

एन टी पी सी लिमिटेड (भारत सरकार का उद्यम) NTPC Limited (A Govt. of India Enterprise)

एनटीपीसी, वरीनी /NTPC, Barauni

संदर्भसंख्या/Ref No:Ref:/BARAUNI TPS/EMG/2024/EC/02

दिनांक/Date 26.11.2024

To,

Regional Office (East Central Zone), Ministry of Environment, Forest & Climate Change, Bungalow No. A2, Shyamil Colony, Ranchi — 834002 Email: ro.ranchi-mef@gov.in

Subject: Half Yearly Compliance Report of condition stipulated in Environmental Clearance of 2X250 MW Barauni (Extension) Thermal Power Station at Barauni Block, District Begusarai & Patna, Bihar for the period of April,2024 to September,2024.

MOEF&CC Ref: EC letter no. J-13012/143/2008-IA.II(T) dated 08.05.2014 and 22.04.2020

Dear Sir,

Kindly find enclosed Half Yearly Compliance Report regarding compliance of conditions stipulated in Environmental Clearance accorded by MOE&CC vide letter no. J-13012/143/2008-IA.II(T) dated 08.05.2014 and 22.04.2020 for Barauni TPS Stage-II (2x250 MW) for the period 01.04.2024 to 30.09.2024.

This is for your kind information please.

Thanking You

Encl: As above

Yours faithfully

(Sankalp Srivastava)

Sr. Manager (EMG & AU)

For & on behalf of BaraunFIRS

AC S AD) / में चरण प्रबंधन एवं राख उपयोगिता No S AD) / में चरण प्रबंधन एवं राख उपयोगिता No S AD) / में सी बरौनी Begusarar-85 (116) के मुसराय-851116

Copy to: (i) Regional Office, Bihar Pollution Control Board, Barauni, Dist. BeguSarai.

(ii) Regional Director, CPCB, Kolkata

बरौनी थर्मल पावर स्टेशन, बीटीपीएस, बरौनी, जिला— बेगूसराय — 851116 (बिहार), Barauni Thermal Power Station, BTPS, Barauni, Dist. - Begusarai- 851116 (Bihar) Registered Office: NTPC Bhawan, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Delhi- 110003

Corporate Identification Number- L40101DL1975G01007966, Website- www.ntpc.co.in



HALF-YEARLY COMPLIANCE REPORT OF BARAUNI THERMAL POWER PLANT STAGE-II (2x250 MW) of NTPC LIMITED (April'2024 to September'2024)

COMPLIANCE STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS

Vide Letter No. J- 13012/143/2008-IA. II (T) Dated 08h May 2014

SI No	MoEF&CC STIPULATIONS	STATUS AS ON 30.09.2024	
A. Spec	A. Specific Conditions:		
(i)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.	Complied. NTPC vide its letter dated 19.04.2019 has submitted a Project Vision Document to the Regional Office of Ministry of Environment and Forest & Climate Change (MoEF&CC) at Ranchi.	
(ii)	Scheme for implementation for harnessing solar power within the premises of the plant particularly at available roof tops shall be formulated and status of implementation shall be submitted periodically to the Regional Office of the Ministry from time to time.	The contract for 900 KW roof top solar system has been awarded. About 162 KWe capacity of Soal Roof top has been commissioned. Solar road lights at various places in township has been installed.	
(iii)	Sulphur and ash contents in the coal to be used in project shall not exceed 0.6% and 40.1% respectively at any given time. In case of variance of coal quality at any point of time fresh reference shall be made to the Ministry for suitable amendments to environmental clearance Condition(S) wherever necessary.	Complied. As per MoEF&CC Notification dated 21.05.2020, stipulations with regard to ash content in coal used by Thermal Power Plants are waived-off. However, the details of coal received w.r.t source and distance from FY2020-21, 2021-22, 2022-23, 2023-24 is enclosed herewith as Annexure-I.	



SI No	MoEF&CC STIPULATIONS	STATUS AS ON 30.09.2024
(iv)	A stack of 275 m height shall be provided with continuous online monitoring equipment for SOx, NOx, and PM2.5 & PM.10. Exit velocity of flue raises shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.	Complied. Equipment for continuous online monitoring of PM _{2.5} & PM ₁₀ in stack emissions is not available in market. Therefore, continuous online monitoring equipment for SOx, NOx, and PM has been installed in stack. However, flue gas velocity is more than 22 m/sec and Mercury emissions from stack are being monitored periodically by third party lab approved by BSPCB and MOEF&CC. Copy of stack monitoring report during compliance period is enclosed as Annexure-II .
(v)	High Efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm ³ .	Complied. High Efficiency Electrostatic Precipitator (ESPs) are under operation.
(vi)	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 suppression has been commissioned in coal handling plant, coal stock yard area, ash handling points and conveyor belts and transfer points for control of fugitive dust emissions. Water sprinkling is being done on roads to minimize dust emissions. Dust extraction system is under Trial operation stage.
(vii)	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted. Prior from an institute of repute and adequate	Complied. Pond ash is being utilized in road construction, highway, ROB etc. Therefore, the option for mine void filling is not adopted. Fly ash has not been used in agriculture during compliance period.



SI No	MoEF&CC STIPULATIONS	STATUS AS ON 30.09.2024
	clay lining area shall be ascertained by the State Pollution Control Board and implementation done in close coordination with the State Control Board.	
(viii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As. Hg. Cr. Pb etc). will be monitored in the bottom ash as also in the effluents emanating from the existing pond, No ash shall be disposed off in low lying area.	Complied. Two Number of Ash Silos of 1300 MT capacity each are under operation for storing and evacuation of fly ash. Heavy metal monitoring is being done in Bottom ash (pond) periodically. Fly ash is being lifted by Cement Industries, ash brick industries and Pond Ash in NHAI, road projects etc. Ash water from ash pond is completely recycled to power plant for ash slurry preparation. No effluent is being discharge from existing ash ponds.
(ix)	Ash pond shall be lined with HDPE/LDPE or any other suitable impermeable media so that no leachate takes place at any point of time. A strong embankment shall be constructed around the ash dyke and TPP to prevent any flood water entering the site. The stability of these embankment shall be studied by reputed institutes like CWPRS, Pune and the recommendations of the institute shall be accordingly implemented.	-



SI No	MoEF&CC STIPULATIONS	STATUS AS ON 30.09.2024
(x)	Fugitive emission of fly ash (Dry or wet system) shall be controlled such that no agricultural or non agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.	Complied. Regular water sprinkling is being done through a network of sprinklers along with covering of dry patches of ash pond with waste polypropylene sheet. No agriculture/Non-agriculture land is affected due to ash. Tractor propelled water tankers are also deployed to control dust emissions from ash transportation road.
(xi)	A long term study of heavy metal and radioactivity contents on coal shall be carried out through a reputed institute and results thereof analyzed every two years and reported along with monitoring reports. Thereafter mechanism for in built continuous monitoring of radio activity and heavy metals in coal and fly ash(including bottom ash) will be put in place.	Report of Radio activity analysis of Coal and Ash by BARC in FY 2023-24 attached as Annexure-III . Heavy metal testing in coal, ash, and water is being done. Copy enclosed as Annexure-IV . Equipment for continuous monitoring of heavy metals in coal and ash is not available in market.
(xii)	No water bodies (including natural drainage system) in the area shall be disturbed due to activities associated with the setting up/operation of the power plant.	No natural water bodies has been diverted/disturbed for installation of Power Plant.
(xiii)	COC of 5.0 shall be adopted.	Complied.
(xiv)	A well designed rain water harvesting system will be put in place within six months, which shall comprise of rain water collection from built up and open area in the plant premises and detailed record of quantity of water collected and its use. Action plan and road map for its implementation shall be submitted to regional office of Ministry.	12 no of rainwater harvesting pits are constructed. A large storm water pit of 8000 Cum capacity has been constructed to collect rainwater from storm water drains for in plant use. Balance two nos. storm water pits are also under construction.
(xv)	Hydrogeology of the area shall be reviewed annually from an	



SI No	MoEF&CC STIPULATIONS	STATUS AS ON 30.09.2024
	institute /organization of repute to assess impact of surface water and ground regime (especially around ash dyke) in Case any deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.	Hydrogeological Study is under progress. Groundwater quality monitoring data nearby villages of ash dyke is enclosed at
(xvi)	Monitoring surface water quality in the area shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Report of groundwater analysis and Surface water are attached as Annexure-V &VI .
(xvii)	Wastewater generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB.	An effluent management scheme (ETP, STP and Coal Slurry Settling pit) has been implemented. No wastewater is being discharged from plant and it is being completely recycled/reused within plant itself.
(xviii)	No discharge in the River is permitted except if the quality of the effluent is of the quality or better as that of River.	Complied. The plant is Zero Liquid effluent Discharge (ZLD) Plant, and no effluent is being discharged from project boundary. All effluents are being recycled and reused within plant.
(xix)	Additional soil for levelling of the proposed site shall be generated within the sites (to the extent possible) so that natural	Complied.



SI No	MoEF&CC STIPULATIONS	STATUS AS ON 30.09.2024
	drainage system of the area is protected and improved.	
(xx)	Green Belt consisting of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per with survival rate not less than 80%.	 Cumulative trees (inhouse and External area plantation) planted By Barauni TPS at its project area as well as Baegusarai division is 77400 Nos. till September, 2024.
(xxi)	development of the neighboring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools	Various community development work like construction of Boundary wall of Govt. schools,
(xxii)	21.996 Crores as one time capital investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be RS. 3.66 crores per annum or as per	A budgetary provision of 22 Crore is kept in the stage-II DCO for CSR activities. A plan for community development has been approved by District Magistrate, Begusarai. Hence development work under progress as per approved plan & directions of district administration along with other
(xxiii)	For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be	implementation of CSR/CD



SI No	MoEF&CC STIPULATIONS	STATUS AS ON 30.09.2024
	evaluated by an independent external agency. The evaluation shall be both concurrent and final.	
(xxiv)	implemented in consultation with the village panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in project after imparting relevant training shall be also undertaken. Company shall	finalized as per recommendation of DM Begusarai. The scheme was approved by DM, Begusarai vide letter dated 12.06.2020 and copy of same has been submitted along with half yearly compliance to R.O., MOEF&CC vide our letter dated 30.12.2020. A Need Assessment Survey for CD/CSR activities has been done in 2021 for detail analysis of CD/CSR requirement in the area.
(xxv)	comprising of at least one expert	One Senior Manager level executive is M.Tech in Environmental Sc. & Engg.



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B. Gene	eral Conditions	
(i)	The treated effluents conforming to the prescribed standards only shall be recirculated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	Complied. Treated effluents conforming to the prescribed standards only are being re-circulated and reused within the plant. As per ZLD scheme effluents drains and and storm water drains do not get mixed.
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising green belt/plantation.	Complied. A STP in plant has been installed.
(iii)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Hydrant system for covering the entire power station including all the auxiliaries and buildings in the plant area has been commissioned. Key plan for fire protection system was submitted in Half yearly compliance report dated 06.12.2021.
(iv)	Storage facilities for auxiliary liquid fuel such as LDO/HFO/LSHS shall be made in the plant area in consultation with department of Explosives, Nagpur; Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	Complied. A detailed Disaster Management Plan has been prepared and submitted to Chief Inspector of factories Bihar for approval.
(v)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied. Rest rooms, toilets and occupational centre is under operation. First Aid box has been provided at designated locations of plant.
(vi)	Noise levels emanating from turbines shall be limited to 85 dB (A) from source. For people working in the high noise area,	Personal protective equipment has been arranged through contractors/safety department during execution of works.



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	requisite personal protective equipment like ear plugs/ear muffs 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.	The operators working in turbine area, compressor etc. or high noisy area are provided ear plugs/ earmuffs by contractors/safety Department. Periodic medical examination of operators are being done for operators working in Turbine area, air compressors etc. for operational Unit.
(vii)	Regular monitoring of ambient air ground level concentration of SO ₂ , NOx, PM _{2.5} & PM ₁₀ and Hg shall be carried out in the impact zone and record 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. The data shall also be put on the website of the company.	Regular monitoring of AAQ is being done in and around plant area. The CAAQMS have been Implemented in 3 locations. Ambient Air Quality Data (October2023 -March 2024) are available on NTPC Website. Ambient air quality data (April,2024 – September,2024) from MOEF&CC and BSPCB approved lab is attached as Annexure-VII and same shall be uploaded on NTPC website along with current Half yearly Compliance Report.
(viii)	Provision shall be made for the housing of construction labor (as applicable) within the site with all necessary infrastructures 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 structure to be removed after the completion of the project.	Complied. NTPC has constructed labour restrooms with required facilities within the site. Infrastructure facilities such as sanitation, medical facilities, drinking water has been made available to workers. Canteen facilities has been provided to all persons working in plant.
(ix)	The project proponent shall advertise in at least two local news papers widely circulated in	Complied. The information regarding Environmental Clearance was



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	the region around the project, one of which shall bein 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 be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in	15.12.2018.
(x)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila parishad/Municipal Corporation, urban local body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied. A copy of the clearance letter has been sent to District Collector, Begusarai dated 14.05.2014 and Mukhiya Malhipur Panchyat, Mukhia Kasha Diyara Panchyat and Adhyaska Nagar Parisad, Mokama vide dated 13.05.2014 by earlier project proponent BSPGCL. The Environmental Clearance (EC) copy is available on NTPC website.
(xi)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM _{2.5} & PM ₁₀), SO ₂ , NO _x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	Complied. The latest Half Yearly Compliance (HYC) status report of the stipulated environmental clearance conditions is being submitted to the Regional Office of MOEF&CC at Ranchi and monitoring data are enclosed with this half yearly compliance and will be available on NTPC website after submission. The Arrangement for Digital display of ambient air quality for PM ₁₀ , PM _{2.5} , SO ₂ and NOx and Stack emissions (PM, SO ₂ and NOx) near Plant main gate has been made at main gate.



SI No	MoEF STIPULATION	STATUS AS ON 30.09.2024
(xii)	The environment statement for each financial year ending 31stMarch in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by email.	Complied. The environment statement for financial year (2023-24) ending 31 st March in Form-V has been submitted to the Bihar State Pollution Control Board vide letter dated 27.09.2024. A copy of same is also sent by email to Regional office, Ranchi, MOEF&CC.
(xiii)	The project proponent shall submit six monthly reports on the status of the implementations of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by email to Regional office, Ministry of Environment and Forests.	Complied. Latest Half yearly Compliance status for Period April,2024-September,2024 of the stipulated environmental clearance conditions is being submitted to the Regional Office of MOEF&CC at Ranchi & other authorities and same will be available on NTPC website after submission.
(xiv)	Regional office of the Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact	Complied. A Copy of EIA/EMP has been submitted to the Regional Office of MoEF&CC at Ranchi. Latest Half yearly Compliance
	Assessment Report and	status for Period April,2024- September,2024 will be available



SI No	MoEF STIPULATION	STATUS AS ON 30.09.2024
		on NTPC website after submission.
(xv)	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. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant. Separate funds shall be allocated for implementation of environmental protection 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 purpose and year-wise expenditure should be reported to the ministry.	Complied. EMP already submitted to RO, MOEF&CC. Latest Half yearly Compliance status for Period April,2024-September,2024 will be available on NTPC website after submission. Criteria pollutants levels including NOx (from stack & ambient air) have been displayed on digital display board at the main gate of the power plant. Complied. Implemented Measures 1.Installation of ESPs of 99.78 % efficiency to limit the RSPM concentrations below 50 mg/Nm³; 2.275m stack for wider dispersion of gaseous emissions. (Rs.40 Crore) 3.ETP for treatment of waste water. 4.Coal slurry settling pond. 5.Dry ash Extraction system. 6.STP for treatment of sewage. 7. Dust suppression has been commissioned in coal handling area including coal stock yard area, ash handling points for control of fugitive dust emissions. 8. Continuous emission monitoring system(CEMS) and Effluent Quality Monitoring System(EQMS).(Rs.53 Lakhs) 9. Ambient Air quality
		monitoring system(AAQMS). (Rs.5 Crore)



SI No	MoEF STIPULATION	STATUS AS ON 30.09.2024
		Implemented 1. Asphalting of the roads within the plant area. 2. Rainwater harvesting system /pit. 3. Zero liquid discharge system. (Rs.60 Lakhs) 5. Dust extraction system being commissioned at transfer points of conveyor system. 6. Plantation in Begusarai division through DFO with provision of expenditure of Rs. 2.2 Crores from CSR/CD expenses in FY2020-24. 7. Plantation in Begusarai Division through DFO with provision of expenditure of Rs. 1.27 Crores in FY 2022-26. 8. Total cost Rs. 12.785 Crore for NOx modification of both units. Unit#8 & 9 combustion modification completed.
		Systems under tendering/implementation 1. Technoeconomic feasibility is being explored for alternate technologies for SO ₂ reduction. Estimated cost Rs. 350 Crore.
		3.Contract for Roof Top Solar awarded for Rs. 4.2 Crore. Work is under progress. 4. Renovation of Hazardous Waste Shed is under progress with cost about Rs.40 lakhs.



SI No	MoEF STIPULATION	STATUS AS ON 30.09.2024
(xvi)	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.	Complied. Financial Closure achieved in 2015 with PFC. Commercial operation declaration of Unit # 8 Barauni Stage-II was done w.e.f 01.03.2020. Commercial operation declaration of Unit # 9 Barauni Stage-II was done w.e.f 01.11.2021.
(xvii)	Full cooperation shall be extended to the Scientists/officers from the Ministry / Regional Office of the Ministry/ CPCB /SPCB who would be monitoring the compliance of environmental status.	Full cooperation is being extended to the Scientists/ officers from the Ministry / Regional Office of the Ministry at Ranchi/ the CPCB / the SPCB during monitoring of the project.
6.	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. The Ministry may also impose additional environmental conditions of modify the existing ones, if necessary.	Noted.
7.	The environmental clearance accorded shall be valid for a period of 5 years from the date of issue of this letter to start operations by the power plant.	Noted.
8.	Concealing factual data or submission of false/fabricated data and 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)Act, 1986.	Noted.



SI No	MoEF STIPULATION	STATUS AS ON 30.09.2024
9.	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.
10.	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, Handling & Transboundary Movement) Rules, 2008 and its amendments, the public Liability Insurance Act,1991 and its amendments.	Noted.
11.	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
C. Othe	r Observation	
(i)		



SI No	MoEF STIPULATION	STATUS AS ON 30.09.2024
(ii)	PP should ensure 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 of BTPS stage I Plant. PP should also furnish up to date status to the ministry in the matter (Specific condition vi)	Dust suppression system has been commissioned in coal handling area including coal stock yard area, ash handling points for control of fugitive dust emissions. Dust suppression system has been commissioned for conveyor belts and transfer points. Dust extraction system under

COMPLIANCE STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS

Vide Letter No. J-13012/143/2008-IA.II(T) dated 22.04.2020

SI No	MoEF STIPULATION	STATUS AS ON 30.09.2024					
Additional Condition							
(i)	The necessary pollution control measures shall be implemented to comply with revised emission norms and specific water consumption as per the Ministery's Notifications S.O.3305(E) dated 07.12.2015 and GSR 593(E) dated 28.06.2018. The progress of its implementation (physical and Financial) and extensions received from CPCB/MOEF&CC, if any shall be submitted as part of compliance report.	 i. Installation of ESPs of 99.78 % efficiency to limit the RSPM concentrations. ii. Combustion modification for reduce NOx emissions in Unit#8 and Unit#9 					

Annexure-I

Source wise coal received by Barauni Stage-II(2x250MW) in FY2020-21, 2021-22, 2022-23, 2023-24, 2024-25(up to october) Coal Data

Coal Received (MT)	FY-2020-21	Avg. Chargeble Dist. (KM) FY-2020-21	FY-2021-22	Avg. Chargeble Dist. (KM) FY-2021-22	FY-2022-23	Avg. Chargeble Dist. (KM) FY-2022-23	FY-2023-24	Avg. Chargeble Dist. (KM) FY-2023-24	FY-2024-25 (up to october)	Avg. Chargeble Dist. (KM) FY-2024-25				
PBCMP	522924.97	311	992845.64	311	2007615.41	311	2194031.91	311	1297819.09	315				
CCL	152040.3	416	303976.6	411	66455.25	411	57748.32	499	3949.28	509				
ECL	178163.83	291	310777.21	218	333913.42	226	86081.98	230	22988.05	255				
BCCL (Dvt_in)	0		11801.95	319	0		22568.69	317	0					
MCFL (Dvt_in)	0		0		0		14614.97	636	0					
Total	853129.10	339	1619401.40	315	2407984.08	316	2375045.87	399	1324756.42	360				









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TEST REPORT

Re	f. No. STH/TR/24-25/355	h: 16.04.2024	Your PO No. 4	000283588-057-101	9 Dt: 2	0.07.2022				
8	Name and address of the Custome		NTPC LIMITED BARADNI THERMAL POWER PLANT PROJECT NH 31, BARADNI BEGUSARAI - 851 116							
bl	Details of Sample			Monitoring of Stack (The second second				
[0]	Sample Collected by		By Chitranjan Kui Shiva Test House		entative) of					
[d]	Sampling Location		From Duct of Stack	at Unit # 8 (1 * 250)	(III)					
[6]	Method of Sampling		IS 11255 (Part-1.2)	3 & 7)						
n.	Sampling Environmental Condition	on.	Temp. (PC) 2	24 Humidity	(%) 51					
gl	Details of Sample Container (No.	& Type of Cor	ntainer)	Thimble & Sample C						
h]	Instrument ID		STH/Equip/117	700000000000000000000000000000000000000						
II.	Sample Quantity			60 ml						
0	Sample Code			ST-355/04/24						
K	Sample Condition on Receipt			Fit for Analysis						
IJ.	Items required to be tested			As per contract						
[m]	Whether any specific Method of customer		suggested by the	No						
[n]	Date of receiving the sample in L			09.04.24						
[0]	Analysis Start Date / Analysis Co	mpletion Date		09.04.24 / 14.04.24						
	Parameters	Unit	Method of Test	Results						
1.	Type of Fuel				Coail					
2.	Stack Connected to			Electro	Static Precipitator (ESP)				
3.	Height of Stack (as reported)	Meter		1	275.0 m.					
4	Dia of Stack at Top (as reported)	Meter			4.9 m,					
5.	ID fan to chimney duct cross section	The second			3812 x 3412 mm ²					
6.	Draft				ID Fan					
7.	Material of Construction	1444			MS					
8,	Ambient Temperature	₽C			33.0					
9.	Flue Gas Temperature	*C			122.0					
	Velocity	m/sec.	IS 11255 (Part-3)		23.0					
10.		300.0006			1228236.0					
10.	Volumetric flow Rate	A 200 B 10								
11.		NMCORE		7 8	Duct cross section					
11.	Sampling Point	-		Liveit os per E (P) Roles, Scholode I	Ouct cross section Concentration	Linious Re (Kgfm)				
-		mg / NM ²	IS 11255 (Part-1)	Limit as per E (P)		/Intown Ra (KgAn) 22,5				
11. 12. 13.	Sampling Point	-	IS 11255 (Part-1) IS 11255 (Part-2)	Liveit os per E (P) Roles, Scholode I	Concentration	(Kg/hm)				
11. 12. 13.	Sampling Point Particulate Matter (PM)	mg / NM ²	The second secon	Einit or per E (P) Robe, Scholiek I 30 mg / NM ²	Concentration 28.8	(Kg/hn) 22,5				
11. 12.	Sampling Point Particulate Matter (PM) Sulphur Dioxide (SO ₂)	mg / NM ² mg / NM ²	IS 11255 (Part-2)	Limit or per E (P) Robe, Schools I 30 mg / NM ³ 100 mg / NM ³	Concentration 28.8 907.7	(KgAn) 22,5 1051,3				

Shibesw Shibeswar Presad ar Prasad Date: 2024.04,16

Verified by : Dr. Shibeshwar Prasad Technical Manager



- END OF TEST REPORT

Shreyase Digitally signed by Shreyase Prasad Disast 2004-05.01 (11:24:26:405:07

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Owality Manager

This report applies only to sample tested as above.

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Website: www.shivatest.com; www.shivatesthouse.com



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TEST REPORT

10000	No. STH/TR/24-25/355(A) I	Dr: 16.04.2024	O. 4000283588-057-1019 DE 20.07, 2022 NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI					
164	Details of Sample			200.00	GUSARAL-851 I onlineling of Stock F.			
191	Details of Sample							
[c]	Sample Collected by			/ Chitranjan Kun hiva Test House		entative) or		
[d]	Sampling Location			om Duct of Stuck a		MW		
[e]	Method of Sampling			11255 (Part-1.2.3				
m	Sampling Environmental Condition	on	Te	mp. (°C) 24	Humidity	(%) 51		
[9]	Details of Sample Container (No	& Type of Co	The	imble & Sample Ca		2001		
[h]	Instrument ID				H/Equip/117			
10	Sample Quantity				mi			
00	Sample Code			81	-355/04/24			
[K]	Sample Condition on Receipt			Fit	for Analysis			
10	Items required to be tested			As	per contract			
[m]	Whether any specific Method of customer	Test has been	suggested by the	No				
[6]	Date of receiving the sample in L	aboratory		09.04.24				
[0]	Analysis Start Date / Analysis Co	mpletion Date		09.04.24 / 14.04.24				
	Parameters	Unit	Method of Test	Results				
4.	Type of Fuel		201101010000000000000000000000000000000			Coal		
2	Stack Connected to				Electro	Static Precipitator	(ESP)	
3.	Height of Stack (as reported)	Meter				275.0 m.	394000	
4.	Dia of Stack at Top (as reported)	Meter				4.9 m.		
5.	ID fan to chimney duct cross section					8812 x 3412 mm ²		
6.	Draft	-				ID Fan		
7.	Material of Construction	-				MS		
8.	Ambient Temperature	PG				- 33.0		
9.	Flue Gas Temperature	90				122.0		
10.	Velocity	m/sec.	1S 11255 (Part-3)			23.0		
11,	Volumetric flow Rate	NM2/hr				1220236.0		
12.	Sampling Point	-			- 1	Auct cross section		
					Limit as per 1 (P) Roles, Schedule 1	Concentration	Emission Rate (Kg/hrs	
13.	Oxygen (O ₂)	96			Not Specified	7.9 %	115456.6	
14.	Moisture Content	%			Not Specified	2.15%		
		ing / NM ³	US EPA (Method 2)		0.03 mg / NM ²	0.007		

* MORFRCC Netification dated 05:09:2022, Barrant TPS falls in Caregory "C" therefore, the timeline for compliance of PM & NOs emissions. have been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM norms as sligalisted in Environmental Clearance dated 08.05.2014.

Shibesw States and Present ar Prasad 11:10:50+05:30

Verified by : Dr. Shibeshwar Prasad Technical Manager



- END OF TEST REPORT

Shreyase by Shippasse e Prasad 0446:202403.03

Authorized Signatory Dr. (Mrx.) Shreyasee Prasad Quality Manager

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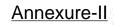
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SHIVA TEST HOUSE

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TEST REPORT

R	ef. No. STH/TR/24-25/356	Dt; 16.04.2024	Your PO No	4000283588-057-10	19 Di:	20.07.2022			
[ə]	Name and address of the Customer	r.		NTPC LIMITED BARAUNI THERMAL NH 31, BARAUNI BEGUSARAL-851	Power Plant Proje	ст			
[6]	Details of Sample			Manitoring of Stack Emission					
[c]	Sample Collected by		By Chitranjan Ku Shiva Test House		intative) of				
[d]	Sampling Location		From Duct of Stack	at Unit # 9 (1 * 259)	(H)				
e	Method of Sampling			IS 11255 (Part-1,2,	3 & 7)				
M	Sampling Environmental Conditio	in.		Temp. (°C)	24 Humidit	y (%) 51			
	Details of Sample Container (No.	& Type of Contain	ner)	Thimble & Sample C	arriage Bottle				
[h]	Instrument ID			STH/Equip/117					
H.	Sample Quantity			60 ml					
Ш	Sample Code			ST-356/04/24					
[k]	Sample Condition on Receipt			Fit for Analysis					
Щ.	Items required to be tested		0.0000000000000000000000000000000000000	As per contract					
[m]	Whether any specific Method of 1 customer		gested by the	No					
[n]	Date of receiving the sample in L	aboratory.		09.04.24					
[0]	Analysis Start Date / Analysis Co.	mpletion Date		09.04.24 / 14.04.24					
	Parameters	Unit	Method of Test	Results					
1.	Type of Fuel				Coal				
2	Stack Connected to			Electr	o Static Precipitator	(ESP)			
3.	Height of Stack (as reported)	Meter		275.0 m.					
4.	Dia of Stack at Top (as reported)	Meter		49 m.					
5.	ID fan to chimney duct cross section	70000			3812 x 3412 mm ²				
6.	Draft	122			ID Fan				
7.	Material of Construction				MS				
8.	Ambient Temperature	*C			33.0				
9	Flue Gas Temperature	10			117.0				
10.	Velocity	massc	IS 11255 (Part-3)		23.3				
11.	Volumetric flow Rate	NM ² /hr	TO TENOU DO NOT		1254528.5				
-	Sampling Point	PIDITYTH			Duct cross section				
12	Sampling Point				Concentration	Emission Rate			
				Rivita or por E (P) Rivita: Scholade I	Concentration	(Kg/lirs)			
13.	Particulate Matter (PM)	/ng / NM [®]	IS 11255 (Part-1)	30 mg / NM [®]	28.6	24.65			
-	Sulphur Dioxide (SO ₂)	mg / NM ³	IS 11255 (Part-2)	100 mg / NM ⁰	866.6	1081.96			
14.	Part of the same of the same of	mg / NMF	15 11255 (Part-7)	100 mg / MM*	274.4	328.17			
14.	Oxides of Nitrogen (NOx)								
-	Carbon Dioxide (CO ₂)	5%	IS 13270 = 1992	Not Specified	11.9%	238361.81			

Note: "As per MORF&CC Notification dated 05.09.2022. Busuari TP5 falls in Category." C" therefore, the timeline for compliance of PM & NOx emissions have been extended up to 31:12:2024 and for SO2 up to 31:12:2026. FPM norms as stipulated in Environmental Clearance dated 08:05:2014.

