To be Conti.....



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29	Manganese (as Mn)	mg/L	ND	ND	ND	ND	ND	0.1
30	Molybdenum (as Mo)	mg/L	ND	ND	ND	ND	ND	0.07
31	Cyanide (CN)	mg/L	ND	ND	ND	ND	ND	0.05
32	Selenium (as Se)	mg/L	ND	ND	ND	ND	ND	0.01
33	Arsenic (as As)	mg/L	ND	ND	ND	ND	ND	0.01
34	Mercury (as Hg)	mg/L	ND	ND	ND	ND	ND	0.001
35	Magnesium (Mg)	mg/L	12.51	11.92	14.62	18.24	12.40	30

Note: - (1) Method of Measurement: Measurement for testing ground water quality monitoring was carried out as per the method(s) prescribed in the enclosure of PO No.: 4000370822-037-1035, dated: 29.10.2025.

(2) ND- Not detected

(3) *Acceptable limit as per BIS 10500:2012

B. Sreekanth
16/04/2026

Dr. B. Sreekanth
Project Investigator

Report on Green Belt Development

NTPC Rihand has entered in an 10 years MoU with U.P. Forest Deptt. for plantation of 38000 nos. of tree saplings every year on the forest land to develop the carbon sink in the region. Tree plantation and its maintenance for 05 years is being done by U.P. Forest Deptt. and the entire cost of tree plantation and its maintenance is borne by NTPC Rihand. This MoU is effective from the year 2016 – 17. Approximately 24 Lacs nos. of trees have been planted by NTPC Rihand since inception, details of tree plantation during last 10 years is given below.

Year	Trees planted in (Nos.)	Approx. area covered (Hectares)	Species planted
2016-17	2961	01	Following local species have been planted:
2017-18	88000	70	
2018-19	49380	38	
2019 - 20	47380	37	Sagaun, cut sagaun, karanj, arjun, cesia-semia, neem, mango, guava, sheesham, bamboo, amla, kanji, paakad, gulmohar, ashok, neembu, amaltas, paarijat, ber, palash etc.
2020 - 21	39000	35	
2021 – 22	48000	37	
2022 – 23	55500	36	
2023 - 24	39000	35	
2024 - 25	49000	36	
2025 – 26 (till date)	49000 (including 9000 nos. of Miyawaki plantation)	37	

NTPC Rihand has started development of urban forest in township premises by planting the local plant species using Miyawaki method. Above activity has been started on 05.06.2020. During the year 2021 plantation of approx. 1000 medicinal plants has done. Approx. 37000 trees have been planted till date at NTPC Rihand using Miyawaki Method.

In the Financial year 2025-26 plantations of 40000 nos. of normal tree plantation & 9000 nos. of Miyawaki plantation has been done.

It is also submitted here that with reference to Gazette Notification S.O. 884 (E) regarding green credit programme, NTPC Rihand is coordinating 30,000 numbers of tree plantation in an area of 27 Hectares in Sonbhadra District through U.P. Forest Department.



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Annexure - 07

Ref. IITR/SSP-532/December-2025

Date: 27.12.2026

10.30 - ANALYTICAL TEST RESULTS FOR AMBIENT AIR QUALITY MONITORING

Sampling Season : Winter Season
Date of sampling : December 09 to 13, 2025
Date of Samples Received in Lab : December 14, 2025
Date of Analytical Analysis Completion : January 03, 2026

Sl. No.	Parameters	Units	Shiv Mandir - Township (AAQ-I)	Bijpur - Punarwas (AAQ-II)	Avantika - TTS (AAQ-III)	MGR-Plant (AAQ-IV)	NAAQS:2009
Date of sampling			09/12/2025	10/12/2025	11/12/2025	12/12/2025	
1	PM ₁₀	µg/m ³	76	78	84	86	100
2	PM _{2.5}	µg/m ³	46	54	45	52	60
3	SO ₂	µg/m ³	25	26	26	28	80
4	NO _x	µg/m ³	35	38	38	40	80
5	CO #	mg/m ³	1.05	0.92	1.10	0.98	02*
6	O ₃	µg/m ³	64.50	72.48	73.35	76.56	100*
7	NH ₃	µg/m ³	52.60	85.22	96.82	60.54	400
8	C ₆ H ₆	µg/m ³	0.7	0.9	1.1	1.0	5
9	B(a)P	ng/m ³	0.23	0.27	0.30	0.32	1
10	Pb	µg/m ³	0.26	0.28	0.32	0.38	1
11	Ni	ng/m ³	5.5	5.4	6.2	4.2	20**
12	Hg	ng/m ³	ND	ND	ND	ND	20**
13	As	ng/m ³	ND	ND	ND	ND	06**