- END OF TEST REPORT

Shibesw by Shibeswar ar Prasad Date: 2824.04,16

Digitally signed Prasad 11:11:20 +05'30'

Verified by : Dr. Shibeshwar Prasad Technical Manager



Digitally signed. Shreyase by Shreymon e Prasad Danic 2024-09-08

Authorized Signatory Dr. (hirs.) Shreyasee Prasad Quality Manager

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TEST REPORT

	ef. No. STH/TR/24-25/356(A) Name and address of the Customer	Dt: 16.04.2024	No. 4000283588-057-1019 Dt: 20.07.2022 NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAL-851 116						
[b]	Details of Sample			Manituring of Stack Emission					
[c]	Sample Collected by	By Chitranjan Kumar (Lab Representative) of Shive Test House on 08.04.24							
[d]	Sampling Location		From Di	ret of Stack	at Unit # 9 (1 + 259)	MIP7			
[0]	Method of Sampling			5 (Part-1,2,					
m.	Sampling Environmental Condition	ri .	Temp. (PC)	24 Humidit	y (%) 51			
91	Details of Sample Container (No.	& Type of Cont.	ainer)	Thimble	& Sample C	arriage Boule			
hj	Instrument ID			STH/Eq	uip/117				
Щ	Sample Quantity			60 ml					
Ш	Sample Code			ST-356/					
	Sample Condition on Receipt			Fit for A					
П	Items required to be tested		Maria Maria Maria Maria	As per o	ontract				
[m]	customer	Whether any specific Method of Test has been suggested by the customer							
[n]	Date of receiving the sample in Li			09.04.24					
[0]	Analysis Start Date / Analysis Co.	mpletion Date		09.04.24 / 14.04.24					
	Parameters	Unit	Method of Test	Results					
1.	Type of Fuel			Coal					
2	Stack Connected to				Electr	o Static Precipitato	r/ESP)		
3.	Height of Stack (as reported)	Meter				275.0 m.			
4	Dia of Stack at Top (as reported)	Meter				4.9 m.			
5.	ID fan to chimney duct cross section	10000				3812 x 3412 mm ³	8		
6.	Draft	122				ID Fan			
7	Material of Construction					MS			
8	Ambient Temperature	90		33.0					
9	Flue Gas Temperature	°C				117.0			
-	Velocity	m/sec.	IS 11255 (Part-3)			23.3			
11.	and the second s	NM2/hr	ra tress (Faire)			1254528.5			
	Sampling Point	NWISHE		_					
141	Sampary Pullit			1,000	second contact	Duct cross section Concentration	Emission		
				Eat	lé as por E (P) os, 5 climbrie I	. C POCTOR CALABORATO	Rate (Kg/hr		
1.72	Oxygen (O _t)	%			Specified	7.9%	112689.5		
	Moisture Content	mg / NM ³	US EPA (Method 25	0.000	Specified -	2.20%			
14.	Mercury as Ho				3 mg / NM ³	0.007			

Shibesw Shibeswa Prasad ar Prasad 11:11:50 +05:30

Verified by : Dr. Slubeshwar Presad Technical Manager



- END OF TEST REPORT

Shreyase Digitally signed by Shreyase Prasad Detr. 2024/05/05 Prasad 11:37:21 +05:30

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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TEST REPORT

Ref. No. STH/TR/24-25/230 D	h: 31.05.2024	Your PO N	lo. 4000283588-057-	1019 Dt	20.07.2022		
[a] Name and address of the Custome	NTPC LIMITED BARACNI THERMAL POWER PLANT PROJECT NH 31, BARACNI BEGUSARAI - 851 116						
[b] Details of Sample			Manitoring of Stack I	Emission			
[c] Sample Collected by		By Prem Kumar (Test House on 07		ve) of Shive			
[d] Sampling Location		From Duct of Stack		(H)			
[e] Method of Sampling		IS 11255 (Part-1,2)	3 8 7)				
 [f] Sampling Environmental Condition 	n .		Temp. (°C) 2	8 Humidity	(%) 60		
 [g] Details of Sample Container (No. 	8. Type of Cor	rtainer)	Thimble &Sample Co	erioge Bottle			
[h] Instrument ID			STH/Equip/117				
[i] Sample Quantity			60 ml				
Sample Code			ST-230/05/24				
[k] Sample Condition on Receipt			Fit for Analysis				
Items required to be tested	economica de la companione de la compani		As per contract				
 [m] Whether any specific Method of a customer 		suggested by the	No				
 [n] Date of receiving the sample in L 			08.05.24				
[o] Analysis Start Date / Analysis Co	mpletion Date		08.05.24 / 13.05.24				
Parameters	Unit	Method of Test	Results				
Type of Fuel			H noncons	Coal			
2. Stack Connected to	lineas was an in-		Electro	Static Precipitator (ESP)		
 Height of Stack (as reported) 	Meter		51000000	275.0 m.	C1901 A I		
	R. Alexandreauer		4.9 m.				
4. Dia of Stack at Top (as reported)	Meter		3812 x 3412 mm ²				
Dia of Stack at Top (as reported) ID fan to chimney duct cross section			- 33	Company of the Compan			
Dis of Stack at Top (as reported) ID fan to chimney duct cross section Draft	444			ID Fan			
Dia of Stack at Top (as reported) Up fan to chimney duct cross section Oraft Material of Construction	444			ID Fan MS			
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature	 4C			ID Fan MS 36.0			
4. Dis of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature	444			ID Fan MS			
4. Dis of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature	 4C	IS 11255 (Parl-3)		ID Fan MS 36.0			
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature	 90 90	IS 11255 (Part-3)		ID Fan MS 36.0 128.0			
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity	°C °C °C m/sec.	IS 11255 (Part-3)		ID Fan MS 36.0 128.0 22.7			
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity 11. Volumetric flow Rate	°C m/sec.	IS 11255 (Parl-3)		ID Fan MS 36.0 128.0 22.7 1189134.5	Enthsion Ra (Kg/frs)		
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point	°C m/sec.	IS 11255 (Part-3)	Limit es pro L (P)	ID Fan MS 36.0 128.0 22.7 1189134.5 Oud cross section	Euthtico Ra (Kg/frs) 22.5		
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Particulate Matter (PM)	°C °C °C m/sec. NM³/hr		Unit es por E IP) duire, Schrifels I	ID Fan MS 36:0 128:0 22:7 1189154:5 Ouct cross section Concentration	(Kg/fres)		
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Particulate Matter (PM) 14. Sulphur Dioxide (SO ₂)	"C "C "C "NSec. NM3/hr ""	IS 11255 (Part-1)	Limit es pro E (P) dude, Scholak J 30 mg / NM ³	ID Fan MS 36:0 128:0 22:7 1189134:5 Ouct cross section Concentration 26:8	(Kg/hrs) 22.5		
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Particulate Matter (PM) 14. Sulpher Dioxide (SO ₂)	"C m/sec. NM³/hr mg / NM² mg / NM²	IS 11255 (Part-1) IS 11255 (Part-2)	Louit es per E (P) Andre Scholat J 30 mg / NM ³ 100 mg / NM ³	ID Fan MS 36.0 128.0 22.7 1189134.5 Ouct cross section Concentration 26.8 880.4	(Kg/hs) 22.5 1051,3		

Shibeswar Digitally signed by Shibeswar Prasad Prasad

Date: 2024-06.01 11.52:39 +05'30'

Verified by: Dr. Shibeshwar Prawad Technical Manager



Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:03:21 +05'30'

Authorized Signatory Dr. (Mrs.) Shreyasee Pranad Quality Manager

- END OF TEST REPORT -

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TEST REPORT

Ref.	No. STH/TR/24-25/230(A)	Dr. 31,05,2024	Your PO:	1000	10283588-057	-1019	Dt. 2	0.07.2022	
[a]	Name and address of the Custome	NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI - 851 116							
[b]	Details of Sample			Monitoring of Stack Emission					
[0]	Sample Collected by		Prem Kumar t House on 0	(Lab Represe 7.05.24	ntative) of Shiva			
[d]	Sampling Location	Free	n Duct of Stack	at Unit # 8 (1 *	258 MH	1)			
[e]	Method of Sampling			15.1	1255 (Part-1,2	387)			
[1]	Sampling Environmental Condition			Ten	ip. (°C)	38 Hum	idity (%) 60	
[9]	Details of Sample Container (No.	& Type of Cor	tainer)		ible di Sample C	arriage Bottle			
[h]	Instrument ID		l/Equip/117						
III -	Sample Quantity			60 r					
01	Sample Code				230/05/24				
[k]	Sample Condition on Receipt				or Analysis				
M_	Items required to be tested	Water Friedrich and Berlin and Berlin	CONTRACTOR DE LA CONTRA	Asj	er contract				
[m]	Whether any specific Method of customer	suggested by the	No						
[n]	Date of receiving the sample in L			08.05.24					
[0]	Analysis Start Date / Analysis Co	impletion Date	20.000	08.05.24 / 13.05.24					
-	Parameters	Chrit	Method of Test	. Aesuits					
1.	Type of Fuel					Coal			
2.	Stack Connected to				Electr	o Static Precipit	lator (E)	SP)	
3.	Height of Stack (as reported)	Meter				275.0 m.	2000000000		
4.	Dia of Stack at Top (as reported)	Meter				4.9 m.			
5.	ID fan to chimney duct cross section					3812 x 3412 n	nm²		
6.	Draft	-				ID Fan	****		
7.	Material of Construction	_				MS			
8.	Ambient Temperature	10				56.0			
9,	Flue Gas Temperature	10				1,28,0			
10.	Velocity	m/sec.	IS 11286 (Part-3)			22.7			
11.	Volumetric flow Rate	NM3/hr				1189134.5			
12.	Sampling Point	-				Duct cross sec	stige		
					Limit in per E (F) Bules, Schedule I	Concentratio		Emission Rate (Kg/hrs)	
13.	Oxygen (O ₂)	96			Not Specified	7.8 %		10200.24	
14	Moisture Content	%			Not Specified	2.16%			
15.	Mercury as Ho	ma / NM³	US EPA (Method 2		0.03 mg / NM ¹	0.007		0.008	

Note: *As per MOEFACC Notification dated 05 69 2022, Borusia TPS falls in Cotegory *C* therefore, the timelens for compliance of PM & NOs emissions have been extended up to 31.12 2024 and for SO2 up to 31.12 2026. #PM norms as stigulated in Environmental Clearance dated 08 05 2014.

Shibeswar Digitally signed by Shibeswar Prasad Date: 2024.06.01 Prasad 11:52:53 +05'30'

Verified by a Dr. Shibeshwar Presad Technical Manager



- END OF TEST REPORT -

Digitally signed by Shreyasee Prasad

Shreyasee Prasadi Date: 2024.06.01 12:03:54 + 05'30' Authorized Signatory

Dr. (Mrs.) Shreyasee Prasad Quality Manager

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TEST REPORT

-96-	Name and address of the Customer	31.05.2024	NEPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUNARAI - 851 116				
IbI	Details of Sample			Monitoring of Sta			
[c]	Sample Collected by			By Prem Kumi Test House on	ar (Lab Representati 07.05.24	ive) of Shiva	
[d]	Sampling Location				ick at Unit # 9 (7 * 250)	MH)	
[8]	Method of Sampling			1S 11255 (Part-1	1.2.3 8.7)		
01	Sampling Environmental Condition			Temp. (°C)	38 Humidit	y (%) 60	
[9]	Details of Sample Container (No. 8	Type of Contai	ner)	Thimble & Sampl	e Carriage Rottle		
[h]	Instrument ID			STH/Equip/117			
N.	Sample Quantity			60 ml			
Œ.	Sample Code		ST-231/05/24				
[k]	Sample Condition on Receipt		Fit for Analysis				
M.	Items required to be tested	As per contract					
(m)	Whether any specific Method of Te customer	ocursos con noncentrator	gested by the	No			
	Date of receiving the sample in La			08.05.24			
[0]	Analysis Start Date / Analysis Corr	pletion Date		08.05.24 / 13.0	05.24		
	Parameters	Unit	Method of Test		Results		
1.	Type of Fuel				Coal		
2.	Stack Connected to	7 1		ER	ectro Static Precipitato	(ESP)	
3.	Height of Stack (as reported)	Meter			275.0 m.		
4.	Dia of Stack at Top (as reported)	Meter			4.9 m.		
5.	ID fan to chimney duct cross section	1			3812 x 3412 mm ²		
Я	Draft	1.44			ID Fan		
7.	Material of Construction				MS		
8.	Ambient Temperature	8C			36.0		
9.	Flue Gas Temperature	°C			122.0		
10.	Velocity	m/sec.	IS 11250 (Part-3)		23.1		
11.	Volumetric flow Bate	NM2/hr			1227708.2		
12.	Sampling Point				Duct cross section	Y	
1.60	and the same			Limit on per E G Rales, Schedule	Concentration	Emission Rate (Kg/hrs)	
13.	Particulate Matter (PM)	.mg / NM ^a	IS 11255 (Part-1)	30 mg / NM	27.8	3.4.1.	
14.	Sulphur Dioxide (SO ₂)	mg / NWP	IS 11285 (Part-2)	100 mg / NA	P 923.9	1134.2	
15.	Oxides of Nitrogen (NOx)	mg / NM ^o	IS 11255 (Part-7)	100 mg / NN		380.9	
16.	Cartion Dioxide (CO ₂)	96	IS 13270 - 1992	Not Specifie		21038,005	
100				A contract of the contract of	d 0.3%		

been extended up to 31-12-2024 and for SO2 up to 31-12-2026. #PM norms as streulated in Environmental Clearance dated 08-05-2014

Shibeswa Digitally signed by Shibeswar Prosad r Prasad

Digitally signed by Date: 2024.86.01 11:53:10 +05'30"

Verified by a Dr. Shibeshwar Prasad Technical Manager



Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:06:44 + 05:30

Authorized Signatory Dr. (ldrs.) Shreyasee Prasad Quality Manager

- END OF TEST REPORT -

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Website: www.shisatest.com; worm.shisatesthinese.com



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RECOGINSED AS ENVIRONMENTAL LABORATORY BY MoEFCC, GOVT. OF INDIA, UNDER ENVIRONMENT (PROTECTION) ACT 1986, DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

TEST REPORT

Sample Collected by Sample Sample Sample Collected by Sample Collected by Sample Collected by Sampling Location From E F	P	io. STH/TR/24-25/231(A)	Dt: 31.05.2024	I You	0.00.000	4000283588-057- TPC LIMITED	1019 D	0 20.07.2022		
[5] Details of Sample [6] Sample Collected by [7] Sampling Location [8] Method of Sampling [9] Details of Sampling Condition [9] Details of Sample Container (No. 8 Type of Container) [9] Details of Sample Container (No. 8 Type of Container) [9] Sample Quantity [9] Sample Quantity [9] Sample Code [8] Sample Condition on Receipt [8] Sample Condition on Receipt [9] Items required to be tested [9] Whether any specific Method of Test has been suggested by the customer [9] Date of receiving the sample in Laboratory [9] Analysis Start Date / Analysis Completion Date [9] Parameters [9] Usit [9] Type of Fuel [9] Stack Connected to [9] Height of Stack (as reported) [9] Height of Stack (as reported) [9] Meter [9] Fibe Gas Temperature [9] Widentification [9] Fibe Gas Temperature [9] Fibe Gas Tempe	N	lame and address of the Customer			B	BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI - 851 116				
Sample Collected by By Pro Test In	7	Details of Sample				lonitoring of Stack E				
Method of Sampling IS 1125 Sampling Environmental Condition Temp. Details of Sample Container (No. 8 Type of Container) Thimble Instrument ID STH/Es Instrument ID STH/Es Instrument ID STH/Es Sample Quantity 60 ml Sample Code ST-231 Sample Condition on Receipt Fit for / Items required to be tested As per Whether any specific Method of Test has been suggested by the customer No Whether any specific Method of Test has been suggested by the customer No O Date of receiving the sample in Laboratory 08.05. Parameters Unit Method of Test Type of Fuel 2 Stack Connected to Stack (as reported) Meter 1. Type of Fuel 2 2. Stack Connected to Stack (as reported) Meter 4. Dia of Stack at Top (as reported) Meter 5. ID fan to chimney duct cross section 6. Draft — 7. Material of Construction — 8. Ambient Temperature °C 9. Five Gas Temperature °C 9. Five Gas Temperature °C 10. Velocity m/sec IS 11255 (Part-3) 11. Volumetric flow Rate NM ³ /hr 12. Sampling Point — 13. Oxygen (O ₂) % N 14. Moisture Content % N	Í	Sample Collected by		-		y Prem Kumar (L est House on 07:		ve) of Shiva		
fj Sampling Environmental Condition Temp. [g] Details of Sample Container (No. 8 Type of Container) Thimble [h] Instrument ID STH/Ei [i] Sample Quantity 60 ml [ii] Sample Code ST-231 [k] Sample Condition on Receipt Fit for / As per [ii] Items required to be tested As per [iii] Whether any specific Method of Test has been suggested by the customer No [iii] Date of receiving the sample in Laboratory 08.05 [iii] Parameters Usit Method of Test [iii] Type of Full [iii] Stack (as reported Meter [iii] Dan to chimney duct cross Section [iii] Bank (as reported Meter [iii] Dan to chimney duct cross Section [iii] Raterial of Construction Fit is a Completion [iii] Raterial of Construction Fit is a Completion [iii] Raterial of Construction Fit is a Construction Fit is a Construction [iii] Velocity Insec. IS 11255 (Part-3) [iii] Velocity Insec. IS 11255 (Part-3) [iii] Ambient Temperature Fit is a Construction Fit is a Constr	٦	Sampling Location			E	rom Duct of Stack a	Unit # 9 (1 * 259 A	(IF)		
g] Details of Sample Container (No. 8 Type of Container) [h] Instrument ID [i] Sample Quantity [ii] Sample Code [iii] Sample Condition on Receipt [iii] Items required to be tested [iii] Whether any specific Method of Test has been suggested by the customer [iii] Date of receiving the sample in Laboratory [iii] Date of receiving the sample in Laboratory [iii] Analysis Start Date / Analysis Completion Date [iii] Parameters [iii] Weithod of Test [iii] Type of Fuel [iii] Stack Connected to [iii] Height of Stack (as reported) [iii] Meter [iii] Material of Construction [iii] Welcoity [iii] Material of Construction [iii] Wasec IS-11255 (Parl-3) [iii] Volumetric flow Rate [iii] Name Content [iii] Name Co		Method of Sampling			18	11255 (Part-1,2.3	8.7)			
Instrument ID					200	emp. (°C) 3		r (%) 60		
Sample Quantity S0 ml Sample Code ST-231 Sample Condition on Receipt Fit for /		Details of Sample Container (No.:	& Type of Conta	siner)		himble di Sample Co	rriage Roule			
Sample Code ST-231 Sample Condition on Receipt Fit for / Items required to be tested As per Whether any specific Method of Test has been suggested by the customer No Date of receiving the sample in Laboratory 08.05. O						TH/Equip/117				
Sample Condition on Receipt Fit for / As per Items required to be tested As per Whether any specific Method of Test has been suggested by the customer No No No No No No No N										
III Items required to be tested As per Imiliary Specific Method of Test has been suggested by the customer No O8.05. In Important Date of receiving the sample in Laboratory O8.05. In Important Date / Analysis Completion Date O8.05. Parameters Date Method of Test In Type of Fuel Stack Connected to Stack Connected to Stack Connected to Meter Dia of Stack at Top (as reported) Meter Dia of Stack at Top (as reported) Meter Section Sect						T-231/05/24				
Whather any specific Method of Test has been suggested by the customer No Date of receiving the sample in Laboratory 08.05. Date of receiving the sample in Laboratory 08.05. Os. Os. Os. Os. Parameters Unit Method of Test Type of Fuel Stack Connected to Stack Connected to Height of Stack (as reported) Meter Dia of Stack at Top (as reported) Meter Dia of Stack at Top (as reported) Meter Dia of Stack at Top (as reported) Meter Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os. Os	_					t for Analysis				
customer [n] Date of receiving the sample in Laboratory [n] Date of receiving the sample in Laboratory [n] Date of receiving the sample in Laboratory [n] Analysis Start Date / Analysis Completion Date Date of Fuel					- A	As per contract				
Analysis Start Date / Analysis Completion Date C8.05. Parameters Unit Method of Test		customer	0.45004214-0034671416	iggested by the	1.3					
Parameters Unit Method of Test		Date of receiving the sample in Laboratory				8.05.24				
1. Type of Fuel 2. Stack Connected to 3. Height of Stack (as reported) Meter 4. Dia of Stack at Top (as reported) Meter 5. ID fan to chimney duct cross section 6. Draft — 7. Material of Construction — 8. Ambient Temperature °C 9. Flue Gas Temperature °C 10. Velocity m/sec. IS-11255 (Part-3) 11. Volumetric flow Rate NM*/hr 12. Sampling Point — 13. Oxygen (O ₂) % N 14. Moisture Content % N	ŀ	Analysis Start Date / Analysis Cor	ripletion Date		0	8,05.24 / 13.05.2	4			
2. Stack Connected to 3. Height of Stack (as reported) 4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Five Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Oxygen (O ₂) 14. Moisture Content 15. Material of Construction 16. Velocity 17. Volumetric flow Rate 18. In Material of Construction 19. Velocity 19. Veloci		Parameters	Unit	Method of 1	Feat		Results			
3. Height of Stack (as reported) 4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Five Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Oxygen (O ₂) 14. Moisture Content 15. Meterial of Stack (as reported) 16. Velocity 17. Volumetric flow Rate 18. 11256 (Parl-3) 19. Velocity 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Oxygen (O ₂) 14. Moisture Content 15. Meterial of Stack (as reported) 16. Meterial of Stack (as reported) 17. Weterial of Stack (as reported) 18. Meterial of Stack (as reported) 19. Me	7	Type of Fuel					Coal			
4. Dia of Stack at Top (as reported) 5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Five Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Oxygen (O ₂) 14. Moisture Content Meter Meter 15. ID fan to chimney duct cross section 16. Uration 17. With the content in the c	- 3	Stack Connected to				Electro	Static Precipitator	(ESP)		
5. ID fan to chimney duct cross section 6. Draft 7. Material of Construction 8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Oxygen (O ₂) 14. Moisture Content 15. ID fan to chimney duct cross section 16. Waterial of Construction 17. Waterial of Construction 18. 11255 (Part-3) 19. Id Moisture Content 10. Waterial of Construction 10. Velocity 11. Volumetric flow Rate 12. Sampling Point 13. Oxygen (O ₂) 14. Moisture Content 15. ID fan to chimney duct cross section 16. Waterial of Construction 17. Waterial of Construction 18. In the construction of Construction 19. In the construction of Construc	1	Height of Stack (as reported)	Meter				275.0 m.			
5. ID fan to chimney duct cross section 6. Draft ————————————————————————————————————	-		Meter				4.9 m.			
6. Draft — — — — — — — — — — — — — — — — — — —	7	ID fan to chimney duct cross	1010180				3812 x 3412 mm ²			
8. Ambient Temperature 9. Flue Gas Temperature 10. Velocity m/sec. IS:11255 (Part-3) 11. Volumetric flow Rate 12. Sampling Point 13. Oxygen (O ₂) 14. Moisture Content 15. Ambient Temperature 16. Milestone (O ₂) 17. Ambient Temperature 18. 11255 (Part-3) 18. 11255 (Part-3) 19. 11255 (Part-3)	3	Draft	100				ID Fan			
8. Ambient Temperature		Material of Construction	1 12 1				MS			
9. Flue Gas Temperature °C 10. Velocity m/sec. IS-11255 (Parl-3) 11. Volumetric flow Rate NM³/hr 12. Sampling Point		Ambient Temperature	VC:				36.0			
10. Velocity m/sec. IS-11255 (Parl-3) 11. Volumetric flow Rate NMP/hr 12. Sampling Point		Control of the Contro	10				122.0			
11. Volumetric flow Rate NM³/hr 12. Sampling Point 13. Oxygen (O₂) % N 14. Moisture Content % N				IS 11255 (P)	ert-25		23.1			
12. Sampling Point. ————————————————————————————————————	_	The state of the s		There is the one of \$1.5	a dep		1227708.2			
13. Oxygen (O ₂) % N 14. Moisture Content % N		CONTROL OF THE PROPERTY OF THE					Duct cross section			
14. Moisture Content % //	- 2	osemping rount				Limit as per L (II) Kales, Schedule I	Concentration	Emission Rate (Kg/hrs		
14. Moisture Content % //	18	Oxygen (Ox)	- 56			Not Specified	7,8%	10200.24		
2.7 (2.7)			1			Not Specified	2.20%	1000000000		
15 Mercury as Hg mg / MM ² US EPA (Method 29) (5)	-	Mercury as Ha	mg / NM ³	US EPA (Meth	od 295	0.03 mg / NW ¹	0.005	0.006		

Shibeswar Prasad

Digitally signed by Shibeswar Prasad Date: 2024.06.01 11:53:27 +05'30'

Verified by: Dr. Shibeshwar Prasad Technical Manager



- END OF TEST REPORT -

Shreyase Digitally signed by Shreyasee Prasad e Prasad Date: 2024/06/01 Authorized Signatory

Dr. (Mrs.) Shreyaree Prasod Quality Manager

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Website: www.shiratest.com. www.shiratestbouse.com



Page Lof L



TENTING CONSULTING RESOLVING TRAINING Head Office:

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+919431047906 Email: coo@shivetesthouse.in cao@shivatesthouse.in

C Appellance - Comparing

OMSHIVA TEST HOUSE PVT LT OMBANA DE L'ARRESTE STH/24/07/139

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31. BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Analysis Details:

Analysis Start Date

Sample Code

Name / Nature of Sample :

Location of Sampling:

Stack Emission From Duct of Stack at Unit #

8 (1 * 250 MW)

STH/24/07/139

W/O No.: 4000283588-057-1019

Annexure-II

WO Date:

20.07.2022

10.07.2024

15.07.2024

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/139

Date of Sampling

09.07.2024

Sample Received on Method of Sampling

10.07.2024 IS 11255 (Part-1,2,3 & 7)

STH/Equip/117

Env. Condition.

Temp.

33°C

Humidity:

61%

Sample Condition on Receipt.

Analysis Completion Date

Items required to be Tested

Fit for analysis Fit for analysis.

Instrument ID Sample Quantity &

Sample Collected by

Container

60 ml; Thimble & Sample Glass Carriage

Mr. Chitranjan Kumar; Lab Representative

Any Specific Test Method

Reporting Date

22.07.2024

No

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
L. Type of Fuel			Ceal			
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter		275.0 m.			
4. Dia. of Stuck at Top (as reported)	Mixter		4.9 m.			
5. ID fan to chimney duct cross section			3812 x 3412 mm ²			
6. Draft				Natural		
7. Material of Construction				M.S.		
8. Ambient Temperature	3C			33.0		
9. Flue Gas Temperature	*C		122.0			
10. Velocity	III/8600	IS (1255 (Part-3)	25.7			
11. Volumetric flow Rate	NM5/hr		1364886.9			
12. Sampling Point	Meter		Duct cross section		III TOO OO OO OO OO OO	
CONTRACTOR			Limit as per E (P) Ratios, Schoolase I	Concentration	Emission Rate (Kg/hrs)	
12. Particulate Maner (PM)	mg/NM*	IS 11255 (Pan-1)	30 mg / NM*	29.9	40.8	
13.Sulphur Dioxide (SO ₂)	mg / NM	IS 11255 (Part-2)	100 mg / NM ³	967.5	1320.5	
14. Oxides of Nitrogen (NOx)	mg / NM ^h	1S 11255 (Part-7)	-100 mg / NM ²	315.1	430.1	
15. Carbon Dioxide (CO ₂)	26	IN LUCYUS CONTROL	Not Specified	11,7 %	21038.00	
16. Carbon Monoxide (CO)	76	IS 13270 - 1992	Not Specified	0.3 %	343.2	
17. Oxygen (O ₂)	16		Not Specified	7.8 %	10200.2	
18. Moisture Content	16		Not Specified	2.14 %	-	
 Mercury as Hg Note: *As per MOEF&CC Notification dated 05.0 	reg / NM1	US-PEX (Method 29)	0.03 mg/NM ²	0.005	0.006	

been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM sente as significant in Comprehensal Clearance detect 08.05.2814

Patriputre Colom Patha 800013

Isma Road

*Reviewed by :

zed Signatory: Abhishek Kumar, Sec. I/c (Air Proximate)

of Authorized Signatory:

Sagar Gokhe, Sec. I/c (Metal)

Quality Manager:

Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT -----

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+919431047908 Email: coo@shivetesthouse.in cao@shivatesthouse in

TEST REPORT

Land State Dange Play

Annexure-II

OMSHIVA TEST HOUSE PVT LTD

STH/24/07/140

Name and Address of Customer:

NTPC LIMITED

TESTING

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31. BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample :

Stack Emission

Location of Sampling:

From Duct of Stack at Unit #

9 (1 * 250 MW)

W.O No.:

4000283588-057-1019

WO Date:

20.07.2022

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/140

Date of Sampling

09.07.2024

Sample Received on

10.07.2024

Method of Sampling

Temp.

33°C

10.07.2024

STH/24/07/140

Analysis Completion Date

Analysis Details:

Analysis Start Date

Sample Code

15.07.2024

IS 11255 (Part-1.2.3 & 7)

Env. Condition Instrument ID

Humidity: 61% Sample Condition on Receipt

Fit for analysis

STH/Equip/117

Items required to be Tested Any Specific Test Method

Fit for analysis

Sample Quantity & Container Sample Collected by

60 ml; Thimble & Sample Glass Carriage Mr. Chitranjan Kumar; Lab Representative

Reporting Date

22:07:2024

No

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
1. Type of Fuel			F 1881/11/2	Coal	0.0000000000000000000000000000000000000	
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter		275.0 m.			
4. Dis. of Stack at Top (as reported)	Meter		4.9 m.			
5. ID fan to chimney duct cross section			3812 x 3412 mm ²			
6. Draft				Natural		
7. Material of Construction				M.S.		
8. Ambient Temperature	°C			33.0		
9. Flue Gas Temperature	EC.		117.0			
10. Velocity	m/sec.	IS 11255 (Part-3)	21.1			
11. Volumetric flow Rate	NM ³ /hr		1133285.8			
12. Sampling Point	Meter		Duct cross section			
			Limit as per E (P) Rules, Schedule I	Concentration	Emission Rati (Kg/hrs)	
12. Particulate Matter (PM)	mg / NM ²	IS 11255 (Part-1)	30 mg / NM ³	27.2	30.9	
13.Sulphur Dioxide (SO ₂)	mg / NM ³	IS 11255 (Part-2)	100 mg / NM ³	865.9	981.3	
14, Oxides of Nitrogen (NOx)	mg/NM3	IS 11255 (Part-7)	100 mg / NM3	257.1	291.3	
15. Carbon Dioxide (CO ₂)	%	IS 13270 1992	Not Specified	12,0 %	21577.4	
16, Carbon Monoxide (CO)		10.10270 1992	Not Specified	0.3 %	343.27	
17. Oxygen (Oz)	56		Not Specified	8.0 %	10461.78	
18. Moisture Content	- %		Not Specified	2.20 %	-	
19. Mercury as Hg	mg/NM ³	US EPA4Method 29)	0.03 mg / NM ³	0.007	0.007	

Reviewed by :

sorized Signatory: Abhishek Kumar, Sec. I/c (Air Proximate)

Authorized Signatory:

Proportion Clearance dated 08/05/2014

Quality Manager: Sagar Gokhe, Sec. I/c (Metal) Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT -

9stha Road

Patrioutra Coloni Patha 20001

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been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM noign









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+919431047908 Email: coo@shivatesthouse in cao@shivatesthouse in

Appellan - Comparen

OMSHIVA TEST HOUSE PVT LT STH/24/87/155

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

TESTING

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample :

Location of Sampling:

Stack Emission From Duct of Stack at Unit #

STH/24/07/155

8 (1 = 250 MW)

W.O No.: 4000283588-057-1019

WO Date:

Analysis Details:

Analysis Start Date

Sample Code

20.07.2022

11.07.2024

16.07.2024

Fit for analysis.

Annexure-II

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/155

Date of Sampling

10.07.2024 11.07.2024

Sample Received on

Method of Sampling

IS 11255 (Part-1,2,3 & 7)

Env. Condition Instrument ID

Temp. 33 °C

STH/Equip/117

Humidity:

TRAINING

61%

Sample Condition on Receipt

Analysis Completion Date

Items required to be Tested

Fit for analysis

Sample Quantity & Container

Sample Collected by

60 ml; Thimble & Sample Glass Carriage Mr. Chitranjan Kumar; Lab Representative Any Specific Test Method

Reporting Date

22.07.2024

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
1. Type of Fuel		75 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Coal		
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter		275.0 m.			
4. Dis. of Stack at Top (as reported)	Meter			4.9 m.		
5. ID fan to chimney duct cross section	15 CASSULT 21		3812 x 3412 mm ²			
6. Draft	***			Natural		
7. Material of Construction				M.S.		
8. Ambient Temperature	⁶ C			33.0		
9. Flue Gas Temperature	°C		124.0			
10. Velocity	m/sec.	IS 11255 (Part-3)	26.5			
11. Volumetric flow Rate	NM ² /hr		1401785.6			
12. Sampling Point	Meter		Duct cross section			
			Limit as per E (P) Rales, Schedule I	Concentration	Emission Rate (Kg/hrs)	
12. Particulate Matter (PM)	mg/NM ²	IS 11255 (Part-1)	38 mg / NM ³	30.1	42.1	
13.Sulphur Dioxide (SO ₂)	mg / NM ³	IS 11255 (Part-2)	100 mg / NM ³	1006.3	1410.6	
14. Oxides of Nitrogen (NOx)	ing / NM ³	IS 11235 (Part-7)	100 mg/NM ³	319.6	448.1	
15. Carbon Dioxide (CO ₂)	1/4	IS 13220 1992	Not Specified	11.9.%	21397.62	
16. Carbon Monoxide (CO)	56	15 132AI 1962	Not Specified	0.3 %	343.27	
17. Oxygen (O ₂)	56		Not Specified	7.9%	10331.01	
18. Moisture Content	56		Not Specified	2.14 %		
19. Mercury as Hg	mg/NM ²	US EPA-(Method 29)	0.03 mg / NM ⁵	0.004	0.005	

been extended up to 31.12,2024 and for SO2 up to 31.12 2026. «PM norths a pentilited in Environmental Clearance dated iii.05.2014

Reviewed by :

zed Signatory: Abhishek Kumar, Sec. I/c (Air Proximate)

Authorized Signatory: Sagar Golche, Sec. I/c (Metal)

Quality Manager: Dr. (Mrs.) Shrevasee Prasad

---- END OF REPORT -----

Pattinutra Colony datha 800013

Istha Road

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+919431047908 Email: coo@shivatesthouse.in cao@shivetesthouse.in

Applican Designation



OMSHIVA TEST HOUSE PVT LTD STH/24/07/156

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

10.07.2024

11.07.2024

NH 31. BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

Information by Customer: Name / Nature of Sample:

Location of Sampling :

Stack Emission From Duct of Stack at Unit #

9 (1 * 250 MW)

Annexure-II

W.O.No.:

4000283588-057-1019 20.07.2022

WO Date:

Analysis Detalls:

Sample Code

STH/24/07/156

Analysis Start Date

11.07.2024

Analysis Completion Date

16.07.2024

Method of Sampling Env. Condition

Sample Collected by

Sample Received on

Temp.

IS 11255 (Part-1,2,3 & 7) 33 PC

STH/TR/24-25/07/156

Humidity:

61%

Sample Condition on Receipt

Fit for analysis.

Instrument ID

ULR Number

Date of Sampling

STH/Equip/117

Items required to be Tested Any Specific Test Method

Fit for analysis No.

Sample Quantity & Container

60 ml; Thimble & Sample Glass Carriage Mr. Chitranjan Kumar; Lab Representative

Reporting Date:

22.07.2024

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
1. Type of Fuel				Coal		
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter			275.0 m.		
4. Din. of Stack at Top (as reported)	Meter			4.9 m.		
5. ID fan to chimney duct cross section			X X	3812 x 3412 mm ²		
6. Draft				Natural		
7. Material of Construction	-			M.S.		
8. Ambient Temperature	°C			33.0		
9. Flue Gas Temperature	90		120.0			
10. Velocity	m/sec.	IS 11255 (Pan-5)	21.6			
11. Volumetric flow Rate	NM/du:		1153850.1			
12. Sampling Point	Meter		Duct cross section			
Hint Wife Pleasing			Limit as per E (P) Roles, Schedale I	Concentration	Emission Rate (Kg/hrs)	
12. Particulate Matter (PM)	ing / NM ¹	15 11255 (Part-1)	38 mg / NM ³	27.2	31.4	
13.Sulphur Dioxide (SO ₂)	ing / NM ³	IS 11255 (Past-2)	100 mg / NM ³	881.7	1017.3	
14. Oxides of Nitrogen (NOx)	mg/NM	IS 11255 (Part-7)	100 mg / NM ³	257.1	296.6	
15. Carbon Dicocide (CO ₂)	26	10 1000 1000	Not Specified	11.7%	21038.00	
16. Carbon Monoxide (CO)	56	IS 13270 - 1992	- Not Specified	0.4 %	457.7	
17. Oxygen (O2)			Not Specified	8.0.%	10461.78	
18. Moisture Content	56		Not Specified	2.20 %	-	
19. Meroury as Hg	mg/NM	US EPA (Method 29)	0.03 mg / NM ²	0.006	0.007	

been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM norms to throughout the properties of the control of the cont

Patlinutra Colony Patna MICKUTS

Reviewed by:

orized Signatory : Abhishek Kumar, Sec. I/c (Air Proximate)

Tring ROS Authorized Signatory:

Quality Manager: Dr. (Mrs.) Shreyasee Presed

Sagar Gokhe, Sec. I/c (Metal)

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OMSHIVA TEST HOUSE PVT LTI 130 STH/24/08/110

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample :

Stack Emission

From Duct of Stack at Unit # Location of Sampling:

9 (L* 250 MW)

STH/24/08/110 09.08.2024

W.O No.: 4000283588-057-1019

WO Date: Analysis Details:

Analysis Start Date

20.07.2022

Laboratory Provided Details:

ULR Number

STH/TR/24-25/08/110

Date of Sampling

07.08.2024 09.08.2024

Sample Received on Method of Sampling

Env. Condition.

Instrument ID

IS 11255 (Part-1,2,3 & 7) 37°C

Temp.

70% Humidity.

Sample Condition on Receipt

Sample Code

Fit for analysis

Fit for analysis

14.08.2024

STH/Equip/117

60 ml; Thimble & Sample Glass Carriage

Items required to be Tested Any Specific Test Method

Analysis Completion Date

No

Sample Quantity & Container Sample Collected by

Mr. Chitranjan Kumar; Lab Representative

Reporting Date

16.08.2024

ANALYSIS RESULTS

Parameters	Unit	Method of Test		Results		
1. Type of Fuel				Coal		
2. Stack Connected to			Electro St	tatic Precipitator (E	SP)	
3. Height of Stack (as reported)	Meter			275.0 m.		
4. Dia. of Stack at Top (as reported)	Meter		4.9 m.			
5. ID fan to chimney duct cross section			3812 x 3412 mm ²			
6. Draft	140		Natural			
7. Material of Construction	100			M.S.		
8. Ambient Temperature	7c			37.0		
9. Flue Gas Temperature	, c			126.0		
10. Velocity	m/900.	15 11255 (Part-3)	23.2			
11. Volumetric flow Rate	NM /lu		1220092.1			
12. Sampling Point	Meter		Duct cross section			
16.46			Limit es per E (P) Rules, Schuhole I	Concentration	Emission Rat (Kg/hrs)	
12. Particulate Matter (PM)	mg/NM ^h	IS 11255 (Part-1)	30 mg / NM ¹	26.9	32.8	
13.Sulphur Dioxide (SO ₂)	mg / NM ³	IS 11255 (Part-2)	100 mg / NM ³	887.1	1082.4	
14. Oxides of Nitrogen (NOx)	mg / NM ²	IS 11255 (Part-T)	100 mg / NM ³	287.6	350.9	
15. Carbon Diexide (CO ₂)	94	15 13270 - 1992	Not Specifical	11.7	21038.0	
16. Carbon Monoxide (CO)	.94	19 12750 - 1397	Not Specified	0.3	343.27	
17. Oxygen (O ₂)	94		Not Specified	7.9	10331.0	
18. Moisture Content	96		Not Specified	2.17		
19. Mercury as Hg	mg/NM ²	US EPA (Maha甲酚)	0.03 mg / NM ³	0.012	0.0146	

been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM norms or seven and in Embartment Clearance dated 08.05,2014

Authorized Signatory:

Abhishek Kumar, Sec. Uc (Air Proximate)

Authorized Signatory: Sagar Gokhe, Sec. Vc (Metal)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

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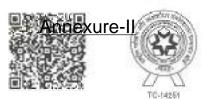
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Email: cookyshivstesthouse.in cacd)shivatesthouse in

+919431047908







TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Name / Nature of Sample : Location of Sampling:

Information by Customer:

Stack Emission

From Duct of Stack at Unit #

8 (1 * 250 MW)

STH/24/08/111

W.O.No.:

4000283588-057-1019

WO Date: Analysis Details:

Sample Code

Analysis Start Date

20.07.2022

09.08.2024

14.08.2024

Laboratory Provided Details:

ULR Number

STH/TR/24-25/08/111

Date of Sampling

07.08.2024

Sample Received on

09.08.2024

Method of Sampling Env. Condition

Sample Collected by

IS 11255 (Part-1,2,3 & 7)

Temp.

37.9C

70% Humidity.

Sample Condition on Receipt

Analysis Completion Date

Fit for analysis

Instrument ID

STH/Equip/117

60 ml; Thimble & Sample Glass Carriage

Items required to be Tested Any Specific Test Method

Fit for analysis

Sample Quantity & Container

Mr. Chitranjan Kumar, Lab Representative

Reporting Date

16.08.2024

Mo

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
1. Type of Fuel			No.	Coal	2000000	
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter		275.0 m.			
4. Dia. of Stack at Top (as reported)	Meter		4.9 m.			
5. ID fan to chimney duct cross section			3812 x 3412 mm ²			
6. Draft	***			Natural		
7. Material of Construction				M.S.		
8. Ambient Temperature	0C			37.0		
9. Flue Gas Temperature	9C			132.0		
10. Velocity	m/sec.	IS 11255 (Part-3)	23.9			
11. Volumetric flow Rate	NM ² /hr		1238301.1			
12. Sampling Point	Meter		Duct cross section			
			Limit as per E (P) Rules, Schodule I	Сопсенинаціон	Emission Rate (Kg/hrs)	
12. Particulate Matter (PM)	mg/NM3	IS 11255 (Part-1)	30 mg / NM ²	22.0	27.3	
13. Sulphur Dioxide (SO ₂)	mg/NM [‡]	IS 11255 (Part-2)	100 mg/NM ⁵	900.5	1115.0	
14. Oxides of Nitrogen (NOx)	mg/NM ²	IS 11255 (Part-7)	100 mg / NM ³	297.4	368.2	
15. Cartion Dioxide (CO ₂)	34	10. 3.70000 - 1.0000 -	Not Specified	11.5	20678.38	
16. Carbon Monoxide (CO)	3/4	IS 13270 - 1992	Not Specified	0.5	572.1	
17. Oxygen (O ₁)	26		Not Specified	8.0	10461.0	
18. Moisture Content	34		Not Specified	2.20	316	
19. Mercury as Hg Note: *As per MOEF&CC Netification dated 05.1	mg/NM3	US EPA (Method 29)	0.03 mg / NM ³	0.014	0.0173	

Authorized Signatory: Abhishek Kumar, Sec. Vs (Air Proximate)

been extended up to 51.12.2024 and for SO2 up to 31.12.2026. #PM soems as supplied in Env

Authorized Signatory:

Bagar Gokhe, Sec. I/c (Metal)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT ---

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ental Clearance dated 08.05.2014

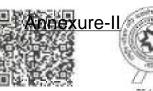


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+919431047908 Email: cookshivatesthouse in cac@ahwatesthouse.in







70-14351

TEST REPORT

OMSHIVA TEST HOUSE PYT LTD AND THE REPORT OF THE PARTY OF STH/24/08/112

Name and Address of Customer:

NTPC LIMITED ADD: BARAUNI THERMAL POWER PLANT PROJECT

08.08.2024

09.08.2024

STH/TR/24-25/08/112

NH 31, BARAUNI

ULR Number

Date of Sampling

Sample Received on

BEGUSARAI - 851 116

Laboratory Provided Details:

Information by Customer:

Name / Nature of Sample : Stack Emission

From Duct of Stack at Unit # Location of Sampling:

No

9 (1 * 250 MW)

W.O No.: 4000283588-057-1019 WO Date: 20.07.2022

Analysis Details:

Sample Code STH/24/08/112

Analysis Start Date 09.08.2024

Analysis Completion Date 14.07.2024

Method of Sampling IS 11255 (Part-1,2,3 & 7)

Env. Condition 35 °C 70% Sample Condition on Receipt Fit for analysis Temp. Humidity: Items required to be Tested Fit for analysis

Instrument ID STH/Equilp/117

Sample Quantity & 60 ml; Thimble & Sample Glass Carriage Any Specific Test Method Container

16.08.2024 Mr. Chitranjan Kumar, Lab Representative Reporting Date Sample Collected by

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
I. Type of Fuel				Coul	J-0-50500-	
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter		275.0 m.			
4. Dia: of Stack at Top (as reported)	Meter			4.9 m.		
5. ID fan to chimney duct cross section			3812 x 3412 mm ²			
6. Druft				Natural		
7. Material of Construction	227			M,S,		
8. Ambient Temperature	°C			35.0		
9. Flue Gas Temperature	9C		122.0			
10. Velocity	m/sec.	IS 11255 (Part-3)	22.5			
11. Volumetric flow Rate	NM /br		1196217.5			
12. Sampling Point	Meter		Duct cross section			
	1000000		Limit as per E (P) Rules, Schedule L	Concentration	Emission Rate (Kg/hrs)	
12. Particulate Matter (PM)	mg / NM ³	IS 11255 (Part-1)	30 mg / NM ⁵	23.4	28.0	
13 Sulphur Dioxide (SO ₂)	mg / NM ³	IS 11255 (Part-2)	100 mg / NM ³	847.8	1014.1	
14. Oxides of Nitrugen (NOx)	mg/NM ³	IS:11255 (Pant-7)	100 mg / NM ³	281.8	337.0	
15. Carbon Dioxide (CO ₃)	07	IS 13270 - 1992	Not Specified	11.8	21217.8	
16. Carbon Monoxide (CO)	.%	R 13716 - 1387	Not Specified	0.2	228.8	
17. Oxygen (O2)	%		Not Specified	8.0	10461.7	
18, Moisture Content	26		Not Specified	2.16	**	
19. Mercury as Hg	mg / NM ³	US EPA (Method 29)	0.03 mg / NM ¹	0.011	0.0131	

Note: *As per MOEF&CC Notification dated 05:09:2022, Barauni TPS falls in Category "C" dierefore, the timeline for compliance of PM & NOx emissions have been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM norms as stipulated #Pm norms and Clearance dated 08:05:2014.

MOVE Colo

Authorized Signatory:

Abhishek Kumar, Sec. I/c (Air Proximate)

Authorized Signatory: Segar Gokhe, Sec. Vc (Metal)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT -

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cap@shivatesthouse in

Applicate Plange Plan





TEST REPORT

OMSHIVA TEST HOUSE PVT LTI STH/24/08/113

Name and Address of Customer :

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

Sample Received on Method of Sampling

Sample Collected by

ULR Number Date of Sampling

Instrument ID Sample Quantity &

Container

BEGUSARAI - 851 116

Laboratory Provided Details:

Information by Customer:

Name / Nature of Sample : Stack Emission

Location of Sampling:

From Duct of Stack at Unit #

8 (1 * 250 MW)

W.O No.: 4000283588-057-1019

Analysis Details:

Sample Code

Reporting Date

WO Date:

STH/24/08/113

Analysis Start Date

09.08.2024

20.07.2022

Analysis Completion Date

14.08.2024

IS 11255 (Part-1,2,3 & 7)

Env. Condition Temp.

35 °C

STH/TR/24-25/08/113

70%

Sample Condition on Receipt

Fit for analysis

STH/Equip/117

08.08.2024

09.08.2024

60 ml; Thimble & Sample Glass Carriage

Humidity:

Items required to be Tested

Fit for analysis

Any Specific Test Method

No.

16.08.2024

Mr. Chitranjan Kumar; Lab Representative

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
1. Type of Fuel			- Investigation	Ceal	1.0000000000	
2. Stock Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter		1 = 0.000	275.0 m.		
4. Dis. of Stack at Top (as reported)	Meter		4.9 m.			
5. ID fan to chimney duct cross section			3812 x 3412 mm ²			
6, Druft				Natural		
7. Material of Construction				M.S.		
8. Ambient Temperature	Ψ.			35.0		
9, Flue Gas Temperature	/C		129.0			
10. Velocity	m/sec.	IS 11255 (Part-3)	23.8			
11. Volumetric flow Rate	NM!/hr		1243033.1			
12. Sampling Point	Meter		Duct cross section			
		***************************************	Limitus per E (P) Rules, Schedule I	Concentration	Emission Ran (Kg/hrz)	
12. Particulate Matter (PM)	mg/NM ¹	IS 11255 (Part-1)	50 mg / NM ³	18.4	22.9	
13 Sulphur Dioxide (SO ₂)	mg/NM ^a	IS 11255 (Part-2)	100 mg / NM ²	883.0	1097.6	
14. Oxides of Nitrogen (NOx)	mg/NM ¹	IS:11255 (Part-7)	100 mg / NM ³	291.5	362.4	
15. Carbon Dioxide (CO ₂)	16	40 s 1220 - 1002	Not Specified	11.4	20498.5	
16. Carbon Monoxide (CO)	16	4S 13270 1992 -	Not Specified	0.6	686.5	
17. Oxygen (O ₂)			Not Specified	7.9	10331.0	
18. Moisture Content	16		Not Specified	2.20	**	
19. Mercury as Hg	ing/NMT	US EPA (Method 29)	0.03 mg / NM ³	0.015	0.0186	

been extended up to 31-12/2024 and for SO2 up to 31/12/2026. #PM norms Sursental Clearance dated 08:05:2014

Authorized Signatory:

Abhishek Kumar, Sec. Vc (Air Proximate)

Authorized Stanatory: Sagar Gokhe, Sec. Vc (Metal)

Quality Manager : Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT -----

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OMSHIVA TEST HOUSE PVT LTD STH/24/18/619

TEST REPORT

Name and Address of Customer:

NTPC LIMITED.

Add: Barauni Thermal Power Plant Project

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer ;

Name / Nature of Sample : Stack Emission

Location of Sampling :

8 (1 * 250 MW)

W.O No.: 4000283588-057-1019

WO Date: 20.07.2022

Laboratory Provided Details:

ULR Number STH/TR/24-25/09/619

23.09.2024 Date of Sampling Sample Received on 25.09.2024

Method of Sampling IS 11255 (Part-1, 2, 3 & 7)

Terrin.

Instrument ID

Sample Quantity &

Sample Collected by

Env. Condition

60 ml; Thimble & Sample Glass Carriage Container

STH/Equip/117

Mr. Chitranjan Kumar, Lab Representative

Humidity

38°C

From Duct of Stack at Unit #

Fit for analysis

Analysis Details:

Sample Code STH/24/9/619 Analysis Start Date 25.09.2024 Analysis Completion Date 29.09.2024

Sample Condition on

Items required to be Tested

Fit for analysis Receipt

Any Specific Test Method

Reporting Date 29.09.2024

Report Prepared By S.K. Singh

ANALYSIS RESULTS

72%

Parameters	Unit	Method of Test	Results			
L. Type of Fuel				Cost	2005	
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter			275.0 m.		
4. Dia. of Stack at Top (as reported)	Meter		4.9 m.			
5. ID fan to chimney duct cross section			3812 x 3412 mm ²			
6, Draft			Natural			
7. Material of Construction				M.S.		
8. Ambient Temperature	°C			38.0		
9. Flue Gas Temperature	/C		133.0			
10. Velocity	m/sec.	IS 11255 (Part-3)	23.3			
11. Volumetric flow Rate	NM ³ be		1204798.5			
12. Sampling Point	Meter.		Duct cross section			
	Companyon and the Companyon an		Limit as per E (P) Rules, Schedule I	Concentration	Emission Ran (Kg/hrs)	
12. Particulate Matter (PM)	mg / NM1	IS 31255 (Part-1)	30 mg / NM	24.2	29.2	
13. Sulphur Dioxide (SO ₂)	mg / NM ²	IS 11255 (Part-2)	100 mg / NM ²	905.3	1090.7	
14. Oxides of Nitrogen (NOx)	mg / NM ³	15 11255 (Part-7)	100 mg / NM ³	269.4	324.6	
15. Carbon Dioxide (CO ₂)	36	10 12220 1002	Not Specified	11.7:	21038.0	
16, Curbon Monoxide (CO)	16	1S 13270 - 1992	Not Specified	0.3	343.27	
17, Oxygen (O ₂)	.56		Not Specified	7.9	10331,07	
18. Moisture Content	- 56		Not Specified	2.18		
19, Mercury as Hg	mg/NM ²	US EPA (Method 29)	0.03 mg / NM ³	BLQ[LOQ-0.05]	-	

been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM norms as attracted in Environmental Clearance dated 08.05.2014.

Patilipatra Calor Patrici

888613

Reviewed by : Vishal Sharma (DQM)

San Burk Authorized Signatory: Abhishek Kumar, Sec. Uc (Air Proximate)

AshiShekkumas

Authorized Signatory: Sagar Gokhe, Sec. Vc (Metal)

Quality Manager: Dr. (Mrs.) Shrevasee Prasad

END OF REPORT

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Patna - 800 013 (Bihar) Contact us: #918676886249

+919431047908 Email: coo@shivatesthouse.in cao@shivatesthouse.in

TEST REPORT



OMSHIVA TEST HOUSE PYT LTC STH/24/10/620

Name and Address of Customer:

NTPC LIMITED

Add: Barauni Thermal Power Plant Project

23:09:2024

25.09.2024

Temp.

STH/TR/24-25/09/626

IS 11255 (Part-1,2,3 & 7)

38°C

NH 31, BARAUNI

ULR Number

Date of Sampling

Sample Received on

Method of Sampling

Sample Quantity &

Env. Condition.

Instrument ID

BEGUSARAI - 851 116

Laboratory Provided Details:

Information by Customer:

Name / Nature of Sample : Stack Emission

From Duct of Stack at Unit # Location of Sampling:

29.09.2024

nnexure-II

9 (L*250 MW) W.O.No.: 4000283588-057-1019

WO Date: 20.07.2022

Analysis Details:

Reporting Date

STH/24/09/620 Sample Code

25.09.2024 Analysis Start Date Analysis Completion Date 29.09.2024 Sample Condition on Receipt Fit for analysis Items required to be Tested Fit for analysis

No

STH/Equip/117 Any Specific Test Method

Container Report Prepared By S.K. Singh Mr. Chitranjan Kumar, Lab Representative Sample Collected by

72%

Humidity.