Note: -

- (1) Method of Measurement: Measurement for testing ambient air quality was carried out as per the method(s) prescribed in the enclosure of PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (2) # Average concentration of 8 hourly data monitored for a period of 24 hrs.
- (3) *8 hours avg.
- (4) **Annual avg.
- (5) ND - Not detected
- (6) NAAQS (2009): National Ambient Air Quality Standards in India provided by CPCB.

B. Sreekanth
27/12/2026

Dr. B. Sreekanth
Project Investigator

Ref. IITR/SSP-532/March-2026

Date. 16.10.2026

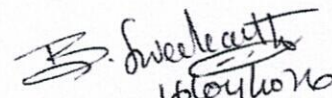
10.30 - ANALYTICAL TEST RESULTS FOR AMBIENT AIR QUALITY MONITORING

Sampling Season : Summer Season
Date of sampling : March 15 to 18, 2026
Date of Samples Received in Lab : March 24, 2026
Date of Analytical Analysis Completion : April 09, 2026

Sl. No.	Parameters	Units	Shiv Mandir – Township	Bijpur - Punarwas	Avantika - TTS	MGR- Plant	NAAQS:2009
			(AAQ-I)	(AAQ-II)	(AAQ-III)	(AAQ-IV)	
Date of sampling			15-03-2026	16-03-2026	17-03-2026	18-03-2026	
1	PM ₁₀	µg/m ³	72	86	80	92	100
2	PM _{2.5}	µg/m ³	44	58	46	54	60
3	SO ₂	µg/m ³	26	28	29	28	80
4	NO _x	µg/m ³	34	40	42	40	80
5	CO #	mg/m ³	1.02	0.98	1.19	0.99	02*
6	O ₃	µg/m ³	66.25	74.62	76.58	80.92	100*
7	NH ₃	µg/m ³	56.28	82.72	88.56	64.93	400
8	C ₆ H ₆	µg/m ³	0.6	0.9	1.1	1.0	5
9	B(a)P	ng/m ³	0.24	0.22	0.32	0.34	1
10	Pb	µg/m ³	0.22	0.31	0.34	0.41	1
11	Ni	ng/m ³	5.2	5.9	6.4	4.9	20**
12	Hg	ng/m ³	ND	ND	ND	ND	20**
13	As	ng/m ³	ND	ND	ND	ND	06**

Note: -

- (1) Method of Measurement: Measurement for testing ambient air quality was carried out as per the method(s) prescribed in the enclosure of PO No.: 4000370822-037-1035, dated: 29.10.2025.
- (2) # Average concentration of 8 hourly data monitored for a period of 24 hrs.
- (3) *8 hours avg.
- (4) **Annual avg.
- (5) ND – Not detected
- (6) NAAQS (2009): National Ambient Air Quality Standards in India provided by CPCB.


Dr. B. Sreekanth
Project Investigator

Number of occupational Health Check Up done
October'2025 to March'2026

Month	Employees	Spouse	Contract Workers	Occupational diseases identified
Oct'25	23	09	1651	NIL
Nov'25	61	36	1602	NIL
Dec'25	135	69	1203	NIL
Jan'26	18	12	1470	NIL
Feb'26	Nil	4	826	NIL
Mar'26	5	4	856	NIL
Total Oct'25 – Mar'26	242	134	7608	NIL

Note:

Checkup being done for: ENT (Right & Left ear), Eye Check Up (distant, near vision and color), dental checkup, Chest X-Ray, ECG, heart, lung, eye, blood sugar, BP, Urine R/M etc.

NTPC RIHAND

Organization Structure of EMG