60 ml; Thimble & Sample Glass Carriage

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Results			
L. Type of Fuel				Coul		
2. Stack Connected to			Electro Static Precipitator (ESP)			
3. Height of Stack (as reported)	Meter		275.0 m.			
4. Dia. of Stack at Top (as reported)	Meter			4.9 m.		
5. ID fan to chimney duct cross section	1000000		3812 x 3412 mm²			
6. Draft	300			Natural		
7. Material of Construction	444			M.S.		
8. Ambient Temperature	FC .			38.0		
9. Flue Gas Temperature	fC .		129.0			
10, Velocity	m/sec.	IS 11255 (Part-3)	23.2			
11. Volumetric flow Rate	NM*/hr	11 000 1217.200 000	1211729.6			
12. Sampling Point	Meter		Duct cross section		0	
			Limit as per E (P) Ruler, Schedule I	Concentration	Emission Ras (Kg/hrs)	
12. Particulate Matter (PM)	mg/NM3	IS 11255 (Pan-1)	30 mg / NM ³	23.4	28.3	
13.Sulphur Dioxide (SO ₂)	mg/NM ³	IS 11255 (Part-2)	100 mg / NM ³	927.7	1124.1	
14. Oxides of Nitrogen (NOx)	mg/NM ³	IS 11255 (Part-7)	100 mg / NM ³	283.7	343.8	
15. Carbon Dioxide (CO ₂)	96	IS 13270 1992	Not Specified	11.4	20498.56	
16. Carbon Monoxide (CO)	96	82 192 OF 1992	Not Specified	0.6:	686.554	
17. Oxygen (Oz)	96		Not Specified	7.9	10331.017	
18. Moisture Content	76		Not Specified	2.2	22	
19. Mercury as Hg	mg/NM ²	US EPA (Method 29)	0.03 mg / NM ³	BLQ(LOQ-0.05)		

been extended up to 31.12.2024 and for SO2 up to 31.12.2026. ≠PM norms as stipulated in Environmental Clearance dated.08.05.2014

Reviewed by : Vishal Sharma (DQM) Authorized Signatory:

4 Bhekkumar

Abhishek Kumar, Sec. Vc (Air Proximate)

Authorized Signatory:

Sagar Gokhe, Sec. I/c (Metal)

Quality Manager:

Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT --

(1) This report applies only to sample tested as above. (2) Total Liability of our Lebouriory is limited to invoiced amount. (3) Test Report endorsed only the tests and not the product certificate. (4) Test Report cannot be reproduced partially or full for legal/court purpose without written permission of the Laboratory.











Pattlingtre Color Paper 800013



TESTING

CONSULTING RESOLVING



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Email: coo@shivatesthouse.in cao@shivatesthouse in





OMSHIVA TEST HOUSE PYT LTD (AND ENGLISHED IN CONTRACT PRINTED IN THE PRINTED I STH/24/10/631

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31. BARAUNI

Sample Collected by

BEGUSARAI - 851 116

Information by Customer:

Analysis Details: Sample Code

Analysis Start Date

Analysis Completion Date

Sample Condition on Receipt

Items required to be Tested

Any Specific Test Method

W.O No.:

Name / Nature of Sample : Stack Emission

From Duct of Stack at Unit# Location of Sampling:

8 (1 * 250 MW)

WO Date: 20.07.2022

Laboratory Provided Details:

ULR Number STH/TR/24-25/09/631

24.09.2024 Date of Sampling 25.09.2024 Sample Received on

IS 11255 (Part-1,2.3 & 7) Method of Sampling

Env. Condition Temp. 35 0

Instrument ID STH/Equip/117

Sample Quantity & 60 ml; Thimble & Sample Glass Carriage Container

Mr. Chitranjan Kumar; Lab Representative

Humidity. 72%

Reporting Date:

Report Prepared By

4000283588-057-1019

STH/24/09/631

25.09.2024

29.09.2024

Fit for analysis Fit for analysis

No

S.K. Singh

29.09.2024

ANALYSIS RESULTS

Parameters	Unit	Method of Test		Results		
1. Type of Fuel				Conl		
2. Stack Connected to			Electro	Static Precipitator	(ESP)	
3. Height of Stack (as reported)	Meter		-010000	275.0 m.	W4251000	
4. Dia. of Stack at Top (as reported)	Meter			4.9 m.		
5. ID fan to chimney duct cross section			3	3812 x 3412 mm ²		
6. Draft				Natural		
7. Material of Construction	***		M.S.			
8. Ambient Temperature	*C			35.0		
9. Flue Gas Temperature	*C			128.0		
10. Velocity	m/sec.	IS 11255 (Pint-3)		24.2		
11. Volumetric flow Rate	NM ³ /br			1265088.5		
12. Sampling Point	Meter		Duct cross section			
			Limit as per E (P) Rules, Schodule I	Concentration	Emission Rate (Kg/hrs)	
12. Particulate Matter (PM)	mg/NM?	IS 11255 (Part-1)	30 mg / NM ³	22.7	28.7	
13. Sulphur Dioxide (SO ₂)	mg/NM ⁵	IS 11255 (Part-2)	100 mg / NM ³	908.2	1149.0	
14. Oxides of Nitrogen (NOx)	mg/NM ²	18 (1255 (Part-7)	100 mg / NM ²	287.0	363.1	
15. Carbon Dioxide (CO2)	96	te same asset	Not Specified	11.6	20858.19	
16. Carbon Monoxide (CO)	96	15 13270 - 1992	Not Specified	0.4	457.70	
17. Oxygen (O:)	9%		Not Specified	8.0	10461.78	
18. Moisnare Content	36		Not Specified	2.20	-	
19. Mercury as Hg	mg/NM ³	US EPA (Method 29)	0.03 mg / NM ²	BLQ(LOQ-0.05)		

Note: *As per MOEF&CC Notification dated 05.09.2022, Barauni TPS fulls in Category " been extended up to 31.12.2024 and for SO2 up to 31.12.2026. #PM norms as stipulated in Environmental Clearance deted 08.05.2014

Reviewed by Vishal Sharma (DQM)

Authorized Signatory Abhishek Kumar, Sec. I/c (Air Proximate) Authorized Signatory:

Sagar Golthe, Sec. I/c (Metal)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT -

Patripotes Cales Patra 620013

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OMSHIVA TEST HOUSE PVT LTD A BANKAN KANTAN KAN STH/24/10/632

STH/24/09/632

25.09.2024

29.09.2024

Fit for analysis

Fit for analysis

TEST REPORT

Name a	ind Add	ress of	Customer	40
--------	---------	---------	----------	----

NTPC LIMITED

Add: Barauni Thermal Power Plant Project

NH 31, BARAUNI

BEGUSARAI-851 116

Information by Customer:

Name / Nature of Sample : Stack Emission

From Duct of Stack at Unit # Location of Sampling:

9 (1 * 250 MW)

W.O No.: 4000283588-057-1019

WO Date: 20.07.2022

Laboratory Provided Details:

ULR Number

Instrument ID

STH/TR/24-25/09/632

Date of Sampling

24.09.2024 25.09.2024

Sample Received on

IS 11255 (Part-1,2,3 & 7)

Method of Sampling Env. Condition

38 °C Temp. STH/Equip/117

Humidity.

72%

Items required to be Tested

Sample Condition on Receipt

Analysis Completion Date

No

Any Specific Test Method

29.09.2024

Reporting Date

Report Prepared By

Analysis Details: Sample Code

Analysis Start Date

S.K. Singh

Container Sample Collected by

Sample Quantity &

60 ml; Thimble & Sample Glass Carriage Mr. Chitranjan Kumar, Lab Representative

ANALYSIS RESULTS

Parameters	Unit	Method of Test		Results		
1. Type of Fuel	N 20000			Coal		
2. Stack Connected to			Electro	Static Precipitator	(ESP)	
Height of Stack (as reported)	Meter			275.0 m.		
4. Dia. of Stack at Top (as reported)	Meter		4.9 m.			
5. ID fan to chimney duct cross section				3812 x 3412 mm ²		
6. Deaft				Natural		
7. Material of Construction				M.S.		
8. Ambient Temperature	*C			35.0		
9. Flue Gas Temperature	9E			134.0		
10. Velocity	m/sec.	IS 11255 (Part-3)		23.5		
11. Volumetric flow Rate	NM*8c			1208498.7		
12, Sampling Point	Meter		Duct cross section			
and the latest the section of the se			Limit as per E (P) Bules, Schedule I	Concentration	Emission Rate (Kg/hrs)	
12. Particulate Matter (PM)	ings/ NMT	IS 11255 (Part-1)	30 mg / NM ³	24,7	29.8	
13.Sulphur Dioxide (SO ₂)	ing/NM*	IS 11255 (Part-2)	100 mg / NM ³	888.0	1073.1	
14, Oxides of Nitrogen (NOx)	ing (NM)	IS 11255 (Part-7)	100 mg / NM ⁴	269.7	325.9	
15, Carbon Dioxide (CO ₂)	- %	65 1 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Not Specified	11.6	20858.19	
16. Carbon Monoxide (CO)	%	(S 13270 - 1992	Not Specified	0.4	457.70	
17. Oxygen (Oc)	%		Not Specified	8.0	10461.78	
18. Moisture Content	56		Not Specified	2.16	44	
19. Mercury as Hg	mg / NM ^d	US EPA (Method 29)	0.03 mg / NM ³	BLQ[L0Q-0.05]	in.	

been extended up to 31.12.2024 and for SO2 up to 31.12.2026. PM norms as exputated in Environmental Clearance dated 08.05.2014

Patra 800013

Reviewed by: Vishal Sharma (DQM)

Authorized Signatory

Abhishek Kumar, Sec. Vc (Air Proximate)

Authorized Signatory:

Sagar Gokhe, Sec. I/c (Metal)

Quality Manager:

Dr. (Mrs.) Shreyases Prasad

- END OF REPORT -

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Annexure-II

भारत सरकार परमाणु ऊर्जा विभाग विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड



Government of India Department of Atomic Energy Board of Radiation & Isotope Technology

Certificate Tracking ID / CTID : 2306749 Date of Issue / DOI : 13-Jul-2023 Certificate Serial No. / CSN : RAL(V)-2300055



Radioanalytical Laboratory

RADIOACTIVITY TEST CERTIFICATE

Ref: BRIT/RAL/DOM/65-88/MISC/39-62/23-24

M/S NTPC LIMITED **BARAUNI THERMAL POWER STATION** P.O. BTPP, DIST. BEGUSARAI, PIN-85116

This is regarding the sample of "COAL & ASH" sent for radioactivity analysis vide your letter ref. no. NTPC/BARAUNI/CHEMISTRY/BRITS/2022-23/001 dated 27.04.2023 as shown in italics:

1) COAL SAMPLES (2 NOS.) 2) ASH SAMPLES (4 NOS.) SAMPLE DESCRIPTION

QUANTITY (IN GM) 300 GMS EACH **SAMPLING DATE** 27/04/2023

SAMPLE LOCATION NTPC LIMITED, BARAUNI, BEGUSARAI

DATE OF RECEIPT OF SAMPLE: 10.05.2023 DATE OF COMPLETION OF TEST: 23.06.2023

The samples were analysed for U-238, Ra-226, Th-232 and K-40 radioactivity content by HPGe gamma spectrometry and the values obtained are as follows:

Sr. No	NAME OF THE PRODUCT	U-238 (Bq/Kg)	Ra-226 (Bq/Kg)	Th-232 (Bq/Kg)	K-40 (Bq/Kg)
1	COAL-1 (CAL/BTPS/COAL/ECL/01)	35 ± 1.9	28.9 ± 3.6	67.7 ± 7.0	168.5 ± 10.3
2	COAL-2 (CAL/BTPS/COAL/PBCMP/01)	46.4 ± 2.5	44.7 ± 5.2	62.7 ± 6.7	75 ± 5.9
3	ASH-1 (CAL/BTPS/FLY-ASH/01)	71.7 ± 2.1	52.4 ± 4.9	106.3 ± 10.6	316.4 ± 15.2
4	ASH-2 (CAL/BTPS/BOTTOM-ASH/01)	77 ± 2.9	62.8 ± 5.5	114.9 ± 11.5	315.1 ± 15.4
5	ASH-3 (CAL/BTPS/POND-ASH/01)	90 ± 3.1	88.7 ± 8.4	124.7 ± 12.9	250.9 ± 16.0
6	ASH-4 (CAL/BTPS/POND-ASH/02)	83.6 ± 2.8	78 ± 9.0	123.7 ± 12.6	262.3 ± 15.6

Opinion: The measurement values are below the clearance level for radionuclides of natural origin in bulk solid materials, as per AERB directive 01/2010 (table-3) dated 26/11/2010.

Note: (i) The report pertains to the given sample only. (ii) The sample will be retained in this laboratory for a period of 1 month from certificate date and thereafter it will be disposed off. (iii) This report shall not be reproduced except in full, without written approval of the laboratory. (iv) The sampling is not done by this laboratory.

Checked by: **Authorized Signatory:** SHEEBA S.W. AJAY NANA THAMKE Assistant OIC, RAL

************* End of Report ***********

1/1

The authenticity of this certificate is verifiable. Please scan the QR code using a QR scanning application on any mobile devices. Upon redirection you must enter the necessary information in landing page https://eportal.britatom.gov.in. We will then revert you back with a digital copy of the certificate in your verified e-mail ID. In accordance to IT Act 2000 (21 of 2000), this document is generated electronically through a validated s/w and need no physical/ digital signature(s).





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OMSHIVA TEST HOUSE PVT LTD

Annexure-IV

AH-273/24

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

TESTING

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31. BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number

STH/TR/NN/24-25/09/273

33.90

Mr. Vinay Kumar; Lab Representative

Date of Sampling

23.09.2024 25.09.2024

Sample Received on Env. Condition

Temp.

NA

Humidity

81%

Instrument ID

Sample Quantity &

Container

Two Poly Bags (2 Kg)

Sample Collected by

Information by Customer:

Name / Nature of Sample :

Location of Sampling:

Pond Ash Sample

W.O No.:

From Ash Pond 4000283588-057-1019

20.07;2022

WO Date:

Analysis Details:

Sample Code Analysis Start Date

AH-273/24 25.09.2024 29.09.2024

Analysis Completion Date Sample Condition on Receipt

Fit for analysis

Items required to be Tested

As per contract

Any Specific Test Method

Reporting Date Report Prepared By 29.09.2024 S.K. Singh

ANALYSIS RESULTS

Parameters	Results (w/w)
1. Silica as SiO ₂ , %	54.3
2. Alumina as Al ₂ O ₃ , %	21.0
3. Iron as Fe ₂ O ₃ , %	5.8
4. Calcium as CaO, %	2.7
5. Magnesium as MgO, %	2.0
6. Titania as TiO ₂ , %	1.12
7. Potassium as K _z O, %	0.67
8. Sodium as Na _Z O, %	0.96
9. Phosphate as P ₂ O ₅ , %	0.44
10. Sulphate as SO ₃ , %	0.68
11. Mercury as Hg, %	<0.01
12. Arsenic as As, %	<0.01
13. Lead as Pb, %	0.012

Reviewed by : Vishal Sharma (DQM)

Authorized Signatory: S.S. Rukhaiyar, Sec. I/c (Effluent)

---- END OF REPORT ----

of the product certificate. (4) Test Report cannot be reproduced partially or full for legal/count purpose without written permission of the Laboratory.

Quality Manager: Dr. (Mrs.) Shreyasee Prasad









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...... PROTECTING SINCE 1988 CONSULTING RESOLVING TRAINING TESTING

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+919431047908



Annexure-IV

OMSHIVA TEST HOUSE PVT LTD

CL-274/24

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details :

ULR Number

STH/TR/24-25/09/629

Date of Sampling

23.09.2024

Sample Received on Env. Condition

25.09.2024

Temp.

33°C Humidity

81%

Instrument ID

Container

Sample Quantity &

Two Poly Bags (2 Kg)

Sample Collected by

NA

Mr. Vinay Kumar; Lab Representative

Information by Customer:

Name / Nature of Sample :

Coal Sample

Location of Sampling :

From Coal Storage Yard

W.O No.:

4000283588-057-1019

WO Date:

20.07.2022

Analysis Details:

Sample Code

CL-274/24 25.09.2024

Analysis Start Date

Analysis Completion Date

29.09.2024

Sample Condition on Receipt

Fit for analysis

Items required to be Tested

As per contract

Any Specific Test Method

No

Reporting Date Report Prepared By 29.09.2024 S.K. Singh

ANALYSIS RESULTS

Parameters	Results (w/w)
1. Mercury as Hg, %	<0.1
2. Copper as Cu, %	0.22
3. Zinc as Zn, %	3.8
4. Chromium as Cr, %	0.15
5. Magnesium as Mg, %	1.0
6. Arsenic as As, %	0.06
7. Selenium as Se, %	<0.01
8. Nickel as Ni, %	0.24
9. Cadmium as Cd, %	<0.1
10. Lead as Pb, %	0.08
11. Cobalt as Co, %	<0.1
12. Sulphur Content, %	0.45

Reviewed by:

Vishal Sharma (DQM)

Authorized Signatory : S.S. Rukhaiyar, Sec. Vc (Effluent)

---- END OF REPORT ---

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

N.B.

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Annexure-V

(Serving since 1988)

RECOGINSED AS ENVIRONMENTAL LABORATORY BY MoEFCC, GOVT. OF INDIA, UNDER ENVIRONMENT (PROTECTION) ACT 1986, DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

TEST REPORT

Ref. N	No. STH/TR/24-25/344 Dt. 1	6.04.2024	Your	PO No. 4000	1283585-057-1	019 Dt: 20	.07.2022		
[a] N	lame and address of the Custome	NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116							
[b] D	Details of Sample		Vater Sample						
[c] Sample Collected by					njan Kumar (l se on 08.04.2	Lab Representative) 4	of Shiva		
	Sampling Location		om Hand pamp	ncur ash dyke					
[e] Method of Sampling				18: 3025					
[1] 5	Sampling Environmental Condition			Temp (%c)		24 Humidity (%) 51		
[g] Details of Sample Container (No. & Type of Container)					rlene bottle (0	(2)	0940940 090		
	Sample Quantity			2 Liters		22.000			
	Sample Code			GW-344/	EL JOHNSON COLOR				
[] Sample Condition on Receipt				Fit for analysis As per contract					
[k] Items required to be tested				As per co	ntract				
	Whether any specific Method of Te suggested by the customer	ist has been		No					
[m] D	Date of receiving the sample in Lai	boratory		09.04.24					
	Analysis Start Date / Analysis Com			09.04.24	/14.04.24				
					Limit as p	er IS 10500: 2012			
S.N.	Parameters	Unit	Method	of Test	Limit (mg/L) Acceptable	Permissible Limit in the absence of alternative source	Results		
1.	pH at 25°C	3447	18:3025	(Part-11)	6.5	8.5	7.26		
2.	Total Dissolved Solids (TDS)	mg/l.	IS 3025	(Part-16)	500.00	2000.00	287.0		
3.	Conductivity	µmhos/cm	15 3025	(Part-14)	No	t Specified	542.0		
4.	Turbidity on NTU	NTU	18 3025	(Part-10)	1.0	5.0	0.92		
5.	Total Alkalinity as CaCO ₃	mg/l.	IS 3025	(Part-23)	200.00	500,00	218.0		
6.	Total Hardness as CaCO ₅	mg/l.	18 3025	(Part-21)	200.00	600,00	202.0		
			183025(Part-45)	No	t Specified	47.67		
Con	Programme and the second secon		1 100 100 100	Annual Control of the Control	200.00	400.00	0.4.5		
8.	Sulphate as SO ₄	mg/l.	15 3025	(Part-24)	200.00	400.00	24.5		

Prasad

Shibeswar Digitally signed by Shibeswar Prasad Date: 2024.04.16 11:01:08 +05/30*

Verified by: Dr. Shibeshwar Prasad Technical Manager



Shreyase by Shreyase e Prasad Bite: 2004:0416

Authorized Signatory Dr. (Mrs.): Shreyasee Prasad Quality Manager

- END OF TEST REPORT --

This report applies only to sample tested as above. Total Liability of our Laboratory is limited to invoiced amount.

Test Report endorsed only the tests and not the product certificate.

Test Report can not be reproduced partially or full for legal/court purpose without written permission of the Laboratory.

Contact us :

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Mob.: +918676886249: +919431047908 Email: sthoutna ligivation co.in inforal shivutest com

Website: www.ahreatest.com , www.ahreatesthouse.com



Page 1 of 1



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TEST REPORT

Ref. N	o. STH/TR/24-25/344(A)	Dt: 16.04.2024	Ye	ur PO No. 4	000283588-05	7-1019	Dt:	20.07	.2022	
[a] h	Name and address of the Custon	ter		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116						
[b] D	Details of Sample				Vater Sample			e Section 4	200112	
[c] 8	Sample Collected by	By Chitra Test Hou	njan Kumar (se on 08.04.2	Lab Ri 24	epresentative)	of Sh	ńva			
[d] 5	Sampling Location:		Collected for	rom Hand pump	NEOF BS	th dyke				
[e] Method of Sampling				IS: 3025.	APHA					
[f] 8	f Sampling Environmental Condition)	24	Humidity (%)	51	
[9] E	Details of Sample Container (No.	Polyprop	ylene bottle (0	02)		1000000				
[h] Sample Quantity				2 Liters						
	i Sample Code				GW-344/04/24					
[[Sample Condition on Receipt			Fit for analysis						
	tems required to be tested			As per contract						
	Whether any specific Method of I suggested by the customer	est has been		No						
	Date of receiving the sample in L	aboratory		09.04.24						
[n] A	Analysis Start Date / Analysis Co	mpletion Date		09.04.24	/14.04.24					
					Limit as p	er IS 1	0500: 2012			
S.N.	Parameters	Unit	Method	of Test	Limit (mg/l.) Acceptable	the a	issible Limit in baence of native source	Re	sults	
6	Dissolved Oxygen	mg/L	IS3025(Part-38)	No	t Spec	ified	19	4.3	
2.	BOD (3 days at 27°C)	mg/l	1830250	Part-44)	No	t Spec	ified	1	0.1	
3.	COD	mg/l	1530254	Part-58)	No	t Spec	ified		1.0	
4.	Total Suspended Solids	mg/l.	IS 3025	(Part-17)	No	t Spec	ified		13.0	

Shibesw Shibeswar Prasad ar Prasad 11:01:41 +0530

Date: 2024.04.16

Verified by: Dr. Shibeshwar Prasad Technical Manager



- END OF TEST REPORT -

Shreyase Digitally signed by Shreyase Posed Date 2004-04-19 Prasad Date 2004-04-19 Date

Authorized Signatory Dr. (Mrs.) Shreyanee Prasad Quality Manager

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Contact us:

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TEST REPORT

	No. STH/TR/24-25/345	Di: 16.04.2024	1		4000283588-0	97-1919 OI	20.07.202			
[a] N	Name and address of the Custome	er		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116						
[b] D	Details of Sample		rater sample							
[c] \$	Sample Collected by	By Chitra Test Hou	njan Kumar (1 se on 08.04.2	Lab Representative) 4	of Shiva					
[d] Sampling Location					ow Hand pum	Near Neta Jee Bhaw	a/1			
[e] Method of Sampling				IS: 3025,						
M 2	Sampling Environmental Condition	U		Temp (°c)		24 Humidity (%) 51			
	Details of Sample Container (No. 8	Polypropy 2 Liters	/lene battle (C	12)	*************					
					n 4 m 4					
[i] Sample Code					BW-345/04/24					
Sample Condition on Receipt					Fit for analysis As per contract					
[k] Items required to be tested [l] Whether any specific Method of Test has been					THE BUL					
[I] V	suggested by the customer	SALTINS MODIT		No						
[m] E	Date of receiving the sample in La	boratory		09.04.24						
[n] A	Analysis Start Date / Analysis Com	pletion Date		09.04.24	/14.04.24					
					Limit as per IS 10500: 2012					
S.N.	Parameters	Unit	Method	of Test	Limit (mg/L) Acceptable	Permissible Limit in the absence of alternative source	Results			
f0	pH at 25°C	5 1445 1	IS 3025	(Part-11)	6.5	8.5	7.31			
2.	Total Dissolved Solids (TDS)	mg/l.	IS 3025	(Part-16)	500,00	2000.00	317.0			
3.	Conductivity	μmhos/cm	IS 3025	(Part-14)	No	t Specified	569.0			
4.	Turbidity on NTU	NTU	IS 3025	(Part-10)	1.0	5.0	0.94			
5.	Total Alkalinity as CaCO ₃	mg/l.	IS 3025	(Part-23)	200,00	800.00	220,0			
6.	Total Hardness as CaCO₂	mg/l.	IS 3025	(Part-21)	200.00	600.00	194.0			
7.	Sodium as Na	mg/l	IS3025(Part-45)	No	t Specified	43.98			
		ma/L	19:2025	(Part-24)	200.00	400.00	23.5			
8.	Sulphate as SO ₄	101544	LO SUES	(1) (2) (1-20m)	6300000000	77.00 (0.00)	distributed.			

Shibesw Digitally signed by Shibeswar Prasad ar Prasad Date: 2024.04.16

Verified by a Dr. Shibeshwar Prosad Technical Manager



Shreyase Shryusee Plasad e Prasad Date: 2024;64,16 11:13:58+05'30'

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

- END OF TEST REPORT -

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Website: www.shiwnest.com; www.shiwnesthmas.com



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TEST REPORT

Ref. N	o. STH/TR/24-25/345(A)	Dt: 16.04.2024	Y	our PO No.	4000283588-0	57-1019	DE	20.07	7.2022		
[a] N	lame and address of the Cus	itomer		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116							
[b] E	Details of Sample				vater sample						
(c) E	Sample Collected by	Test Hou	injan Kumar (ise on 08.04.2	24			iva				
[d] S	Sampling Location			Collected J	rom Hand pumy	o Near Ne	da Jee Bhawa	a .			
	Method of Sampling				APHA						
)	24	Humidity (1	lity (%) 51			
[9] C	[g] Details of Sample Container (No. & Type of Container)				Polypropylene bottle (02)						
[h] Sample Quantity				2 Liters							
	Sample Code			BW-345/04/24							
III 8	Sample Condition on Receipt			Fit for analysis							
	tems required to be tested	Land to the second second		As per contract							
	Whether any specific Method suggested by the customer	of Test has been		No							
[m] [Date of receiving the sample i	in Laboratory		09.04.24							
[n] /	vnalysis Start Date / Analysis	Completion Date		09.04.24	/14.04.24						
	1810 = 477				Limit as p	er IS 103	500: 2012				
S.N.	Parameters	Unit	Method	d of Test	Limit (mg/L) Acceptable	the abs	ible Limit in ence of we source	Re	sults		
10	Dissolved Oxygen	mg/l.	IS3025	(Part-38)	No	t Specific	ed	39	4.2		
2.	BOD (3 days at 27°C)	rng/l	193025	(Part-44)	No	(Specific	ed	×6.	0.1		
3.	COD	mg/i	183025	(Part-58)	No	t Specific	ed		1.0		
4.	Total Suspended Solids	mg/l.	IS 3026	(Part-17)	Nio	t Specific	ed	133	1.0		

r Prasad

Shibeswa Digitally signed by Shibeswar Prasad Date: 2024.04.16 11:03:20 +05'30'

Verified by:: Dr. Shibeshwar Prasad Technical Manager



Shreyase Shreyase Presad e Prasad Oute: 2024-01-16 11:15-48-407-30

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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Website: www.shivatest.com .wow.shivatestbooke.com



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TEST REPORT

Ref. N	o. STH/TR/24-25/238 Dt	31.05.2024	-Ye	or PO No. 4	000283588-05	7-1019 De:	20.07.2022		
[a] N	same and address of the Customs	ar .		NH 31, B	THERMAL POV	VER PLANT PROJECT	3		
[b] D	etails of Sample				Vater Sample		agamenters at		
[c] S	Sample Collected by	By Premi House on		Representative) of S	hiva Test				
	sampling Location				on Hand pany	neur ash dyke			
	Method of Sampling	18: 3025,		a not the military					
	sampling Environmental Condition			Temp (%c		38 Humidity	(%) 60		
	etails of Sample Container (No. 8		/lene battle (C)2)					
	Sample Quantity			2 Liters					
	Sample Code			GW-2384					
Sample Condition on Receipt					Fit for analysis				
[k] Items required to be tested				As per contract					
	Whether any specific Method of Test has been suggested by the customer				No				
[m] D	ate of receiving the sample in La	boratory		09.05.24					
[n] A	nalysis Start Date / Analysis Con	pletion Date		09.05.24/	14.05.24				
					Limit as p	er IS 10500: 2012			
S.N.	Parameters	Unit	Method	of Test	Limit (mg/l.) Acceptable	Permissible Limit in the absence of alternative source	Results		
1.	pH at 25°C		15 3025	(Part-11)	6.5	8.5	7.38		
2.	Total Dissolved Solids (TDS)	mg/L	15 3025	(Part-16)	500.00	2000.00	212.0		
3.	Conductivity	µmhos/cm	19.3025	(Part-14)	No	t Specified	397.0		
4.	Turbidity on NTU	NTU	15 3025	(Part-10)	1.0	5.0	0.86		
5.	Total Alkalinity as CaCO ₃	mg/L	IS 3025	(Part-23)	200.00	600.00	190.0		
5.	Total Hardness as CaCO ₃	mg/l.	18 3025	(Part-21)	200.00	600.00	170.0		
7.	Sodium as Na	mg/l	193025(Part-45)	No	t Specified	41.39		
8.	Sulphate as SO ₄	mg/L	IS 3025	(Part-24)	200.00	400.00	22.8		
9	Nitrate as NOs	mg/L	IS3025(David State	45.00	No relaxation	2.8		

Shibeswar Prasad

Digitally reproduce Side view Sec. 303 (365) 113559 (80'90'

Verified by: Dr. Shibeshwar Prasad Technical Manager

Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:07:59 +05'30'

Authorized Signatory Dr. (Mrs.) Shreyasee Presad Quality Manager

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TEST REPORT

Ref. N	o. STH/TR/24-25/238(A)	Dt: 31.05.2024	3	our PO No.	4000283588-0	57-1019 Di:	20.0	7.2023		
[a] N	lame and address of the Custon	ner		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116						
[b] D	Details of Sample				Vater Sample					
[c] S	Sample Collected by		Kumar (Lab F 1 08.05.24	Representative) of St	iiva T	est				
[d] S	Sampling Location			Collected for	rom Hand prougr	neur ash dyke				
[e] Method of Sampling				IS: 3025,	APHA					
					1	38 Humidity (%)	60		
[g] Details of Sample Container (No. & Type of Container)				Polyprop	ylene bottle (C	(2)				
[h] Sample Quantity				2 Liters						
	Sample Code			GW-238/05/24						
II 5	Sample Condition on Receipt			Fit for analysis						
17.78	ems required to be tested			As per contract						
III V	Whether any specific Method of 1 uggested by the customer	Fest has been		No						
	ate of receiving the sample in L	aboratory		09.05.24	9					
	unallysis Start Date / Analysis Co			09.05.24/	14.05.24					
STORT OF					Limit as p	er IS 10500: 2012				
S.N.	Parameters	Unit	Method	l of Test	Limit (mg/L) Acceptable	Permissible Limit in the absence of alternative source	Re	sults		
tall.	Dissolved Oxygen	mg/L	IS3025	Part-38)	No	Specified	.9	1.4		
2,	BOD (3 days at 27°C)	mg/l	193025	Part-44)	No	Specified	- 4	0.1		
3.	COD	mg/l	153025	Part-58)	No	Specified		1.0		
4.	Total Suspended Solids	mg/l.	IS 3025	(Part-17)		Specified		0.6		



Shibeswa Digitally signed by r Prasad

Shilbeswar Prasad Date: 2024.06.01 11:54:19 +05'30'

Verified by : Dr. Shibeshwar Proxad Technical Manager

Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:08:38 +05'30"

Authorized Signatory Dr. (Mrs.) Shreyasee Pranad Quality Manager

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TEST REPORT

Ref. N	lo. STH/TR/24-25/239 Dt	31.05.2024	Ye	ur PO No. 4	000283588-05	7-1019 Dc	20.07.2022
[a] N	Name and address of the Customa	NH 31, B.	THERMAL POV	VER PLANT PROJECT			
[6] 0	Details of Sample	Ground w	rater sample				
[c] S	Sample Collected by		Kumar (Lab F 08.05.24	Representative) of SI	hiva Test		
[d] 5	Sampling Location	Collected fi	om Hand purg	Near Neta Jee Bhaw	an		
	Method of Sampling	IS: 3025,	APHA				
	Sampling Environmental Condition			Temp (°c		38 Humidity (%) 60
	Details of Sample Container (No. a Sample Quantity	Polypropylene bottle (02) 2 Liters					
II 5	Sample Code	GW-239/05/24					
III 8	Sample Condition on Receipt	Fit for and	alysis				
	tems required to be tested	As per co	ntract				
	Whether any specific Method of Te suggested by the customer	No					
	Date of receiving the sample in La	boratory		09.05.24			
[0] /	Analysis Start Date / Analysis Con	npletion Date		09.05.24/	14.05.24		
	W 22				Limit as per IS 10500: 2012		
S.N.	Parameters	Unit	Method	of Test	Limit (mg/L) Acceptable	Permissible Limit in the absence of alternative source	Results
100	pH at 25°C	199960	IS 3025	(Part-11)	6.5	8.5	7.28
2	Total Dissolved Solids (TDS)	mg/L	IS 3025	(Part-16)	500.00	2000.00	225.0
3	Conductivity	μmhos/cm	IS 3025	(Part-14)	No	t Specified	415.0
4.	Turbidity on NTU	NTU	IS 3025	(Part-10)	1.0	5.0	0.91
5	Total Alkalinity as CaCO ₃	mg/l.	IS 3025	(Part-23)	200.00	600.00	190.0
6.	Total Hardness as CaCO ₅	mg/l.	IS 3025	(Part-21)	200.00	600.00	194.0
7.	Sodium as Na	mg/l	IS3025()	to the control of the second of the control of the			44.73
8.	Sulphate as SO ₄	mg/l.	IS 3025	(Part-24)	200.00	400.00	22.8
			According to the control of the cont				

Prasad

Shibeswar Shibeswar Prasad Date: 2024.06.01 11:54:35 +05'30"

> Verified by : Dr. Shibeshwar Prasad Technical Manager



Prasad

Shreyasee Shreyasee Prasad Date: 2034.06.01 12:09:18 + 05'30'

> Authorized Signatory Dr. (Mrs.) Shreyance Prasad Quality Manager.

- END OF TEST REPORT -

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Website: www.shinatest.com; news.shinatesthoses.com



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TEST REPORT

Ref. N	o. STH/TR/24-25/239(A)	0.31,05,2024	Ye	sir PO No. 40	000283588-05	7-1019 Dt:	20,07.	2022
[a] N	Vame and address of the Custon	NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116						
[b] C	etails of Sample		ater sample					
	Sample Collected by	By Prem I House on		Representative) of S	hiva Ti	est		
[d] S	Sampling Location			Near Neta Jae Bhan	NOVI :			
[e] Method of Sampling					APHA			
f) Sampling Environmental Condition				Temp (%c)		38 Humidity	(%)	60
[9] [Details of Sample Container (No.	Polypropylene bottle (02)						
[h] 8	Sample Quantity	2 Liters						
	Sample Code			GW-239/05/24				
[] S	Sample Condition on Receipt			Fit for ana				
[k]	tems required to be tested	283833-11		As per contract				
[i] V	Whether any specific Method of suggested by the customer	lest has been		No				
[m] [Date of receiving the sample in L	aboratory		09.05.24				
[n] /	Analysis Start Date / Analysis Co	mpletion Date		09.05.24/	14.05.24			
		97.0			Limit as p	er IS 10500: 2012		
S.N.	Parameters	Unit	Method	i of Test	Limit (mg/l.) Acceptable	Permissible Limit in the absence of alternative source	Re	sults
63	Dissolved Oxygen	mg/l. IS3025		(Part-38)	No	t Specified	1 3	1.6
2			(Part-44)	No	t Specified	<	0.1	
3.	COD	mg/l	IS3025(Part-58)		No	t Specified		1.0
4	Total Suspended Solids	mo/L	IS 3029	5 (Part-17) Not Specified		1	0.0	

Shibeswar Prasad

Digitally signed by Shibeswar Prasad Date: 2024.06.01 11/54/51 +65'30'

Verified by:: Dr. Shibeshwar Prasad Technical Manager

Patria

Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:09:59 +05'30'

Authorized Signatory Dr. (Mrs.) Shreyaree Proxad Quality Manager

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Website: www.shivarest.com : www.shivaresthrass.com



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TESTING CONSULTING RESOLVING TRAINING

Head Office:

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+919431047908 Email : coo@shivatesthouse in coo@shivatesthouse in







OMSHIVA TEST HOUSE PVT LTD

STH/24/08/99

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

Information by Customer:

Name / Nature of Sample:

Location of Sampling:

Ground Water Sample From Hand pump near Neta

Jee Bhawan 4000283588-057-1019

28.07.2022

WO Date:

vvo bale. Analysis Details:

Sample Code

W.O No.:

STH/24/08/99

Analysis Start Date

09.08.2024 14.08.2024

07.08.2024 09.08.2024

IS 3025 (Part - 14)

STH/TR/24-25/08/99

Analysis Completion Date Sample Condition on Receipt

Any Specific Test Method

Fit for analysis

Env. Condition Sample Quantity &

Date of Sampling

Sample Received on

Method of Sampling

Sample Collected by

ULR Number

Temp.

35°C

Mr. Chitranjan Kumar, Lab Representative

Humidity 70%

M Items required to be Tested

As per contract No

Container 2 L.: Polypropylene Bottle (02)

Reporting Date

16.08.2024

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per	IS 10500: 2012	Results
O.M.	raidinateis	Olik	Metriod of Fest	Acceptable Limit	Permissible Limit	resuns
Organ	noleptic & Physical Analysis					
1	pH at 25 ^b C		IS 3025 (Part-11)	6.5-8.5	No relaxation	7.28
2.	Turbidity on NTU	NTU	IS 3025 (Part-10)	1.0 Max.	5.0	0.85
Э.	Conductivity	µmhos/cm	IS 3025 (Part-14)	Not S	pecified	388.0
4.	Total Dissolved Solids (TDS)	mg/l.	IS 3025 (Part-16)	500.0 Max.	2000.00	204.0
Chen	nical Analysis					
5.	Total Alkalinity as CaCO ₃	mg/L	IS 3025 (Part-23)	200.0 Max.	600.00	196.0
6.	Total Hardness as CaCO ₃	mg/L	IS 3025 (Part-21)	200.0 Max.	600.00	162.0
7.	Sodium as Na	mg/l	IS3025(Part-45)	Not S	pecified	41.44
8.	Sulphate as SO ₄	mg/L	IS 3025 (Part-24)	200.0 Max.	400.00	21.4
9.	Nitrate as NO ₃	mg/l.	IS3025(Part-34)	45.0 Max.	No relaxation	2.41
10.	Dissolved Oxygen	mg/L	IS3025(Part-38)	Not S	Not Specified	
11.	COD	mg/l	IS3025(Part-58)	Not S	Not Specified	
12.	Total Suspended Solids	mg/l.	IS 3025 (Part-17)	Not Specified		7.0



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Annexure-V

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Applicate South Pay

TEST REPORT

Continuation Sheet

TESTINO

ULR NUMBER : STH/TR/24-25/08/99

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per IS 10500: 2012	Results
O.N.	r arameters	Oth	INICUION OF LOSE	Acceptable Limit Permissible Limit	
13.	BOD (3 days at 27°C)	mg/l	IS3025(Part-44)	Not Specified	<0.1



Reviewed by:

Authorized Signatory: Chittaranjan Das, Sec. lie (Food & Water Proximate)

---- END OF REPORT ----

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

















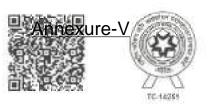
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OMSHIVA TEST HOUSE PVT LTD STH/24/08/100

From Hand Pump near Ash

Ground Water Sample

STH/24/08/100

09.08.2024

14.08.2024

Fit for analysis

As per contract

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number

STH/TR/24-25/08/100

Date of Sampling

07.08.2024 09.08.2024

Sample Received on Method of Sampling

Sample Collected by

IS 3025 (Part - 14)

Env. Condition Sample Quantity &

Container

Temp.

35 °C

Humidity

70%

2 L.: Polypropylene Bottle (02)

Mr. Chitranjan Kumar; Lab Representative

Information by Customer:

Name / Nature of Sample:

Location of Sampling:

W/O No.:

WO Date:

4000283588-057-1019 20.07.2022

Analysis Details:

Sample Code

Analysis Start Date

Analysis Completion Date

Sample Condition on Receipt

Items required to be Tested

Any Specific Test Method No

Reporting Date

16.08.2024

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per	IS 10500: 2012	Results
5.N.	Parameters	Onic	Meurou or rest	Acceptable Limit	Permissible Limit	resurts
Organ	noleptic & Physical Analysis			Million Control Control		
1.	pH at 25°C		IS 3025 (Part-11)	6.5-8.5	No relaxation	7.36
2.	Turbidity on NTU	NTU	IS 3025 (Part-10)	1.0 Max.	5.0	0.87
3.	Conductivity	µmhos/cm	IS 3025 (Part-14)	Not S	pecified	409.0
4.	Total Dissolved Solids (TDS)	mg/l.	IS 3025 (Part-16)	500.0 Max.	2000.00	216.0
Chen	nical Analysis	11.5000				10-17-0000
5.	Total Alkalinity as CaCO ₃	mg/l.	IS 3025 (Part-23)	200.0 Max.	600.00	212.0
6.	Total Hardness as CaCO₃	mg/l.	IS 3025 (Part-21)	200.0 Max.	600,00	172.0
7.	Sodium as Na	mg/l	IS3025(Part-45)	Not S	pecified	40.23
8.	Sulphate as SO ₄	mg/l.	IS 3025 (Part-24)	200.0 Max.	400.00	23.84
9.	Nitrate as NO ₃	mg/l.	IS3025(Part-34)	45.0 Max.	No relaxation	2.58
10.	Dissolved Oxygen	mg/l.	IS3025(Part-38)	Not S	pecified	4.6
11.	COD	mg/l	IS3025(Part-58)	Not S	Not Specified	
12.	Total Suspended Solids	mg/l.	IS 3025 (Part-17)	Not Specified		9.0



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Age View | Insight Plat

TEST REPORT

Continuation Sheet

ULR NUMBER: STH/TR/24-25/08/100

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per	IS 10500: 2012	Results
SECTION.	Farameters	0,111	mediod of real	Acceptable Limit	Permissible Limit	71000110
13.	BOD (3 days at 27°C)	mg/l	IS3025(Part-44)	Not S	pecified	<0.1



Authorized Signatory: Chittaranjan Das, Sec. Uc (Food & Water Proximate)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT ----















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TC-H4951

TEST REPORT

Name and Address of Customer:

NTPC LIMITED ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

From Hand Pump near Ash.

Dyke.

W.O No.: 4000283588-057-1019

WO Date: 20.07.2022

Laboratory Provided Details:

ULR Number STH/TR/24-25/09/608

Date of Sampling 23.09.2024 Sample Received on 25.09.2024

Method of Sampling IS 3025 (Part - 14) & IS 1622

38 °C Env. Condition Humidity.

Sample Quantity & 2 L.; Polypropylene Bottle (02) & 500 ml.;

Container Sterilized Glass Bottle (02)

Sample Collected by Mr. Chitranjan Kumar, Lab Representative

Name / Nature of Sample: Ground Water Sample Location of Sampling:

Analysis Details:

Sample Code STH/24/09/608

Analysis Start Date 25.09.2024 Analysis Completion Date 29.09.2024 Sample Condition on Receipt Fit for analysis Items required to be Tested As per contract

Any Specific Test Method No

Reporting Date 29.09.2024 Report Prepared By S.K. Singh

ANALYSIS RESULTS

72%

S.N.	Parameters	Unit	Method of Test	Limit as per l	S 10500: 2012	Results	
-0.1%.	r or offeters	Ont	meurou or rest	Acceptable Limit	Permissible Limit	nusuns	
Organ	noleptic & Physical A	nalysis					
1.	pH at 25°C		IS 3025 (Part-11)	6.5-8.5	No relaxation	7.37	
2.	Turbidity on NTU	NTU	IS 3025 (Part-10)	1.0 Max.	5.0	0.95	
3.	Conductivity	µmhos/cm	IS 3025 (Part-14)	Not Sp	pecified	834.0	
4.	Total Dissolved Solids (TDS)	mg/t.	IS 3025 (Part-16)	500.0 Max.	2000.00	459.0	
Chen	nical Analysis						
5.	Total Alkalinity as CaCO ₃	mg/l.	IS 3025 (Part-23)	200.0 Max.	600:00	312.0	
6.	Total Hardness as CaCO ₃	mg/l,	IS 3025 (Part-21)	200.0 Max.	600.00	282.0	
7.	Sulphate as SO₄	mg/l.	IS 3025 (Part-24)	200.0 Max.	400.00	26.92	
8.	Nitrate as NO ₃	mg/L	IS 3025 (Part-34)	45.0 Max.	No relaxation	2.74	
9.	Dissolved Oxygen	mg/l.	IS 3025 (Part-38)	Not Sp	pecified	2.3	
10.	COD	mg/l	IS 3025 (Part-58)	Not Sp	pecified	1.0	
11.	Total Suspended Solids	mg/l.	IS 3025 (Part-17)	Not Specified		6.0	
12.	Cyanide as CN	mg/L	APHA (24th Edition) (4500-CN -E)	0.05 Max.	No Relaxation	< 0.005	



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TEST REPORT

Continuation Sheet ULR NUMBER .: STH/TR/24-25/09/608

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per	IS 10500: 2012	Results
3.14	L et entrevers	9000	metriou or rest	Acceptable Limit	Permissible Limit	Nescrits
Meta	ls					
13.	Sodium as Na	mg/l	IS3025(Part-45)	Not 9	ipecified	42.61
14.	Boron as B	mg/L	STH/SOP/MET/SPW-002	0.5 Max.	2.4	BLQ(LOQ-0.1)
15.	Aluminum as Al	mg/L	STH/SOP/MET/SPW-002	0.03 Max.	0.2	BLQ(LOQ-0.006)
16.	Arsenic as As	mg/L	STH/SOP/MET/SPW-002	0.01 Max.	No Relaxation	BLQ(LOQ-0.002)
17.	Cadmium as Cd	mg/L	STH/SOP/MET/SPW-002	0.003 Max.	No Relaxation	BLQ(LOQ-0.0006)
18.	Chromium as Cr	mg/L	STH/SOP/MET/SPW-002	0.05 Max.	No Relaxation	BLQ(LOQ-0.01)
19.	Copper as Cu	mg/L	STH/SOP/MET/SPW-002	0.05 Max.	1.5	BLQ(LOQ-0.01)
20.	Iron as Fe	mg/L	STH/SOP/MET/SPW-002	1.0 Max.	No Relaxation	0.28
21.	Lead as Pb	mg/L	STH/SOP/MET/SPW-002	0.01 Max.	No Relaxation	BLQ(LOQ-0.002)
22.	Manganese as Mn	mg/L	STH/SOP/MET/SPW-002	0.1 Max.	0.3	BLQ(LOQ-0.02)
23.	Mercury as Hg	mg/L	STH/SOP/MET/SPW-002	0.001 Max.	No Relaxation	BLQ(LOQ-0.0002)
24.	Selenium as Se	mg/L	STH/SOP/MET/SPW-002	0.01 Max.	No Relaxation	BLQ(LOQ-0.002)
25.	Zinc as Zn	mg/L	STH/SOP/MET/SPW-002	5.0 Max.	15	BLQ (LOQ 0.10)

Microbiological Analysis								
26.	Total Coliform	MPN / 100 ml	IS 1622	<2.0				
27.	E coli	MPN / 100 ml	IS 1622	<2.0				

BLQ= Below Limit of Quantification; LOQ= Limit of Quantification.

Reviewed by: Vishal Sharma (DQM)

Authorized Signatory:

Sagar Gokhe, Sec. I/c (Metal)

Authorized Signatory: Chittaranjan Das, Sec. Vc (Food, Residue & Water Proximate)

Pingle sas Therman

Authorized Signatory: Piyali Das Sharma, Sec. I/c (Mcb.) Quality Manager:

Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT ----

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TESTING

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OMSHIVA TEST HOUSE PYT LTD

Annexure-V

STH/24/09/608

TEST REPORT

Continuation Sheet ULR NUMBER .: STH/TR/24-25/09/608

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per	IS 10500: 2012	Results
50.191	Faranteters	Onn	method of rest	Acceptable Limit	Permissible Limit	resums
28.	BOD (3 days at 27°C)	mg/l	IS3025(Part-44)	Not S	pecified	<0.1



Reviewed by : Vishal Sharma (DQM)

Authorized Signatory: Chittaranjan Das, Sec. lic (Food & Water Preximate)

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Quality Manager:

Dr. (Mrs.) Shreyasee Prasad



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xure-V TC-044891



4000283588-057-1019

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

TESTINO

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample:

Ground Water Sample From Hand Pump near Vined Location of Sampling:

Bhirwan

W.O.No.:

WO Date:

Analysis Details:

Analysis Start Date

Analysis Completion Date

Sample Condition on Receipt

Sample Code

20.07.2022

Laboratory Provided Details:

ULR Number

STH/TR/24-25/09/609

Date of Sampling

23.09.2024

Sample Received on

25.09.2024

Method of Sampling

IS 3025 (Part - 14) & IS 1622

Sterilized Glass Bottle (02)

Env. Condition Sample Quantity &

Sample Collected by

Container.

Temo: 38 °C

2 L.; Polypropylene Bottle (02) & 500 ml.;

Humidity

72%

Items required to be Tested

Any Specific Test Method

Reporting Date

Mr. Chitranjan Kumar, Lab Representative Report Prepared By 29.09.2024

25.09,2024

STH/24/09/609

Fit for analysis As per contract

No

29.09.2024 S.K. Singh

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per l	S 10500: 2012	Results	
62.3N.	rarameters	Onit	metriou of rest	Acceptable Limit	Permissible Limit	resuns	
Organ	noleptic & Physical A	nalysis					
1.	pH at 25°C		IS 3025 (Part-11)	6.5-8.5	No relaxation	7.28	
2	Turbidity on NTU	NTU	IS 3025 (Part-10)	1.0 Max.	5.0	0.92	
3.	Conductivity	.µmhos/cm	IS 3025 (Part-14)	Not Sp	ecified	1285.0	
4.	Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16)	500.0 Max.	2000.00	707.0	
Chen	nical Analysis						
5.	Total Alkalinity as CaCO₃	mg/L	IS 3025 (Part-23)	200.0 Max.	600.00	448.0	
6.	Total Hardness as CaCO ₃	mg/L	IS 3025 (Part-21)	200.0 Max.	600.00	422.0	
7.	Sulphate as SO ₄	mg/L	IS 3025 (Part-24)	200.0 Max.	400,00	26.87	
8.	Nitrate as NO ₃	mg/L	IS 3025 (Part-34)	45:0 Max.	No relaxation	2.95	
9.	Dissolved Oxygen	mg/L	IS 3025 (Part-38)	Not Sp	pecified	2.3	
10.	COD	mg/L	IS 3025 (Part-58)	Not Sp	pecified	1.0	
11,	Total Suspended Solids	mg/L	IS 3025 (Part-17)	Not Specified		6.0	
12.	Cyanide as CN	mg/L	APHA (24th Edition) (4500-CN -E)	0.05 Max.	No Relaxation	<0.005	

















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TEST REPORT

Continuation Sheet ULR NUMBER .: STH/TR/24-25/09/609

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per	IS 10500: 2012	Results
J.M.	1 diemetera	CHIN	metriod of rest	Acceptable Limit	Permissible Limit	rtesuits
Meta	ls					
13.	Sodium as Na	mg/L	IS3025(Part-45)	Not S	pecified	42.62
14.	Boron as B	mg/L	STH/SOP/MET/SPW-002	0.5 Max.	2.4	BLQ(LOQ-0.1)
15.	Aluminum as Al	mg/L	STH/SOP/MET/SPW-002	0.03 Max.	0.2	BLQ(LOQ-0.006)
16.	Arsenic as As	mg/L	STH/SOP/MET/SPW-002	0.01 Max.	No Relaxation	BLQ(LOQ-0.002)
17.	Cadmium as Cd	mg/L	STH/SOP/MET/SPW-002	0.003 Max.	No Relaxation	BLQ(LOQ-0.0008)
18.	Chromium as Cr	mg/L	STH/SOP/MET/SPW-002	0.05 Max.	No Relaxation	BLQ(LOQ-0.01)
19.	Copper as Cu	mg/L	STH/SOP/MET/SPW-002	0.05 Max.	1.5	BLQ(LOQ-0.01)
20.	Iron as Fe	mg/L	STH/SOP/MET/SPW-002	1.0 Max.	No Relaxation	0.28
21.	Lead as Pb	mg/L	STH/SOP/MET/SPW-002	0.01 Max.	No Relaxation	BLQ(LOQ-0.002)
22.	Manganese as Mn	mg/L	STH/SOP/MET/SPW-002	0.1 Max.	0.3	BLQ(LOQ-0.02)
23.	Mercury as Hg	mg/L	STH/SOP/MET/SPW-002	0.001 Max.	No Relaxation	BLQ(LOQ-0.0002)
24.	Selenium as Se	mg/L	STH/SOP/MET/SPW-002	0.01 Max.	No Relaxation	BLQ(LOQ-0.002)
25.	Zinc as Zn	mg/L	STH/SOP/MET/SPW-002	5.0 Max.	15	BLQ (LOQ 0.10)

Microbiological Analysis								
26.	Total Coliform	MPN / 100 ml	IS 1622	<2.0				
27.	E coli	MPN / 100 ml	IS 1622	<2,0				

BLQ= Below Limit of Quantification; LOQ= Limit of Quantification.

Reviewed by: Vishal Sharma (DQM)

Authorized Signatory:

Sagar Gokhe, Sec. lic (Metal)

Authorized Signatory: Chittaranjan Das, Sec. Ile (Food. Residue & Water Proximate)

Pingli Des Shermen

Piyali Das Sharma, Sec. I/c (Mcb.)

Authorized Signatory:

Quality Manager :

Dr. (Mrs.) Shreyasee Prasad

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Annexure-V

OMSHIVA TEST HOUSE PVT LTD STH/24/09/609

TEST REPORT

Continuation Sheet

ULR NUMBER: STH/TR/24-25/09/609

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Limit as per IS 10500: 2012	Results
G.19.	S.N. Parameters	Onne	Method of rest	Acceptable Limit Permissible Limit	nesuns
28.	BOD (3 days at 27°C)	mg/l	IS3025(Part-44)	Not Specified	<0.1



Reviewed by : Vishal Sharma (DQM) Authorized Streeters

Authorized Signatory: Chilteranjan Das, Sec. IIc (Food & Water Proximate)

---- END OF REPORT ----

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Quality Manager:

Dr. (Mrs.) Shreyasee Prasad





Annexure-VI

SHIVA TEST HOUSE

(Serving since 1988)

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TEST REPORT

AND STREET	lo. STH/TR/24-25/346 Dt:	16.04.2024	You	r PO No. 4000	280588-057-1	019	A414 A4	9.07.2022
[a] N	ame and address of the Custome	ES.		NH 31, BAR	IERMAL POW	ese our	LANT PROJECT	
[b]	Details of Sample			Surface We	iter Sample			
[c] Sample Collected by			Test House	on 08.04.24		epresenta(ive)		
[d]	d Sampling Location			Collected from	n Ganga Wate	v Mex	ar Raw water put	np house
[e]	Method of Sampling			IS: 3025, A	PHA			
Ŋ	Sampling Environmental Condition		Service Services	Temp (°c)		24	Humidity (%) 51
[9]	Details of Sample Container (No.	& Type of Cont	ainer)		ene battle (0:	2)	n — 25 - 245,000 VCCca-	0040-1-00
[h]	Sample Quantity			2 Liters	One of			
	Sample Code			SW-346/04				
lil [k]	Sample Condition on Receipt Items required to be tested			As per conf				
	hether any specific Method of Te-	st has been sug	nested		7.7.5			
b	y the customer	3000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Stonen	No no na sa				
b _j [m]	y the customer Date of receiving the sample in L	aboratory	igicoco o	09.04.24	14 O4 24			
b	y the customer	aboratory	I I	- 300		er IS	157706_1087	
b) [m] [n]	y the customer Date of receiving the sample in L	aboratory		09.04.24		tac #2	182296-1982 Tolerance Lind as per 18 2396 1982 for Class C** or Gas	Results
[m] [n] S.N.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co	aboratory mpletion Date	Meth	09.04.24	Limit as p Tulorence Lini per IS 2216-19 for Class 'A'	12 12	Tolerance Linib as per 15 2290- 1992 for Class	Result:
b) [m] [n] S.N.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters	aboratory mpletion Date Unit	Meth	09.04.24 09.04.24 / od of Test	Limit as p Tulerance Limi per IS 2296-19 for Class 'A' (mg/L)	12 12	Tolorungo Lineb as per ES 2296- 1992 for Chain C** (mp.L)	Historia.
b) [m] [n] S.N. 1.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C	aboratory mpletion Date Unit	Meth IS 302	09.04.24 09.04.24 / od of Test 25 (Part-11)	Limit as p Telerance Lini per IS 2216-15 for Class 'A' (mg/L) 6.5 - 8.5	12 12	Televine Linux as per IS 1296- 1997 for Class C** (ng/L) 6.5 - 8.5	7.61
5.N. 5.N. 1. 2.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen	aboratory mpletion Date Unit mg/l.	Meth IS 302 IS302	09.04.24 09.04.24 / od of Test 25 (Part-11) 25(Part-38)	Limit as p Talerace Lini per IN 2276-15 for Class W (1998.) 6.5 - 8.8 6.0 2.0	#2:	Telemone Llock as per IS 2296- 1997 for Class C ⁻¹ dept.) 6.5 - 8.5 4.0	7.61 5.8
b; [m] S.N. 1. 2. 3.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3 days at 27°C)	unit mgä, mg/l	Meth IS 302 IS 302 IS 302	09.04.24 09.04.24 / od of Test 25 (Part-11) 25(Part-38) 25(Part-44)	Limit as p Televence Uni per IX 2296-15 for Clear IV (mg/L) 6.5 - 8.5 6.0 2.0 No	(Spe	Televance Limb as per IS 1296- 1992 for Chara CT 649-E) 8.5 - 8.5 4.0 3.0	7.61 5.8 1.9
b; [m] [n] S.N. 1. 2. 3. 4.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3 days at 27°C) COD	unit mg/l mg/l mg/l	Meth IS 302 IS 302 IS 302 IS 303	09.04.24 09.04.24 / od of Test 25 (Part-11) 25(Part-38) 25(Part-44) 25(Part-58)	Limit as p Televence Uni per IX 2296-15 for Clear IV (mg/L) 6.5 - 8.5 6.0 2.0 No	(Spe	7-channe Lind as per IS 2296- 1992 for Chan IC: 649-E.) 8.5 - 8.5 4.0 3.0 cified	7.61 5.8 1.9 24.0
b; [m] [n] S.N. 1. 2. 3. 4. 5.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3 days at 27°C) COD Total Suspended Solids	unit Unit mg/l. mg/l. mg/l.	Meth IS 302 IS 302 IS 302 IS 302 IS 302	09.04.24 09.04.24 / od of Test 25 (Part-11) 25(Part-38) 25(Part-44) 25(Part-58) 25 (Part-17)	Limit as p Telescock Limit per IX 2296-15 for Class (4) (log X) 6.5 - 8.5 6.0 2.0 No	Spe	Televine Unit as per IS 1296- 1992 for Clain IC 1992 for San IC 1992 for 8.5 - 8.5 4.0 3.0 cified	7.61 5.8 1.9 24.0 47.0
b) [m] S.N. 1. 2. 3. 4. 5.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3 days at 27°C) COD Total Suspended Solids Total Dissolved Solids (TDS) Conductivity	unit Unit mg/l. mg/l. mg/l.	Meth IS 302 IS 302 IS 302 IS 303 IS 303 IS 303	09.04.24 09.04.24 / od of Test 25 (Part-11) 25(Part-38) 25(Part-44) 25(Part-58) 25 (Part-17) 25 (Part-16)	Limit as p Telescock Limit per 18 2296-19 for Class (4) (log 4) 6.5 - 8.5 6.0 2.0 No	Spe	7-Newwe Lind as per S 1296- 1992 for Class C** 4x9C1 8.5 - 8.5 4.0 3.0 cified cified	7.61 5.8 1.9 24.0 47.0 258,0
b _j [m]	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3 days at 27°C) COD Total Suspended Solids Total Dissolved Solids (TDS)	mpletion Date Unit mg/l. mg/l. mg/l. mg/l. mg/l. mg/l. mg/l. pmhos/cm.	Meth IS 302 IS 302 IS 303 IS 303 IS 303 IS 303 IS 303	09.04.24 09.04.24 / od of Test 25 (Part-11) 25(Part-38) 25(Part-44) 25(Part-58) 25 (Part-17) 25 (Part-16) 25 (Part-16)	Limit as p Televence Lini per IS 2276-15 for Class 11 (mp.0) 6.5 - 8.5 6.0 2.0 No No No 1.0	Spe Spe	7-Name (Jan) as per is 2296- 1992 for (Sam CT 6492) 8.5 - 8.5 4.0 3.0 cified cified 1500.00	7.61 5.8 1.9 24.0 47.0 258,0 412.0
5.N. 1. 2. 3. 4. 5. 6. 7.	y the customer Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3 days at 27°C) COD Total Suspended Solids Total Dissolved Solids (TDS) Conductivity Turbidity on NTU	mpletion Date Unit mg/l. mg/l. mg/l. mg/l. mg/l. mg/l. mg/l. mg/l. pmhos/cm.	Meth IS 302 IS 302 IS 302 IS 303 IS 303 IS 303 IS 303	09.04.24 / 09.04.24 / od of Test 25 (Part-11) 25(Part-38) 25(Part-44) 25 (Part-17) 25 (Part-16) 25 (Part-16) 25 (Part-10)	Limit as p Televence Lini per IS 2276-15 for Class 11 (mp.0) 6.5 - 8.5 6.0 2.0 No No No 1.0	Spe Spe	7-Neurose (Jind) as per (S. 2296- 1992 for (Sass) (C. 64925) 8.5 - 8.5 4.0 3.0 cified cified 1500.00 cified 5.0	7.61 5.8 1.9 24.0 47.0 258.0 412.0 4.7

ar Prasad 11:04:06 +05:30

Shibesw Digitally signed by Shibeswar Prasad Date: 2024.04.16

Verified by : Dr. Shiheshwar Praxad Technical Manager



- END OF TEST REPORT -

Shreyase Digitally signed by Shreyasee Prasad e Prasad Date: 2024.05.03

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad. Quality Manager

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Contact us:

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TEST REPORT

Ref. N	o. STH/TR/24-25/346(A) I	0: 16.04.2024		Your PO No. 40	00283588-057-10	19 Du;	20.07.2022	
	ame and address of the Custome	e.		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116				
[b] D	etails of Sample			Swface Wal	er Sample			
[c] S.	Sample Collected by			By Chitranja Hause on 08	n Kumer (Lab R) .04.24	epresentative) o	f Shiva Tes	
[d] S	Sampling Location			Callected from	Ganga Water Nea	r Raw water pum	p house	
[e] M	lethod of Sampling			IS: 3025, AP	HA			
n s	ampling Environmental Condition			Temp (0c)	24	Humidity (%) 51.	
[g] D	etails of Sample Container (No. &	Type of Conta	liner)	Polypropyler	e bottle (02)	III - 32 (33 (37 (37 (37 (37 (37 (37 (37 (37 (37		
hl S	ample Quantity		en a confi	2 Liters				
[i] S	ample Code			SW-346/04/2	74			
[] S	ample Condition on Receipt			Fit for analys	is			
[k] Ite	ems required to be tested	Indiana Profit Color		As per contract				
	hether any specific Method of Te aggested by the customer	st has been		No				
	ate of receiving the sample in Lat	oratory		09.04.24				
	nalysis Start Date / Analysis Com			09.04.24 / 1-	1.04.24			
	100				Limit as per l	\$ 152296-1982		
S.N.	Parameters	Unit	Mei	thod of Test	Tolorocc Linit as per 18 2296-1882 for Class 'A' (mgl.)	Folorence Limb as per IS 1796- 1997 for Class 'C' suppl.)	Results	
1,	Total Alkalinity as CaCO ₃	mg/l.	IS 3	025 (Part-23)	Not Sp		138.0	
2.	Total Hardness as CaCO ₃	mg/L	IS 3	025 (Part-21)	Not Sp	ecified	156.0	

Shibeswar Digitally signed by Shibeswar Prasad Prasad

Date: 2024.04.16 11:04:26 +05'30'

Verified by a Dr. Shibeshwar Prasad Technical Manager



Shreyase Digitally signed by Shreyasee Prosad e Prasad Date: 2004.05.03

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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Website: www.shirutest.com; www.shirutesthouse.com



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TEST REPORT

		31.05.2024	8.35	the Constitution	10283588-057-11	515	20.07.2022
[a] N	ame and address of the Custome			NH 31, BAR	ERMAL POWER	PLANT PROJECT	ř
[b]	Details of Sample				iter Sample		
[0]	Sample Collected by			By Prem Ki House on 0		esentative) of S	hiva Test
[d]	Sampling Location					lear Raw water po	imp house
e]	Method of Sampling	·		IS: 3025, A	PHA		
7	Sampling Environmental Condition			Temp (°c)	38	Humidity	(%) 60
[9]	Details of Sample Container (No.	& Type of Cont	ainer)	American Control of the Control of the American	ene bottle (02)		
h]	Sample Quantity	2. 204.00x 100x 5x 10x 2x0x04.xx1x	002 (200) 7	2 Liters			
	Sample Code			SW-240/05			
0	Sample Condition on Receipt			Fit for analy			
[k]	Items required to be tested			As per conf	ract		
	hether any specific Method of Te. v the customer	st has been sug	gested	No			
101	Y II IC GUDWITIOI						
	Date of receiving the sample in L			09.05.24			
[m]			,	09.05.24	minimum and a second production of the second		
[m] [n]	Date of receiving the sample in L				minimum and a second production of the second	IS 182296-1982	k
[m] [n]	Date of receiving the sample in L		Meth		minimum and a second production of the second	IS 182296-1982 Interance Limit in per 18 1296- 1992 or Class C** (mg/L)	Results
m] [n] S.N.	Date of receiving the sample in L Analysis Start Date / Analysis Co	mpletion Date	1/18/35/92	09.05.24/1	Limit as per Toleronce Linds an per 15-2296-1902 for Closs 'A"	Tolorance Limit in per 18 2206- 1992 for Class	Results
m] [n] S.N.	Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters	mpletion Date	IS 302	09.05.24/1 od of Test 25 (Part-11) 25 (Part-38)	Limit as per Teleroner Limit an per 15-2296-1942 for Clear (4" (mgA)	Tolerance Limit on per IS 2206- 1992 for Class X ^(**) (mg/L)	10000000
[m] [n] S.N. 1.	Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C	Unit	IS 302	09.05.24/1 od of Test 25 (Part-11)	Limit as per Teleroner Limit an per 15: 22%-1982 for Clear 14" (ough) 6.5 - 8.5	Interace Land in per 18 2286- 1892 for Class C*** (mgd.) 6.5 - 8.5	7.84
[m] [n] S.N. 1. 2.	Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen	Unit	IS 302 IS302 IS302	09.05.24/1 od of Test 25 (Part-11) 25 (Part-38)	Limit as per Teleronar Limit as per 15 27%-1762 for Clear 14" (regst.) 6.5 - 8.5 6.0 2.0	Tolorance Limit in per 18 2296- 1992 for Class C*** (mpl.) 6.5 - 8.5 4.0	7.84 6.4
[m] [n] S.N. 1. 2. 3.	Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3daysat27°C)	Unit mg/l. mg/l	IS 302 IS302 IS302 IS302	09.05.24/1 od of Test 25 (Part-11) 25 (Part-38) 25 (Part-44)	Limit as per Volunter Limit as per 15 27%-1740 for Clear 14" (regit) 6.5 - 8.5 6.0 2.0 Not S	Tolerator Limit in per 15 2296- 1992 for Chas V'' (mg/L) 6.5 - 8.5 4.0 3.0	7.84 6.4 2.1
m] [n] S.N. 1. 2. 3. 4.	Date of receiving the sample in Li Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3daysat27°C) COD	Unit Unit mg/l mg/l	IS 302 IS302 IS302 IS302 IS 302	09.05.24/1 od of Test 25 (Part-11) 25(Part-38) 25(Part-44) 25(Part-58)	Limit as per Volunter Limit as per 15 27%-1740 for Clear 14" (regit) 6.5 - 8.5 6.0 2.0 Not S	Tolerastir Limit in per 15 22%- 1992 for Chase V** (mg/L) 6.5 - 8.5 4.0 3.0 pecified	7.84 6.4 2.1 28.0
m] n] S.N. 1. 2. 3. 4. 6,	Date of receiving the sample in Li Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3daysat27°C) COD Total Suspended Solids	Unit Unit mg/l mg/l mg/l mg/l	IS 302 IS302 IS302 IS302 IS 302 IS 302	09.05.24/1 od of Test 25 (Part-11) 25(Part-38) 25(Part-44) 25(Part-58) 25 (Part-17)	Limit as per Tolerana Limit as per 15 23%-1902 for Clear 14" (regst) 6.5 - 8.5 6.0 2.0 Not S Not S	Telemanic Limit in per 15 2296- 1992 for Chase V** (mg/t) 6.5 - 8.5 4.0 3.0 secified secified	7.84 6.4 2.1 28.0 51.0
[m] [n] S.N. 1. 2. 3. 4. 5. 8.	Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3daysat27°C) COD Total Suspended Solids Total Dissolved Solids (TDS)	Unit Unit mg/l mg/l mg/l mg/l mg/l mg/l.	IS 302 IS302 IS302 IS302 IS 302 IS 302	09.05.24/1 od of Test 25 (Part-11) 25 (Part-38) 25 (Part-44) 25 (Part-58) 25 (Part-17) 25 (Part-16)	Limit as per Tolerana Limit as per 15 23%-1902 for Clear 14" (regst) 6.5 - 8.5 6.0 2.0 Not S Not S	Interest Limit in per 15 1296- 1992 for Chair V (mgt) 6.5 - 8.5 4.0 3.0 pecified pecified 1500.00	7.84 6.4 2.1 28.0 51.0 245.0
[m] [n] S.N. 1. 2. 3. 4. 5. 6. 7.	Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3daysat27°C) COD Total Suspended Solids Total Dissolved Solids (TDS) Conductivity	mpletion Date Unit mg/l. mg/l mg/l. mg/l. mg/l. mg/l. mg/l. mg/l. pmhos/cm.	IS 302 IS302 IS302 IS 302 IS 302 IS 302 IS 302	09.05.24/1 od of Test 25 (Part-11) 25 (Part-38) 25 (Part-44) 25 (Part-58) 25 (Part-17) 25 (Part-16) 25 (Part-14)	Limit as per Tetronar Lind as per 15 27%-1760 per 15 27%-1760 for Clear 14" (regul) 6.5 - 8.5 6.0 2.0 Not S Not S - Not S 1.0	Tolerance Limit in per 15 22%- 1992 for Chase V** (mg/L) 6.5 - 8.5 4.0 3.0 pecified pecified 1500.00 pecified	7.84 6.4 2.1 28.0 51.0 245.0 426.0
[m]	Date of receiving the sample in L Analysis Start Date / Analysis Co Parameters pH at 25°C Dissolved Oxygen BOD (3daysat27°C) COD Total Suspended Solids Total Dissolved Solids (TDS) Conductivity Turbidity on NTU	Unit Unit mg/l. mg/l mg/l. mg/l. mg/l. mg/l. mg/l. Mg/l. MTU	IS 300 IS300 IS300 IS300 IS 300 IS 300 IS 300 IS 300	09.05.24/1 od of Test 25 (Part-11) 25 (Part-38) 25 (Part-44) 25 (Part-58) 25 (Part-17) 25 (Part-16) 25 (Part-14) 25 (Part-14)	Limit as per Tetronar Lind as per 15 27%-1760 per 15 27%-1760 for Clear 14" (regul) 6.5 - 8.5 6.0 2.0 Not S Not S - Not S 1.0	Telement Limit in per 15 22%- 1992 for Chase Y (mgl.) 6.5 - 8.5 4.0 3.0 secified 1500.00 secified 5.0	6.4 2.1 28.0 51.0 245.0 426.0 5.2

Shibeswar Prasad

Contact us t

Digitally signed by Shilbeswar Prasad Date: 2024.06.01 11:55:12 +05'30"

Verified by: Dr. Shibeshear Prasad Technical Manager

Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:10:43 +05:30

Authorized Signatory Dr. (Mrs.) Shreyasee Prosad Quality Manager

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TEST REPORT

Ref. N	o. STH/TR/24-25/240(A)	n: 31.05.2024		Your PO No. 4	000283588-057-10	119 Di	20,07	.2022
[a] Ni	ame and address of the Custome	r		NTPC LIMITE BARAUNI THE NH 31, BARA BEGUSARA	ERMAL POWER PL	ANT PROJECT		
[b] D	etails of Sample			Surface Wat	er Sample			
[c] St	cj Sample Collected by			By Prem Kui House on 08	mar (Lab Represi 3.05.24	entative) of Shir	a Tes	ť
[d] S:	A Parameter State (Control of Control of Con			Collected from	Ganga Water Near	r Raw water pum	o hous	9
[e] M	ethod of Sampling			IS: 3025, AP	HA:			
[f] Sa	ampling Environmental Condition	5		Temp (°c)	38	Humidity (%)	60
	etails of Sample Container (No. 8	Type of Conta	ainer)	Polypropyler	ne bottle (02)			
[h] Sa	ample Quantity		200000	2 Liters				
[i] Sa	ample Code			SW-240/05/3	24			
∏ Sa	ample Condition on Receipt			Fit for analys	sis			
[k] Ite	ems required to be tested			As per contract				
	hether any specific Method of Te aggested by the customer	st has been		No				
[m] D:	ate of receiving the sample in Lat	oratory		09.05.24				
	nalysis Start Date / Analysis Com			09.05.24/14	.05.24			
9010	W				Limit as per la	S 182296-1982		
S.N.	Parameters	Unit	Met	hod of Test	Toleronce Contrat per IS 1294-1942 for Chest 'A" (mg/L)	Talorancy Lines es per IN 2296- 1982 for Class 'C' (ingl.)	Res	ults
1.	Total Alkalinity as CaCO ₃	mg/l.	15.3	025 (Part-23)	Not Spe		14	4.0
2	Total Hardness as CaCO₂	mg/L	18.3	025 (Part-21)	Not Spe	ecified	16	4.0



Shibeswa Digitally signed by Shibeswar Prasad r Prasad

Digitally signed by Date: 2024.06.01 11:55:33 + 05'30"

Verified by : Dr. Shibeshwar Propad Technical Manager

Shreyasee Digitally signed by Shreyasee Frasad Prasad

Date: 2024.86.01 12:11:28 +05/30/ Authorized Signatory Dr. (Mrs.) Sliveyasee Primad

Quality Manager

-- END OF TEST REPORT -

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Walnute: www.ahrvatest.com . www.ahrvateshouse.com

Page Lof L



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Patna - 800 013 (Bihar) Contact us: +918676886249

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App Vision Prompts Plan

Annexure-VI

OMSHIVA TEST HOUSE PVT LTD STH/24/07/128

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

TESTINO

BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/128

Date of Sampling

09:07:2024 10.07.2024

Sample Received on Method of Sampling

IS 3025, APHA

Env. Condition

Container

Sample Quantity &

Sample Collected by

Temp.

33 °C Humidity

Mr. Pradeep Kumar; Lab Representative

2 L.; Polypropylene Bottle (02).

61%

Items required to be Tested

Analysis Completion Date

Sample Condition on Receipt

Any Specific Test Method

Information by Customer: Name / Nature of Sample :

Location of Sampling :

Analysis Details:

Analysis Start Date

Sample Code

W.O No.:

WO Date:

Reporting Date

STH/24/07/128

20:07:2022

10.07.2024

Pond Water Sample

Near CISF Corner

4000283588-057-1019

15.07.2024 Fit for analysis

As per contract

No

18.07.2024

ANALYSIS RESULTS

SL No.	Parameters	Unit	Method of Test	Results
1.	pH at 25°C	3663	IS 3025 (Part-11)	7.47
2.	Dissolved Oxygen	mg/l.	IS 3025 (Part-38)	5.2
3.	Total Suspended Solids	mg/L	IS 3025 (Part-17)	34.0
4.	BOD (3 days at 27°C)	mg/l.	IS 3025 (Part-44)	1.9
5.	COD	mg/L	1S 3025 (Part-58)	25.0
6.	Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16)	204.0
7.	Total Alkalinity as CaCO ₃	mg/L	IS 3025 (Part-23)	185.0
8.	Bio-Assay Test	-	IS 6582: 1971	92% Fish Survived after 98 hrs. in 100% Of Pond Water at lab environmental condition.



Reviewed by :

Authorized Signatory: S.S. Rukhalyar, Sec. I/c (Effluent)

---- END OF REPORT ----

Quality Manager: Dr. (Mrs.) Shreyasee Prasad













TESTING CONSULTING RESOLVING TRAINING

Head Office:

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Patna - 800 013 (Bihar) Contact us: +918676886249 +919431047908

Email: coo@shivetesthouse in cao@ishiyatesthouse.in





OMSHIVA TEST HOUSE PVT LTD ANNA RANDINAN TOURN AN ARROY VIVAN DEPAR STH/24/07/129

Pond Water Sample

Near Medical shop corner

4000283588-057-1019

STH/24/07/129

20.07.2022

10.07.2024

15.07.2024

Fit for analysis

As per contract

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/129

Date of Sampling Sample Received on 09.07.2024 10.07.2024

Method of Sampling

IS 3025, APHA

Env. Condition Sample Quantity &

Sample Collected by

Container

Temp.

33°C Humidity.

2 L.; Polypropylene Battle (02)

61%

Items required to be Tested

Reporting Date

W.O No.:

WO Date:

Any Specific Test Method

Sample Condition on Receipt

Analysis Completion Date

Information by Customer:

Name / Nature of Sample :

Location of Sampling:

Analysis Details:

Analysis Start Date

Sample Code

No.

Mr. Pradeep Kurnar; Lab Representative

18.07.2024

ANALYSIS RESULTS

SL No.	Parameters	Unit	Method of Test	Results
1.	pH at 25°C	2940	IS 3025 (Part-11)	7.58
2.	Dissolved Oxygen	mg/L	IS 3025 (Part-38)	4.7
3.	Total Suspended Solids	mg/L	IS 3025 (Part-17)	45.0
4.	BOD (3 days at 27°C)	mg/L	IS 3025 (Part-44)	2.2
5.	COD	mg/L	IS 3025 (Part-58)	30.0
6.	Total Dissolved Solids (TDS)	mg/L	1S 3025 (Part-16)	224.0
7.	Total Alkalinity as CaCO ₃	mg/L	IS 3025 (Part-23)	180.0
8.	Bic-Assay Test		IS 6582: 1971	92% Fish Survived after 96 firs. in 100% Of Pond Water at lab environmental condition.

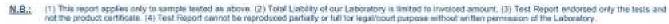


Reviewed by :

Authorized Signatory: S.S. Rukhalyar, Sec. I/c (Effluent)

---- END OF REPORT ----

Quality Manager: Dr. (Mrs.) Shreyasee Praead















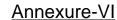
...... PROTECTING SINCE 1988 CONSULTING RESOLVING TRAINING

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+919431047908 Email: ooo@shivatesthouse.in cao@shivatesthouse.in

Applicate Programme



ORSHIVA TEST HOUSE PVT LTD THE REPORT OF THE PROPERTY OF STH/24/07/130

20.07.2022

10.07.2024

15.07.2024

Fit for analysis

As per contract

Pond Water Sample

Near Mantu Shop Comer

4000283588-057-1019

STH/24/07/130.

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

TESTING

BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/130

Date of Sampling

09.07.2024 10.07.2024

Sample Received on

IS 3025, APHA

Method of Sampling Env. Condition

Temp.

33°C

Humidity

Mr. Pradeep Kumar, Lab Representative

61%

items required to be Tested

Analysis Completion Date

Sample Condition on Receipt

Information by Customer:

Name / Nature of Sample :

Location of Sampling:

Analysis Details:

Analysis Start Date

Sample Code

Any Specific Test Method

No

Sample Quantity & Container

Sample Collected by

2 L.: Polypropylene Bottle (02)

Reporting Date

W.O No.:

WO Date:

18.07.2024

ANALYSIS RESULTS

SL No.	Parameters	Unit	Method of Test	Results
I.	pH at 25°C		IS 3025 (Part-11)	7.25
2	Dissolved Oxygen	mg/1.	IS 3025 (Part-38)	0.8
3.	Total Suspended Solids	mg/L	IS 3025 (Part-17)	59.0
4.	BOD (3 days at 27°C)	mg/L	IS 3025 (Part-44)	10.0
50	COD	mg/L	IS 3025 (Part-58)	60.0
6.	Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16)	233,0
7.	Total Alkalinity as CaCO ₁	mg/L	IS 3025 (Part-23)	190.0
8.	Bio-Assay Test	-	IS 6582: 1971	10% Fish Survived after 96 hrs. in 190% Of Pond Water at lab environmental condition.



Reviewed by :

Authorized Signatory: S.S. Rukhalyar, Sec. I/c (Effluent)

---- END OF REPORT -----

Quality Manager: Dr. (Mrs.) Shreyasea Prasad











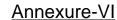


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C Applicate Diagnific



OMSHIVA TEST HOUSE PVT LTD STH/24/07/131

Fond Water Sample

4000283588-057-1019

STH/24/07/131

20.07.2022

10:07:2024

15.07,2024

Fit for analysis

As per contract

Near CISF Studium Corner

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

TESTING

BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/131

Date of Sampling

09.07.2024 10.07.2024

Sample Received on Method of Sampling

Sample Collected by

IS 3025, APHA

Env. Condition

Sample Quantity & Container

Temp.

33°C

2 L.; Polypropylene Bottle (02)

Mr. Pradeep Kumar; Lab Representative

Humidity

61%

Items required to be Tested Any Specific Test Method

Analysis Completion Date

Sample Condition on Receipt

Information by Customer: Name / Nature of Sample :

Location of Sampling :

Analysis Details:

Analysis Start Date

Sample Code

W.O No.:

WO Date:

No Reporting Date 18.07.2024

ANALYSIS RESULTS

Sl. No.	Parameters	Unit	Method of Test	Results
1.	pH at 25°C	100	IS 3025 (Part-11)	7.81
2. 3.	Dissolved Oxygen	mg/l.	IS 3025 (Part-38)	6.0
3.	Total Suspended Solids	mg/l.	IS 3025 (Part-17)	41.0
4.	BOD (3 days at 27°C)	mg/L	IS 3025 (Part-44)	1.9
5.	COD	mg/l.	IS 3025 (Part-58)	28.0
6.	Total Dissolved Solids (TDS)	mg/l.	IS 3025 (Part-16)	205.0
7,	Total Alkalinity as CaCO ₃	mg/l.	IS 3025 (Part-23)	165.0
8.	Bio-Assay Test		IS 6582: 1971	92% Fish Survived after 98 hrs. in 100% Of Pond Water at lab environmental condition.



Reviewed by :

Authorized Signatory: S.S. Rukhaiyar, Sec. Vc (Effluent)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

--- END OF REPORT ---















CONSULTING RESOLVING TRAINING

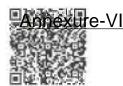


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OMSHIVA TEST HOUSE PYT LTD STH/24/08/101

Surface Water Sample

4000283588-057-1019

Ganga Water from

reservoir tank

14,08,2024

Fit for analysis:

As per contract

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number

STH/TR/24-25/08/101

Date of Sampling

07.08.2024 09.08.2024

Sample Received on Method of Sampling

Sample Collected by

IS 3025 (Part - 14)

Env. Condition Sample Quantity &

Container

Temp.

35°C

Humidity

70%

2 L.; Polypropylene Bottle (02)

Information by Customer:

Name / Nature of Sample:

Location of Sampling:

W.O No.: WO Date:

20.07.2022

Analysis Details:

Sample Code

STH/24/08/101 Analysis Start Date 09.08.2024

Analysis Completion Date Sample Condition on Receipt

Items required to be Tested

Any Specific Test Method

No

Mr. Chitranjan Kumar, Lab Representative Reporting Date 16.08.2024

ANALYSIS RESULTS

S.N.	Parameters	Unit	Method of Test	Results
1.	pH at 25°C	2222	IS 3025 (Part-11)	7.34
2.	Turbidity on NTU	NTU	IS 3025 (Part-10)	8.6
3.	Conductivity	μmhos/cm.	IS 3025 (Part-14)	384.0
4.	Total Dissolved Solids (TDS)	mg/l.	IS 3025 (Part-16)	212.0
5.	Dissolved Oxygen	mg/l.	IS3025(Part-38)	6.2
6.	BOD (3 days at 27°C)	mg/l	I\$3025(Part-44)	1.7
7.	COD	mg/l	IS3025(Part-58)	38.0
8.	Total Suspended Solids	mg/l.	IS 3025 (Part-17)	89.0
9.	Sodium as Na	mg/l	IS3025(Part-45)	35.2
10.	Sulphate as SO₄	mg/l.	IS 3025 (Part-24)	25.6
11.	Nitrate as NO ₃	mg/l.	IS3025(Part-34)	0.36
12.	Total Alkalinity as CaCO₃	mg/l.	IS 3025 (Part-23)	128.0
13.	Total Hardness as CaCO ₂	mg/l,	IS 3025 (Part-21)	148.0



Reviewed by:

Authorized Signatory: S.S. Rukhaiyar, Sec. I/c (Effluent).

---- END OF REPORT ----

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

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+919431047908





TEST REPORT

OMSHIVA TEST HOUSE PVT LTD STH/24/09/610

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample:

Location of Sampling:

W.O No.:

WO Date:

Sample Code

Analysis Details:

Analysis Start Date

Surface Water Sample Ganga Water from Raw Water Pump House

4000283588-057-1019

STH/24/09/610

25.09.2024

29.09.2024

Fit for analysis

As per contract

20.07.2022

Laboratory Provided Details:

ULR Number

STH/TR/24-25/09/610

Date of Sampling

23.09.2024

Sample Received on

25.09.2024

Method of Sampling

IS 3025 (Part - 14) & IS 1622

Env. Condition Sample Quantity &

Container

38°C Temp.

Humidity:

72%

Sterilized Glass Bottle (02)

2 L.; Polypropylene Bottle (02) & 500 ml.;

Items required to be Tested Any Specific Test Method

Analysis Completion Date

Sample Condition on Receipt

Reporting Date

29.09.2024 Report Prepared By S.K. Singh.

Sample Collected by

Mr. Chitranjan Kumar; Lab Representative

ANALYSIS RESULTS

	water sections and	Unit	Method of Test	Tolerance Limit as per IS 2296-1982					Results
	Parameters	Cinit		Class 'A'	Class 'B'	Class 'C'	Class 'D'	Class E	resures
1.	pH at 25 °C		IS 3025 (Part-11)	6.5 to 8.5	6.5 to 8.5	6.0 to 9.0	6.5 to 8.5	6.0 to 8.5	7.12
2	Dissolved Oxygen	mg/L	153025(Part-38)	6.0	5.0	4.0	4.0		5.9
3	BOD (3 days at 27 °C)	mg/L	IS 3025 (Part-44)	2	3	3	12.	- 10	1.4
4.	COD	mg/l.	153025(Part-58)			-	-	-	40.0
5.	Total Suspended Solids	mg/L	IS 3025 (Part-17)	(42)	522			-	105.0
6.	Total Dissolved Solids	mg/L	IS 3025 (Part-16)	500.00		1500		2100	194.0
7.	Conductivity	umhos/cm.	IS 3025 (Part-14)		-	-	- del	2250	354.0
8.	Turbidity	NTU	IS 3025 (Part-10)				***		9.6
9.	Sulphate as SO ₄	mg/L	IS 3025 (Part-24)	400.00		400.00		1000	20.2
10.	NRrate as NO ₉	mg/L	APHA 4500 NO3 - B	20.00	32	50.0	(20)	+-	0.28
11.	Total Alkalinity as CaCO ₃	mg/l.	IS 3025 (Part-23)	1 2	-		-		118.0
12	Total Hardness as CaCOs	mg/l.	IS 3025 (Part-21)	200					136.0

















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A MANAGEMENT OF A MANAGEMENT O STH/24/09/610

Continuation Sheet

ULR NUMBER .: STH/TR/24-25/09/610

ANALYSIS RESULTS

Parameters	eters Unit Method of Test		Tolerance Limit as per IS 2296-1982					Results
rarameters	Cinic	Method of 1 est	Class 'A'	Class 'B'	Class 'C'	Class 'D'	Class E'	Kesiiizs
13. Sodium as Na	mg/L	IS 3025 (Part-45)	-	-	12		124	38.3
14. Boron as B	mas.	STH/SOP/MET/SPW-002	77		To see		2.0	BLQ(LOQ-0.1)
15. Aluminum as Al	mg/L	STH/SOP/MET/SPW-002	0.03	177	0.02	-	W-1	BLQ(LQQ-0.006)
16. Arsenic as As	mg/L	STH/SOP/MET/SPW-002	0.05	0.2	0.2			BLQ(LOQ-0.002)
17. Cadmium as Cd	mg/L	STH/SOP/MET/SPW-002	0.01	-	0.01			BLQ(LQQ-0.0006
18. Chromium as Cr	mg/L	STH/SOP/MET/SPW-002	0.05		0.05	-	-	BLQ[LQQ-0.01]
19. Copper as Cu	mg/L	STH/SOP/MET/SPW-002	1,5		1.5			BLQ(LOQ 0.10)
20. Iron as Fe	mg/l	STH/SOP/MET/SPW-002	0.3	-	0.5	-		0.24
21. Lead as Pb	mg/L	STH/SOP/MET/SPW-002	0.1		0.1	- 11		BLQ(LQQ-0.002)
22. Manganese as Mn	mg%.	STH/SOP/MET/SPW-002	0.5	-		-	-	BLQ(LOQ-0.02)
23. Mercury as Ho	mg/L	STH/SOP/MET/SPW-002	0.001	14	52	44	1	BLQ(LQQ-0.0002
24. Selenium as Se	mg/t.	STH/SOP/MET/SPW-002	0.01	3 1	0.05		34	BLQ(LOQ-0.002)
25. Zinc as Zn	mg/L	STH/SOP/MET/SPW-002	15		15			BLQ(LOQ 0:10)

Microbiological Analysis						
26.	Total Coliform	MPN / 100 ml	IS 1622	2.8 X 10 ⁴		
27.	E coli	MPN / 100 ml	IS 1622	1.7 X 10 ⁴		

BLQ= Below Limit of Quantification; LOQ= Limit of Quantification.

Reviewed by: Vishal Sharma (DQM)

Authorized Signatory:

Pingli sas Sharman Authorized Signatory:

Quality Manager:

Authorized Signatory: Sagar Gokhe, Sec. I/c (Metal)

S.S. Rukhaiyar, Sec. Vc (Effluent)

Piyali Das Sharma, Sec. I/c (Mcb.) Dr. (Mrs.) Shreyasee Prasad

— END OF REPORT -

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OMSHIVA TEST HOUSE PYT LTO AND REPORT OF THE PERSON OF TH STH/24/09/610

Annexure-VI

TEST REPORT

Continuation Sheet ULR NUMBER,: STH/TR/24-25/09/610

ANALYSIS RESULTS

Parameters	Unit	Method of Test	To	F 14000-0112 0-11				
			Class 'A'	Class 'B'	Class 'C'	Class 'D'	Class 'E'	Results
28. Cyanide as CN	mg/L	IS 3025 (Pari-27)	0.05	0.05	0.05	12		<0.005
29. Oil & Greise	mg/L	IS 3025 (Part-39)	(34)	-	0.1	0.1	-	<0.1



Reviewed by : Vishal Sharma (DQM)

Authorized Signatory: S.S. Rukhaiyar, Sec. Vc (Effluent)

---- END OF REPORT ----

Quality Manager: Dr. (Mrs.) Shreyasee Prasad





















SHIVA TEST HOUSE

(Serving since 1988)

RECOGNISED AS ENVIRONMENTAL LABORATORY BY MOEFCC, GOVT. OF INDIA, UNDER ENVIRONMENT (PROTECTION) ACT 1986, DEPTT. OF INDUSTRY, FORESTS & ENVIRONMENT, GOVT. OF BIHAR AND BIHAR STATE POLLUTION CONTROL BOARD

TEST REPORT

Ref. No. STH/TR/24-25/351 Dt: 16.04.2024 Your PO No. 4 [a] Name and address of the Customer				4000283588-057-1019 Dt: 20.07,2022 NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI						
es Posselle of Posselle	BEGUSARAI – 851 116 Monitoring of Ambient Air Quality									
	Details of Sample									
[c] Sample Collected by	By Chitranjan Kumar (Lab Representative) of Shiva Test House on 08.04.24									
d) Sampling Location	Collected from Near Ash Dyke									
e) Method of Sampling	IS 5182 (Part - 14)									
Details of Sample Co	ntainer (No. & T	yne of Container	d _i		Filter Paper: Glass Impinger					
g] Instrument ID	ricamier (140, or s	ype or container	l	STH/Equip/						
h) Sample Quantity				30 ml x 6 (f						
				A-351/04/2-	And the second s	0.300				
The second secon	Descript									
 Sample Condition on 	A CONTRACTOR OF THE CONTRACTOR			Fit for Analysis						
 k) Items required to be t 				As per cont	act					
)) Whether any specific Meth	No 09.04.24									
The state of the s	Marie Control of the					09.04.24				
n] Analysis Start Date /	Analysis Compi	etion Date				37.0°C				
				Maxif Temperature 37.0 °C Minif Temperature 31.0 °C						
o] Meteorological Data				Relative Humidity 34%						
				Wind Direction SW						
				Wind Speed		6 K/n /hv.				
	Unit Method of Test	Standard	Sampling Station							
Parameters			as per NAAQS 2009	Near Ash Dyke						
				Resours						
ar accommon delegan		100 100 100 100		74,4	700	SPEC				
Particulate Matter	1001017-12020-04000	IS 5182	100.0	65.7	Avg.	70.2				
(PM ₁₀)	(µg / m³)	(Part-23)	0.0000000	70.7	varue:					
				43.0						
Particulate Matter	(µg / m³) IS 5182	150-0 NO 1000-0	60.0	32.9	Ava.	38.8				
(PM _{2.5})	368 1 111 1	(Part-24)	35.00	40.5	value:	5542				
	+		-	15.1						
				13.4						
Sulphur Dioxide as	unda an fund funda	IS 5182	88:000	9.1	Ava.					
SO ₂		(Part-2)	60.0	11.1	value:	12.6				
		manyothin woo	2000000	12.1	W CONCROS					
				16.1						
	1		1	0.000						
5 Outdoor of Alberton		IS 5182	60.0	39.7						
Oxides of Nitrogen as				33.5	100000					
NO ₂	(μg / m³)	(Part-6)		29,4	Avg	34.4				
		N. September		29.4	value	37050				
				34.9						
				39.7						

r Prasad

Shibeswa Shibeswar Prasad Date: 2024.04.16 11:07:25 +05'30'

Verified by: Dr. Shibeshwar Prasad Technical Manager.

Paleia

- END OF TEST REPORT -

Shreyase Distribly eigened by Exception of Date 2014/55/03 Prasad Distribution (1) 11:21:06 +06:38*

Authorized Signatory Dr. (Mrs.) Shreyaree Prasad Onality Manager

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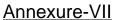
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TEST REPORT

b	Ref. No. STH/TR/24-25/352	Dt: 16.	04.2024	Your PO No.	NTPC L	IMITED	Dt: 20.07.2022	
a]	Name and address of the	: Customer			BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAL 851 116			
6]	Details of Sample				Monitori	ing of Ambient	tir Quality	
[4]	Sample Collected by					anjan Kumar (L est House on 0	.ab Representative) of 8.04.24	
d)	Sampling Location				Collecte	d from Near Net	ta Jee Bhawan	
0	Method of Sampling				IS 5182	(Part - 14)		
1	Details of Sample Conf	tainer (No. &	Type of Contain	ner)		per, Glass Imp		
gl	Instrument ID		72	W = =	STH/Eq	ulp/27, STH/Eq	juip/115	
hj	Sample Quantity				30 ml x	6 (for each NO	2, SO ₂)	
II.	Sample Code				A-352/0	4/24	, no. 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	
I	Sample Condition on R	Receipt			Fit for A			
[K]	Items required to be te				As per o			
TI.	Whether any specific Method		on sugmested by the	s customer	No			
m					09.04.24	4		
N	Analysis Start Date / A					4/14.04.24		
1.00					Max" Te	mperature	37.0 °C	
300	16 GARANTO (1200 SEM 02-22-000 A					mperature	31.0°C	
[0]	Meteorological Data				Relative Humidity 34% Wind Direction SW			
					Wind Spi		6 Km./hr.	
	ACCOMES REVOLU	Terrory II	The section of the se	Standard as	000000	Samplin	g Station	
	Parameters	Unit	Method of Test	per NAAQS			awan (Township)	
	1. F2 S00000-0001.515	150.47	1001	2009		Re	SULTS	
			IS 5182		71.8			
t.	Particulate Matter (PM ₁₀)	(µg / m²)	(Part-23)	100.0	63.0 67.0	Aug. value:	67.3	
2.	Particulate Matter (PM _{2.5})	(µg / m³)	IS 5182 (Part-24)	60.0	40.3 32.8 39.1	Avg. value	37.4	
3.	Sulphur Dioxide as SO ₂	(µg / m³)	IS 5182 (Part-2)	80.0	14.8 11.1 8.9 9.0 11.9 13.8	Avg. value:	11.7	
£	Oxides of Nitrogen as NO ₂	(µg / m³)	IS 5182 (Part-6)	80.0	36,3 53,6 28,2 28,9 34,9 36,9	Avg. value:	33.1	

ar Prasad Date: 2024.04.16

Shibesw by Shibeswar 13:07:49 +05'30'

Verified by : Dr. Shibeshwar Prasad Technical Manager



- END OF TEST REPORT-

Shreyase Digitally signed by Shreyased Prasad e Prasad 0ate: 2024:05:08

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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122-C; Aastia, Road No. SA, Patlipatra Colony, Pana - 800 013 (Bihar)

Mab: +918676886249; +919431047908 Ernel: sthipatna ligyahou co at : info@shrvatest.com

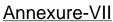
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TEST REPORT

[a]	Name and address of the	e Customer		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116			
[b]	Details of Sample				Monitor	ing of Ambient A	tir Quality
[0]	Sample Collected by					ranjan Kumar (L est House on 0	.ab Representative) of 8.04.24
d	Sampling Location		-		Collecte	ed from Near Bar	riyahi Village
e	Method of Sampling					(Part - 14)	
ή	Details of Sample Con	tainer (No. & Ty	pe of Container)	Filter Pa	aper, Glass Imp	inger
91	Instrument ID				STHVE	uip/54, STH/Ed	ulp/116
h	Sample Quantity				30 ml x	6 (for each NO	2, SO ₂)
1	Sample Code				A-353/0	14/24	umarresti.
in the	Sample Condition on F	Receipt			Fit for	Analysis	
IKI.	Items required to be to					contract	
	Whether any specific Metho		supposted by the cu	istomer	No		
mi	Date of receiving the s			APPROVED	09.04.2	4	
[n]	Analysis Start Date / A					4/14.04.24	
	Contract Con	and in the control of	Congress of the Congress of th		Max's To	emperature	37.0 °C
	Lance (1907) 10 10 10 10 10 10 10 1					imperature	31.0 °C
[9]	Meteorological Data				Relative Wind Dis	Humidity	34% SW
					Wind Sp		6 Km hr
			Barrier of a f	Standard	VALUE COL		g Station
	Parameters	Unit	Method of Test	as per NAAQS		Near CW, Pump	House-(Stage-2)
	2015/8/2000/00/04/4	I I I I I I I I I I I I I I I I I I I	1881	2009		RE	SUL78
į.	Particulate Matter (PM ₁₆)	(µg / m³)	IS 5182 (Part-23)	100.0	74.1 62.1 68.3	Avg. value:	68,2
2.	Particulate Matter (PM _{2.5})	(µg / m ⁹)	IS 5182 (Part-24)	60.0	40.2 31.4 38.9	Avg. value:	36.8
3.	Sulphur Dioxide as SO ₂	(µg / m³)	IS 5182 (Part-2)	80.0	14.8 13.1 9.9 10.9 11.9 13.8	Avg. value:	12.4
4:	Oxides of Nitrogen as NO ₂	(µg / m³)	IS 5182 (Part-6)	80.0	38,9 37,0 26,2 31,6 34,9 40,3	Avg. value:	34.6

Shibeswar Prasad

Digitally signed by Shiberovar Primad Date: 2024.04.16

Vertified by : Dr. Shibeshwar Prosad Technical Manager

- END OF TEST REPORT -

Shreyase Organity signed by Shreyase Proced of Prasad Passad 11(20:43-0730)

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad. Quality Manager

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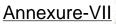
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TEST REPORT

R	ef. No. STH/TR/24-25/354	De: 16	.04.2024	Your PO No.	00028358 NTPC L	A Company of the Comp	Dt: 20.07.2022	
[a]	Name and address of th	e Customer			BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116			
ы	Details of Sample				Monitori	ng of Ambient A	Ur Quality	
[c]	Sample Collected by				By Chitr		ab Representative) or	
d)	Sampling Location				Collecte	d from Near CW	pump house Stage-II	
	Method of Sampling					Part - 14)		
n	Details of Sample Con	stainer (No. 8	Type of Conta	ainer)	Filter Par	er; Glass Imping	jer	
9	Instrument ID					ip/55, STH/Equis		
h	Sample Quantity					(for each NOs. SC		
	Sample Code				4-354/04/	And the second second second		
	Sample Condition on I	Receipt			Fit for An			
kJ:	Items required to be to	Control of the Contro			As per oc			
II.	Whether any specific Metho		non-current but but	the customer	No por tx	and over		
[m]	Date of receiving the s			OHE COSTOTIES	09.04.24	d		
lo]	Analysis Start Date / A					4 / 14.04.24		
101	Analysis Start Date / A	analysis Con	ipieuon Dale			mperature	37.0 °C	
						nperature	31.0 °C	
[o]	Meteorological Data				Relative	Humidity	34%	
ion.					Wind Direction SW			
					Wind Spe	sed	6 Km Av	
	2000 00 00 00 00 00 00 00 00 00 00 00 00	occasio I	Method of	Standard as			g Station	
	Parameters	Unit	Test	per NAAQS			rahi Village	
			1001	2009		Res	UL7S	
tic.	Particulate Matter (PM ₁₀)	(µg / m²)	IS 5182 (Part-23)	100.0	75.4 66.4 74.3	Avg. value:	72.0	
2	Particulate Matter (PM _{2.6})	(µg / m²)	tS 5182 (Part-24)	60.0	43.8 33.8 42.6	Avg. value:	40.1	
3.	Sulphur Dioxide as SO ₂	(µg / m²)	IS 5182 (Part-2)	80.0	18.8 13.1 9.9 8.9 14.8 16.8	Avg. value:	13.7	
4,	Oxides of Nitrogen as NO ₂	(μg / m³)	IS 5162 (Part-5)	80.0	38,9 37,7 26,2 32,9 38,3 39,6	Avg. value:	35.6	

Shibesw Shibeswar Prasad ar Prasad 110938 +05'30'

Verified by a Dr. Shibeshwar Prasad Technical Manager



Shreyasee Sheeyasee Plasad Date: 2024.05.01 Prasad 11:23:34 +05'30'

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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Website: www.shipatest.com. www.shipatesthouse.com





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TEST REPORT

Ref	No. STH/TR/24-25/226	Dn 31.	05.2024	Your PO No	. 4000283588 NTPC LIMIT		Dt: 20.07.2022		
[8]	Name and address of t	the Customer		BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116					
[6]	Details of Sample				Monitoring of Ambient Air Quality				
[0]	Sample Collected by			-	By Prem Ki		Representative) of Shive		
[d]	Sampling Location				Collected from Near Ash Dyke				
[8]	Method of Sampling				IS 5182 (Pa	art - 14):			
in_	Details of Sample Cor	itainer (No. 8.1	ype of Container	ń.	Filter Paper	r, Glass Imp	pinger		
lg]	Instrument ID	Stational books			STH/Equip	83, STH/Ed	guip/70		
[h]	Sample Quantity				30 ml x 6 (
Ø.	Sample Code				A-226/05/2				
III	Sample Condition on I	Receipt			Fit for Ana	00000			
[k]	Items required to be to				As per conf	March 1997			
DI.	Whether any specific Metho		n sugmested by the co	estomer	No	of the court			
[m]	Date of receiving the s			a social rest	08.05.24				
[0]	Analysis Start Date / A				08.05.24 /	13.05.24			
5.0	ratelysts trust to the try	Actual Color Second Library	PARTY MANAGE		Max Tempe		38.0 °C		
					Min" Tempe	natione:	27.0°C		
[0]	Meteorological Data				Relative Hurr		60%		
			Wind Direction	on	SW 6 Km /hr				
-		1		Standard	Wind Speed	Commo No	g Station		
	Parameters	Unit	Method of	as per			Ish Dyke		
	ratameters	Onic	Test	NAAQS 2009			SULTS		
_		-		2009	80.3	1	augus a		
1.	Particulate Matter	μg / m ³	IS 5182	100.0	62.2	Avg	71.9		
	(PM ₅₀)	10g r tir	(Part-23)	100.0	73.1	value	V 1/10		
	0.000.000.000.00	-	is Podestinarol	_	413				
2.	Particulate Matter	μg / m ³	IS 5182	60.0	313	Ava.	38.8		
	(PM _{3.5})	MA 1 111	(Part-24)	UUU	43.8	yable.	36.0		
_		1		-	17.8	TONE			
					13.1				
9	Sulphur Dioxide as	2853	IS 5182		9.0	Avg			
al.	SO ₂	μg / m ³	(Part-2)	80.0	8.9	value:	13.4		
	302				13.8	33133			
					16.8				
				1	41.6				
	Oxides of Nitrogen as		12.000	80.0	39.1				
4.		CHANGE MODERN	IS 5182	M TO SEC.	23.5	Avg.	22.72.0		
4.	100	µg / m3	(Part-6)						
4.	NO ₂	µg / m3	(Part-6)		26.2	value	34.3		
4.	100	µg / m3	(Part-6)		(400000)		34.3		

Shibeswar Digitally signed by Shibeswar Presad Date: 2024.06.01 Prasad

11:51:56 +05'30'

Verified by : Dr. Shibashwar Prasad Technical Manager

Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 11:59:34 +05'30'

Authorized Signatory Dr. (Mrs.) Shreyosee Presad Quality Manager

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TEST REPORT

Ret	No. STH/TR/24-25/227	Dt: 3	1.05.2024	Your PO No	s. 4000283	588-057-1019	Di: 20.07.2022
[8]	Name and address of t	he Customer			NH 31, 1		VER PLANT PROJECT
[b]	Details of Sample					ing of Ambient -	
[c]	Sample Collected by					n Kumar (Lab F use on 07.05.2	Representative) of Shive 4
[d]	Sampling Location				Collecte	d from Near Ne	ta Jee Bhawan
[e]	Method of Sampling				19 5182	(Part - 14)	
m	Details of Sample Con-	tainer (No. &	Type of Contain	ner)	Filter Pa	iper, Glass Imp	inger
[0]	Instrument ID	CACAMATER SOCIAL		20050	STH/Eq	uip/84, STH/Ed	uip/71
(h)	Sample Quantity				30 ml x	6 (for each NO)2. SO2)
D)	Sample Code				A-227/6	5/24	
Ш	Sample Condition on F	Receipt			Fit for A	Analysis	
[k]	Items required to be te	and the second second			As per o	Contract of the Contract of th	
Di-	Whether any specific Methor		en sungested by the	e ruedomer	No		
mi				a supplier to the supplier to	08.05.2	ď	
	Analysis Start Date / A				The second second second	4/13.05.24	
KI M	This gray was a second of the	there was the	CINCHIDE ST. MARKET			smperature	38.0 °C
						mperature.	27.0°C
[0]	Meteorological Data					Humidity	60%
					Wind Dir Wind Sp		SW 6 KOTLAN
		Norway 1	TI Paramonato compressas	Standard as	1988 39		ng Station
	Parameters	Unit	Method of Test	per NAAOS			Jee Bhawan
	100 to 400 to 400 to 400	Transfer 1	lest	2009		Res	\$00.75
ŧ.	Particulate Matter (PM _{v1})	μg/m3	IS 5182 (Part-23)	100.0	71.9 64.4 70.1	Avg. value:	68.8
2.	Particulate Matter (PM _{2.0})	µg/m3	IS 5182 (Part-24)	60.0	41.4 31.4 38.9	Avg. value:	37.2
3.	Sulphur Dioxide as SO ₂	μg/m3	IS 5182 (Part-2)	80.0	16.8 14.1 9.9 8.9 10.9 14.8	Avg. value:	12.5
4.	Oxides of Nitrogen as NO ₂	μg / m3	IS 5182 (Part-6)	80.0	40.3 35.0 26.2 23.5 32.2 38.9	Avg. value:	32.2

Shibeswar Digitally signed by Date: 2024.06.01 Prasad 11:52:08 +05'30'

Verified by: Dr. Shibeshivar Prasad Technical Manager



- END OF TEST REPORT -

Shreyasee Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:00:06 + 05'30'

Authorized Signatory. Dr. (Mrs.) Shreyasee Prasad Quality Manager

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TEST REPORT

Ref.	No. STH/TR/24-25/228	Di: 31.0	15.2024	Your PO N	NTPG L	3588-057-1019 JMITEO	Dr. 20.07.2022	
a)	Name and address of t	he Customer			BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116			
bi.	Details of Sample					ing of Ambient		
c]	Sample Collected by				By Pres Test Ho	n Kumar (Lab Fouse on 07.05.2	lepresentative) of Shivi 4	
d)	Sampling Location				Collecte	ed from Near CW	pump house Stage-II	
01	Method of Sampling				IS 5182	(Part - 14)		
fi	Details of Sample Con	tainer (No. & Tr	ype of Container		Filter P	aper, Glass Imp	inger	
g)	Instrument ID	Water Contract			STH/Ed	juip/85, STH/Eq	uip/72	
h)	Sample Quantity					6 (for each NO		
II.	Sample Code				4-2280		M. T. COUCH	
ì	Sample Condition on F	Paraint			Fit for	Analysis		
k	Items required to be te					contract		
N .	Whether any specific Metho		economical by the ma	ertoeren	No	COTTO		
m]	Date of receiving the s			availe.	08.05.2	Af .		
mi.	Analysis Start Date / A					4/13.05.24		
331	Analysis Start Date / A	iliany asa wanipi	PROTE EXCELS			emperature	38.0 °C	
					Min": Te	imperature	27.0°C	
[0]	Meteorological Data					Humidity	60%	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				Wind Di		SW	
-				Standard	Wind Sg		6 Km /hr ng Stellon	
	Parameters	Unit	Method of	as per			House-(Stage-II)	
	ratameters.	- South	Test	NAAQS 2009			SOLTS	
_					80.4			
1.	Particulate Matter		IS 5182	100.0	67.8	The second Control	74,4	
	(PM ₁₀)	µg / m3	(Part-23)	#7876E0	74.9	Avg. value:		
			VES-23:0255		45.5			
2,	Particulate Matter	1 = 17. B2	IS 5182	60.0	34.2	Avg. value:	40.5	
	(PM _{2.5})	µg / m3	(Part-24)		41.8			
_					17.1			
		222 - 244	10.0400	200000000000000000000000000000000000000	14.4			
3.	Sulphur Dioxide as	ug/m3	IS 5182	80.0	9.1	Avg. value	14.3	
	SO ₂		(Part-2)		10.1	Avg. value	14.3	
					16.1			
					19.1			
					39.7			
	32 (16) (17) (22) (17) (16) (17) (23)	2000,000,00	IS 5182		37.7			
	Oxides of Nitrogen as	µg / m3	(Part-6)	0.22120	24.6	Avg. value:	34.0	
4.								
4.	NO ₂			80.0	26.0 35.6			

Prasad

Shibeswar Digitally signed by Shibeswar Prasad Date: 2024.06.01 11:52:17 405:30

Verified by: Dr. Shibeshwar Prasad Technical Manager

- END OF TEST REPORT -

Shreyase e Prasad

Digitally signed by Shreyasee Prasad Date: 2024.06.01 12:01:51 +05'30'

Authorized Signatory Dr. (Mrs.) Shreyusee Prusael Quality Manager

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TEST REPORT

Ref	No. STH/TR/24-25/229	Dt: 31.	05.2024	Your PO No		588-057-1019	Du 20.07.2022		
[a	Name and address of t	the Custome	3 F		NTPC LIMITED BARAUM THERMAL POWER PLANT PROJECT NH 31, BARAUM BEGUSARAI – 851 116				
ы	Details of Sample				Monitoring of Ambient Air Quality				
[0]	Sample Collected by			+-		n Kumar (Lab R est House on 0	lepresentative) of 7.05.24		
dl	Sampling Location				Collecte	d from Near Bar	lyahi Village		
el	Method of Sampling				IS 5182 (Part - 14)			
1	Details of Sample Con	tainer (No. 4	8. Type of Conta	ainer	Filter Pag	per: Glass Impino	er		
al.	Instrument ID	initia ya Tsharkini suwa	Taga and Albahara transcription of the	and the same of th	STH/Equ	ip/97, STH/Equip	J73		
b]	Sample Quantity					(for each NOs, SO			
	Sample Code				4-229/05				
1	Sample Condition on I	Receipt			Fit for An	ulves			
DKI	Items required to be to				As per co				
n II	Whether any specific Metho		gen suggested by	the customer	No	man a self (188 (197 (197)			
m Imi	Date of receiving the s			INTERNATION INC.	08.05.2	4			
(n)	Analysis Start Date / A					4 / 13.05.24			
-	ratalysis etail bater r	montain our	ipromon promo			mperature	38 Q °C		
					Min* Ter	mperature	27,0°G		
lol.	Meteorological Data				Relative	Humidity	50%		
toer-	11.000 11 - TOOUTHOUSE - 000 C			Wind Dir		SW			
_					Wind Sp		6 Km./hr.		
	_		Method of	Standard as			g Station		
	Parameters	Unit	Test	per NAAQS 2009			rahi Village uc.rs		
_			30F00	2500	68.1	POLS	UE.75		
1.	Particulate Matter (PM ₁₀)	μg / m3	(Part-23)	100.0	63.2 67.9	Avg. value:	96.4		
2.	Particulate Matter (PM _{3.6})	µg / m3	IS 5162 (Part-24)	60.0	38.0 30.4 35.5	Avg. value:	34.6		
3.	Sulphur Dioxide as SO ₂	µg/m3	IS 5182 (Part-2)	80.0	14.6 11.0 8.8 9.8 11.7 13.7	Avg. value:	11.8		
4.	Oxides of Nitrogen as NO ₂	pg/m3	IS 5182 (Part-5)	80.0	36.5 33.2 25.2 27.9 30.5 34.5	Avg. value;	31.3		

Prasad

Shibeswar Shibeswar Prasad Date: 2024.06.01 11:52:28+05'30"

Verified by a Dr. Shibeshwar Prosad Technical Manager

- END OF TEST REPORT -

Shreyasee Prasad

Digitally signed by Shreyasee Prisad Date: 2024.06.01 12:02:44 +05'30"

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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TEST REPORT

(e)	Name and address of the	Customer			NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116			
ы	Details of Sample				Monitoria	ng of Ambieni	Air Quality	
	Sample Collected by						Representative) of Shiva	
191	- The second sec					se on 06.06.24		
[0]	Sampling Location					area of NTP	C Berauni	
[e]	Method of Sampling					Part - 14)		
17	Details of Sample Contain	ner (No. & Ty	pe of Containe	r)	The second second		Carriage Bottle	
[g]	Instrument ID				A compression of the compression	ip/64, STH/E		
[b]	Sample Quantity					(for each N	O ₂ , SO ₂)	
0	Sample Code				A-187/00	1/24		
	Sample Condition on Re-	ceipt			Fit for A	nalysis		
[k]	Items required to be teste	nd			As per co	the state of the s		
[1]	Whether any specific Mer customer	thod of Test I	No No					
[m]	Date of receiving the san	nple in Labora	atory		08.06.24			
[n]	Analysis Start Date / Ana	llysis Comple	tion Date		08.06.24	/ 13.06.24		
****					Max Ter		38.0 °C	
	Market State of State		Min* Ten Relative F		37.0 ^A C			
[0]	Meteorological Data		Wind Direction //W					
					Wind Spe	ed	5.0 Km/m:	
			Method of	Standard as			ling Station	
	Parameters	Unit	Test	per NAAQS	100		a of NTPC Barauni	
				2009			esul7s	
1.	Particulate Matter (PM ₁₀)	(jig/m³)	(S 5182 (Part-23)	100.0	73.1 68.3 68.4	Avg. value:	70.3	
2:	Particulate Matter (PM _{2.5})	(µg / m²)	IS 5182 (Part-24)	60.0	41.5 31.6 40.5	Avg. value:	38.0	
3.	Sulphur Dioxide as SO ₂	(µg / m²)	(5 5182 (Part-2)	£0.0	17.1 14.4 10.1 11.1 15.1 8.1	Avg. value	12.6	
4,	Oxides of Nitrogen as NO ₂	(µg / m²)	IS 5182 (Part-6)	#a.a	39.7 37.7 24.6 27.4 36.2 39.0	Avg verue:	34.1	

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> Verified by: Dr. Shibeshwar Prasad Technical Manager



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> Authorized Signatury Dr. (Mrs.) Shreyonee Proxad Quality Manager

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TEST REPORT

Ref. No. STH/TR/24-25/187(4) Di: 79.0	16,2024	our Po	D No. 4000283	588-057-1	019 1	Dt: 20.07.2022		
[a] Name and address of the Cur	stomer		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116						
[b] Details of Sample	Details of Sample					ality			
c] Sample Collected by				hish Kumar (La 66.24	ib Represe	ntative) of Sh	iva Test House		
[d] Sampling Location			Ash c	fyke area of N	TPC Barau	mi			
[e] Method of Sampling			-	182(Part -14)					
(f) Sampling Environmental Con			Tem	p.(°C)	38	Humidity(%)	39		
[g] Details of Sample Container I	No. & Type of Co	intainer)	Filte	r Paper & Sar	mple Carr	iage Bottle	X1 t		
[h] Instrument ID			STH	/Equip/64, ST	H/Equip/-	41			
[i] Sample Code			A-18	37/06/24	ACM ACMADIA				
Sample Condition on Receipt				or Analysis					
(k) Items required to be tested	Albania (Albania)	1000	Asp	er contract					
 Vihether any specific Metho by the customer 	d of Test has bee	in suggested	No						
[m] Date of receiving the sample	in Laboratory		08.06	8.24					
[n] Analysis Start Date/Analysis	Completion Date		08.06	24/13.06.24					
	Unit			Standard as per	NAAQS 20	09 Sam	pling Station		
Parameters		Method of To	est				re area of NTP0 Barauni		
1. Carbon Monoxide (CO)	mg/m³	IS 5182(Pa	ut-10)	4 mg	jim ^a		0.40		
2. Lead (Pb)	µg / m ³	IS 5182/Pa	wt-22)	1 μg	/m²		0.04		
3. Ammonia as NH ₃	μg /m ³	IS 5182 (P	art-25)	400 µ	g/m"		13.7		
4. Ozone (O ₃)	μg/m ⁸	IS 5182(P	art-9)	190 µ	g/m³		42.7		
5. Benzene(C ₆ H ₆)	μ g /m ³	IS 5182(P)	ed-11)	5 µg	pront.		0.11		
5. Benzo (a) Pyrene	ng/ m ³	IS 5182(P)	ed-12)	1 ng	p/mi ^t		0.12		
7. Arsenic (As)	ng /m³	AAS M	ethod	6 ng	ylmi ^b		0.10		
8. Nickel as Ni	ng /m ⁸	AAS M	athod	20 m	g/m²		2.81		

Shibeswar Digitally signed by Shibeswar Prasad Date: 2024/06/19 Prasad 11106/52 +05/90"

Verified by : Dr. Shibeshwar Prasad Technical Manager



- END OF TEST REPORT

Prasad

Shreyasee Streyasee Presad Date: 2024.06.19 11/09/03 +05/30

> Authorized Signatory Dr. (Mrs.) Shreyasee Prosad Quality Manager

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TEST REPORT

(a) Name and address of the	Customer			NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116			
(b) Details of Sample					ig of Ambient		
[6] Sample Collected by						Representative) of Shive	
				Test Hous	re on 06.06.24	NTPC Barauni)	
[d] Sampling Location				IC 6192	Part - 14)	NIPC Baraunij	
 Method of Sampling Details of Sample Contain 	ner (No. 9. Tv	ne of Contains	en.			Carriage Bottle	
	mer true or 13	pe or comaine	7.		ip/65, STH/E		
The second secon				Annual Control of the	(for each N	- CONT. AND	
				4-188/00		V2, 3V2)	
[i] Sample Code	20124			Fit for A	And the last of th		
[j] Sample Condition on Re							
 [k] Items required to be test [ii] Whether any specific Me 		and the second second	ated budles	As per or	anitact		
 Vihether any specific Me customer 	thod of Test r	ias been sugge	issed by the	No			
[m] Date of receiving the san				08.06.24	Control Control Control Control		
[n] Analysis Start Date / Ana	ilysis Comple	tion Date		1 10 10 10 10 10 10 10	/13.06.24	V 2000	
				Max* Ter Min* Terr	nperature	38.0 °C	
[o] Meteorological Data		Relative h		39%			
[o] meteorological bata			Wind Direction NW				
				Wind Spe		5.0 Km Arr	
¥	Unit	Method of	Standard as per NAAQS	Ala		ling Station awan (NTPC Barauni)	
Parameters	Unit	Test	2009	146		swan (miru baraun) Ssults	
		IS 5182		71.6		LUGE 10	
Particulate Matter (PM ₁₀)	E 282 I	(Part-23)	160.0	63:2	Avg.	67.2	
12 - AND DESIGNATION OF THE WORLD	[µg / m²)	1. 21. 21.	15000	65.9	value:		
		And the leaves		43.8		33333	
2. Particulate Matter (PM _{2.6})	(µg / m²)	IS 5182 (Part-24)	68.0	31.3	Avg	39.2	
	(HR (III.)	(Fairzy)	1	42.6	volue:	200.000	
				17.8			
121 A. C.	(ug / m²)	IS 5182	86,0	183	Ave.:	0.04/92/9	
 Sulphur Dioxide as SO₂ 	AMBEASTER)	(Part-2)	1	111.0	Value	13.9	
				13.8			
				16.9			
			80.0	41.0 33.7			
4. Oxides of Nitrogen as	(jug / m³)	IS 5182	30.0	23.4	Ava.	88266	
NO:	049 7101 7	(Part-6)		26.2	value:	33.1	
at to themps	NUS						
				36.9			

Shibeswar Digitally signed by Shibeswar Plasad Date: 2024.06.19 Prasad

Verified by: Dr. Shibeshwar Prasad Technical Manager

Prasad

Shreyasee Olgitally signed by Shreyasee Frasad Date: 2024.06.19 11:09:18 +05:30

> Authorized Signatory Dr. (Mrs.) Shrayaree Present Quality Manager

- END OF TEST REPORT

11:07:04 +05'30'

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TEST REPORT

Ref. No. STH/TR/24-25/188()	Dr: 79.0	06,2024) No. 4000283588-057-10	19 Dt:	20.07.2022			
[a] Name and address of the Cu	stomer		NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116						
[b] Details of Sample			Mon	itoring of Ambient Air Qu	ality				
[c] Sample Collected by			By As on 66.	hish Kumer (Lab Represen (16.24	fative) of Shiva	Fest House			
[d] Sampling Location			Near	r Neta Ji Bhawan (NTPC I	Barauni)				
[e] Method of Sampling	THE STATE OF THE S			182 (Part - 14)					
 Sampling Environmental Co 					umidity (%)	39			
[g] Details of Sample Container	(No. & Type of Co	ontainer)	Filte	r Paper & Sample Carria	ge Bottle				
[h] Instrument ID				/Equip/65, STH/Equip/4;	1				
[i] Sample Code			-	88/06/24					
[j] Sample Condition on Receipt			100000000000000000000000000000000000000	or Analysis					
 [k] Items required to be tested [l] Whether any specific Methology the customer 	d of Test has bee	in suggested	As per contract						
[m] Date of receiving the sample	e in Laboratory		08.06	5.24					
[n] Analysis Start Date/Analysis	Completion Date		08.06	24/13.06.24					
	Unit			Standard asper NAAQS 2009	Samplin	g Stetion			
Parameters		Method of Te	est		Near Neta (NTPC I	Ji Bhawar Barauni)			
Carbon Monoxide(CO)	mg/m²	IS 5182(Pa	rd-10)	4 mg/m²	0.	51			
2. Lead (Pb)	µg/m³	IS 5182(Pa	ot-22)	1 µg/m³	.0.	02			
3. Ammonia as NH ₃	μg /m ⁸	15 5182 (P.	at-25)	400 µg/m²	13	.6			
4. Ozone (O ₂)	μg /m³	IS 5182(P	ed-9)	180 µg/m²	35	1.5			
5. Benzene(C ₀ H ₆)	μg /m³	IS 5182(Pa	ot-11)	6 µg/m²	0.	14			
6. Benzo (a) Pyrene	ng/ m³	15 5182(Pa	m-12)	1 ng/m²	.0,	11			
7. Arsenic (As)	ng /m³	AAS Me	thod	6 ng/m²	0.	10			
9. Nickel as Ni	no /m²	AAS Mo	thod	20 ng/m³	2	84			

Shibeswar Digitally signed by Shibeswar Prasad Date: 2024.05.19 Prasad 11:07:22 +05'90'

Verified by: Dr. Shibeshwar Prasad Technical Manager

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Digitally signed by Shreyasee Prosed Date: 2024.06.19 11.09:33 +05'30"

Page No. 1 of 1

Authorized Signatory Dr. (Mrs.) Shreyasee Pramel Quality Manager

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TEST REPORT

Ref. No. STH/TR/24-25/11	39 De	: 19.06.2024	Your PO No.	4000283580 NTPC Lii		Dr: 20.07.2022	
a] Name and address of the	e Customer			BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116			
b) Details of Sample				Monitoria	ng of Ambient	Air Quality	
[c] Sample Collected by						tepresentative) of Shive	
to de la companya de				Test Hous	se on 66.66.24		
(d) Sampling Location						NTPC Barauni)	
e Method of Sampling					Part - 14)		
 Details of Sample Conta 	iner (No. & Ty	pe of Containe	0:	the second secon		Carriage Bottle	
[g] Instrument ID					ip/67, STH/E		
[h] Sample Quantity					6 (for each N	O ₂ , SO ₂)	
[i] Sample Code				A-189/00	5/24		
Sample Condition on Re	ceipt.			Fit for A	nalysis		
[k] Items required to be test				As per or			
 Whether any specific Me customer 	thod of Test I	nas been sugge	sted by the	No			
[m] Date of receiving the sar	nple in Labora	atory		08.06.24	on Handard Street		
[n] Analysis Start Date / Ana	alysis Comple	tion Date		08.06.24	/ 13.06.24	02 - 1 - 20.000 HW	
		***************************************		Max* Tor		38.0 %	
		Min* Ten Relative F		37.0 °C			
[6] Meteorological Data		Wind Dire		0W			
				Wind Spe		5.0 Km/hr.	
		Method of	Standard as	1	Sampi	ing Station	
Parameters	Unit	Test	per NAAQS	Ne		llage (NTPC Barauni)	
			2009		R	ESULTS	
Particulate Matter (PM ₁₀)	(µg / m³)	IS 5182 (Part-23)	100.0	66.4 64.7 67.9	Avg value:	86.4	
		IS 5182	1	40.6			
 Particulate Matter (PM_{2.5}) 	(µg / m³)	(Part-24)	40.0	31.7	Avg.	36.8	
	18971117	74 min. (-4.4)	1	38:0	walke:		
			200	16.6			
	(µg /m²)	18 5182	80.0	14:0	Ava:	1,550,000	
 Sulphur Dioxide as SO₂ 	ma	(Part-2)	1	11.7	volue	14.2	
			1	14.6			
				17.6			
			10.255	37.8			
4. Oxides of Nitropen as	190323902390	IS-5182	80.0	37.3	90.00		
	(μg / m ²)	(Part-6)		29.9	Aug.	34.4	
1900	NO ₂				1994,000		
324070				34.5			

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Shibeswa Shibeswar Presed Date: 2024.06.19

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Verified by : Dr. Shibeshwar Prasad Technical Manager



Prasad

Shreyasee Shreyasee Pratad Date: 2024.06.19 11:09:53 +05'30"

> Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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TEST REPORT

Ref. No. STH/TR/24-25/189(-	() Dt: 19.0	96,2924 Y	our P	No. 4000283588-057-101	9 Di:	20.07.2022			
[a] Name and address of the Customer				NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI = 851 116					
[b] Details of Sample			Mon	itoring of Ambient Air Qua	illiy				
[c] Sample Collected by		By As on 66.	hish Kumar (Lab Represent 06.24	ative) of Shiva	Test House				
[d] Sampling Location			Near	Bariyahi Village (NTPC B	arauni)				
[e] Method of Sampling			18.5	82(Part -14)					
 Sampling Environmental Co 	ndition		Tem	p.(⁴ C) 38 Hs	amidity (%)	68			
[g] Details of Sample Container (No. & Type of Container)				Paper & Sample Carriage I	Sottle				
[h] Instrument ID				/Equip/67, STH/Equip/43					
[i] Sample Code				A-189/06/24					
Sample Condition on Receipt				Fit for Analysis					
[k] Items required to be tested				As per contract					
Whether any specific Method of Test has been suggested by the customer				No					
[m] Date of receiving the sample	e in Laboratory		08.06.24						
[n] Analysis Start Date/Analysis	Completion Date		08.00	3.24/ 13.06.24					
	Unit			Standard as per NAAQS 2009	Sampi	ing Station			
Parameters	Dilk	Method of Te	ist.		Near Barly (NTPC I	ahi Village Barauni)			
Cairbon Monoxide(CO)	mg /m²	IS 5182[Pa	ef-10)	4 mg/m²	0.	49			
2. Lead (Pb)	µg/m²	IS 5182(Pa	rt-22)	t µg/m²	0.	01			
3. Ammonia as NH ₃	μg /m ³	IS 5182 (P:	art-25)	400 µg/m³	12	.2			
4. Ozone (O ₃)	µg /m³	IS 5182(F	art-9)	180 µg/m²	45	5.1			
5. Benzene(C ₆ H ₆)	µg /m³	IS 5182(Pa	ut-11)	5 μg/m³	0.	12			
6. Benzo (a) Pyrene	ng/ m³	15 5182(Pa	ut-12)	1 ng/m³	0.	15			
7. Arsenic (As)	ng /m³	AAS Me	diod	6 ng/m ³	0.	10			
8. Nickel as Ni	ng /m³	AAS Me	shed	20 ng/m ³	2	79			

Shibeswa Digitally signed by Shibeswar Prasad Date: 2024.06.19 r Prasad 11:07:47 + 05'30"

Verified by: Dr. Shibeshwar Prasad Technical Manager



Shreyasee Digitally signed by Shreyasee Prasad Prasad

Date: 2024.06.19 11:10:10 +05'30'

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

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TEST REPORT

Ref. No. STH/TR/24-25/190	2075	19.06.2024	1 3 3 1 1 1 2 1 1 1 1	NTPC L		Dt: 20.07.2022	
[a] Name and address of the	e Customer	BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAL 851 116					
(b) Details of Sample				Monitori	ng of Amblen	t Air Quality	
[c] Sample Collected by					i Kumar (Lab., se on 05,05.24	Representative) of Shiva	
[d] Sampling Location						Stage 2 (NTPC Barauni)	
[e] Method of Sampling					(Part - 14)		
[f] Details of Sample Conta	iner (No. & Ty	pe of Containe	r)	Company of the Company of the Company	Control of the Contro	Carriage Bottle	
[g] Instrument ID				STH/Equ	ip/68, STH/E	quip/44	
[h] Sample Quantity				30 ml x 3	6 (for each N	O ₂ , SO ₂)	
[i] Sample Code				A-190/00	6/24		
[j] Sample Condition on Re	ceipt			Fit for A	nalysis		
(k) Items required to be test	ed			As per c	ontract		
 (i) Whether any specific Me customer 	thod of Test I	No					
[m] Date of receiving the sar	nple in Labor.	atory		08.06.24	Carronne		
[n] Analysis Start Date / Ana	alysis Comple	tion Date			V 13.06.24	VI	
		DOMESTIC ACTION		Max* Ter		38.0 °C	
fol Meteorological Data				Min" Ten Relative h		37.0 °C 39%	
[o] werearardical base				Wind Dire		NW	
				Wind Spe		5.0 Km Av	
2 1	122.00	Method of	Standard as			ling Station	
Parameters	Unit	Test	per NAAQS 2009	Near CW Pump House Stage 2 (NTPC Baraun Resurts			
	l	CX250.00X0X	2500	27333		WSULTS	
Particulate Matter (PMm)		IS 5182 (Part-23)	0.888	72.4	Avg	69.3	
Particulate Matter (PM ₁₀)	$(\mu g / m^2)$	(Fatters)	100,0	54.5 71.0	value:	99.3	
	-	NORTH COLOR	-	40.6			
2. Particulate Matter (PM _{2.5})	7.5000000000000000000000000000000000000	IS 5182	60.0	34.2	Ava	39.3	
to a series makes to make	(µg / m³)	(Part-24)	57250	43.1	Value:	0.7,707.0	
				14.0			
		IS 5182	80.0	14.0			
 Sulphur Dioxide as SO₂ 	(µg / m²)	(Part-2)		4.9	Avg	11.4	
200 100710.000000000000000000000000000000				10.7	- Yarua:		
				15.6			
According to the constraint of		2000000000	1 100,000	33.8			
Oxides of Nitrogen as	11.701.000.004	15 5182	80.0	18.5	V.22000		
NO ₂	(pg / m²)	(Part-6)		31.9	Avg	30.2	
				29.2	Voltage 1		
				30.5			

Shibeswa Digitally signed by Shibeswar Prosad Oato: 2024.08.19 r Prasad 11:08:01 +05'30'

Verified by: Dr. Shibeshwar Prasad Technical Manager



Shreyasee Digitally signed by Shreyasee Prasad Date: 2024.06.19 Prasad

11:10:28+05:30 Authorized Signatory Dr. (Mrs.) Shreyesee Present Quality Manager

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Email: sthpatnel@vahoo.co.in; info@shiwatest.com

Website (www.chinatost.com : www.chinatoschmatoschm





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TEST REPORT

Ref. No. STH/TR/24-25/190(A	514 S147 S88	300 B 300 L	NTD	C.L. MITTER	<u>ram propinsi 1949) (</u> L		20,07,2022	
[a] Name and address of the Cur	NTPC LIMITED BARAUNI THERMAL POWER PLANT PROJECT NH 31, BARAUNI BEGUSARAI – 851 116							
[b] Details of Sample			Mon	itoring of A	mbient Air Qu	ality		
[c] Sample Collected by		ishish Kume 6.06.24	ir (Lab Represi	entative) of Shir	va Test House			
[d] Sampling Location			Near	CW Pump	House Stage	2 NTPC Bara	uni)	
[e] Method of Sampling	STANDARD CO.		IS 51	82(Part -14	1			
(f) Sampling Environmental Cor	ndition		Tem	p.(⁰ 0).	38 H	lumidity(%)	68	
[g] Details of Sample Container (Filter	Paper & Sa	ample Carriage	Bottle				
[h] Instrument ID	STH	/Equip/68,	STH/Equip/4	4				
[i] Sample Code	A-190/06/24							
Sample Condition on Receipt	Fit for Analysis							
[k] Items required to be tested [f] Whether any specific Method of Test has been suggested				As per contract				
by the customer		n suggested	No.					
[m] Date of receiving the sample	in Laboratory		08.06.24					
[n] Analysis Start Date/Analysis	Completion Date		08.06	24/13.06	24			
	Unit			Standard as	per NAAQS2009	Sampi	ing Station	
Parameters		Method of Te	ist			Near CW I Stage 2 (N	Pump House TPC Barauni	
1. Carbon Monovide (CO)	mg/m³	IS 5182(Pa	xt-10)	4	mg/m²		1.51	
2. Lead (Pb)	μg/m³	IS 5182(Pa	et-22)	22) 1 μg/m ¹		(1.03	
3. Ammonia as NH ₃	μg /m³	IS 5182 (P.	art-25)	40	0 μg/m³		4.2	
4. Ozone (O ₃)	μg /m³	15 5182(P	art-9)	art-9) 180 µg/m²		3	9.05	
5. Benzene(CeHa)	μg /m³	/m ³ IS 5182(P		6	μg/m³).15	
6. Benzo (a) Pyrene	rig/ m³	IS 5182(Pa	rt-12)	rl-12) 1 ng/m²).17	
7. Arsenic (As)	ing /m³	. AAB Me	thod		ng/m³		.10	
8. Nickel as Ni	ng /m²	AAS Me	uthorid	21	0 malm ³		74	

Shibeswar Shibeswar Prasad Date: 2024.06.19 Prasad 11:08:29 +05'30'

Verified by : Dr. Shibeshwar Prasad Technical Manager

Shreyasee Prasad

Digitally signed by Streyauer Fraud Date: 2024.05.10 11:10:48 + 05:30

Authorized Signatory Dr. (Mrs.) Shreyasee Prasad Quality Manager

- END OF TEST REPORT

This report applies only to sample tested as above.

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Applicant Design Plan

OMSHIVA TEST HOUSE PVT L STH/24/07/135

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample :

AAQ (As per NAAQS)

Location of Sampling:

Near Ash dyke

W.O No.:

4000283588-057-1019

WO Date:

Sample Code

Analysis Start Date

20.07.2022

10.07.2024

15.07.2024

Annexure-VII

Laboratory Provided Details: Analysis Details:

ULR Number

STH/TR/24-25/07/135

Date of Sampling Sample Received on 09.07.2024 10.07:2024

Method of Sampling

IS 5182 (Part - 14 & 5)

Env. Condition

33.ºC Temp.

Humidity:

61%

Sample Condition on Receipt

Analysis Completion Date:

STH/24/07/135

Instrument ID

STH/Equip/26, 113

30 ml x 6 for each (NO2, SO2); Filter Paper

Items required to be Tested

Fit for analysis As per contract

Sample Quantity & Container

& Sample Carriage Bottle

Any Specific Test Method

Reporting Date

No 22.07.2024

Sample Collected by

Mr. Chitranjan Kumar; Lab Representative

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Limit as per NAAQS 2009	Sampling Station Near Ash dyke area of NTPC Baraun, RESULTS
Particulate Matter (PM ₁₀)	рд / m³	IS 5182 (Part-23)	100 µg / m ³	76.2 63.8 71.4
2. Particulate Matter (PM _{2.5})	μg / m³	IS 5182 (Part-24)	60 µg / m ³	41.3 31.3 37.6
3. Sulphur Dioxide as SO ₂	μg / m ³	IS 5162 (Part-2)	80 µg / m³	13.9 12.6 9.3 10.8 8.5
4. Nitrogen Dioxide as NO ₂	μ g / m ⁸	IS 5182 (Part-6)	80 µg / m³	39.6 33.3 22.7 21.5 34.3 37.8
werage Value	10			200
PM ₁₀	μg / m³			70.5
PM _{2.6}	µg/m³			36.7
SO ₂	μg / m²		TOT HAVE	11.4
NO _T	µg/m³		ATEST HOUSE	31.5

Reviewed by ;

Abhishek Kumar, Sec. Vc (Air Proximate)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT --





N.B.:







atfinutra Colo Patria. 800013

stha Road No





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+919431047908 Email: coofbshivatesthouse in cao@shivatesthouse.in

TEST REPORT

Apprillment Principle Plan

OMSHIVA TEST HOUSE PVT L

STH/24/07/136

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample :

AAQ (As per NAAQS) Location of Sampling: Near Neta-Jee Bhawan.

Annexure-VII

W.O-No.:

4000283588-057-1019

WO Date:

20.07.2022

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/136

Date of Sampling

09.07.2024

Sample Received on Method of Sampling

Sample Collected by

10.07:2024

Env. Condition Instrument ID

Container

IS 5182 (Part - 14 & 5) 33°C

Temp.

Humidity:

Sample Quantity &

STH/Equip/27, 115 30 ml x 6 for each (NO₂, SO₂); Filter Paper

& Sample Carriage Bottle

Mr. Chitranjan Kumar; Lab Representative

Analysis Details:

Sample Code

STH/24/07/136

Analysis Start Date

10.07.2024

Analysis Completion Date

15.07,2024

Sample Condition on Receipt

Fit for analysis

Items required to be Tested

As per contract.

Any Specific Test Method

No

Reporting Date

22.07.2024

ANALYSIS RESULTS

61%

Parameters	Unit	Method of Test	Limit as per NAAQS 2009	Sampling Station Near Neta Jee Bhawan of NTPC Barauni Results
Particulate Matter (PM ₁₀)	μg / m ³	IS 5182 (Part-23)	100 µg / m²	75.3 62.9 68.4
2. Particulate Matter (PM _{2.5})	μig / m³	IS 5182 (Part-24)	60 pg / m ³	37.7 30.1 36.4
3. Sulphur Dioxide as SO₂	μg / m³	IS 5182 (Part-2)	80 µg / m²	17.8 12.6 10.8 8.5 11.6
Nitrogen Dioxide as NO ₂	μg/m³	IS 5182 (Part-6)	80 µg / m³	36.7 35.1 22.7 26.2 32.0 39.6
Average Value				20.0
PM ₁₀	μg / m ³			68.9
PWas	ug/m³			34.7
802	μg / m ⁵		71100	12.8
NO ₂	jig / m²	12	TEST HOUSE PL	32.0

Reviewed by :

ALL Sheek blander Signatory Abhishek Kumar, Sec. I/c (Air Proximate)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad













Partie

tha Road





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Email: coo@shivatesthouse.in cau@shivatesthouse.in

Applicate Discopic Name

OMSHIVA TEST HOUSE PVT L STH/24/07/137

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

TESTING

ADD: BARAUNI THERMAL POWER PLANT PROJECT

09.07.2024

10.07.2024

NH 31, BARAUNI

BEGUSARAI-851 116

Laboratory Provided Details:

Information by Customer:

Name / Nature of Sample :

AAQ (As per NAAQS) Near CW Pump House

Location of Sampling: W.O.No.:

4000283588-057-1019

WO Date:

20.07.2022

Annexure-VII

Analysis Details:

Sample Code

STH/24/07/137

Analysis Start Date

10.07.2024

Analysis Completion Date

15.07.2024

Method of Sampling Env. Condition

Sample Quantity &

Sample Collected by

Instrument ID

Container

Sample Received on

Date of Sampling

ULR Number

IS 5182 (Part - 14 & 5)

STH/TR/24-25/07/137

33.ºO Temp. Humidity

STH/Equip/54, 116

30 ml x 6 for each (NO₂, SO₂); Filter Paper

& Sample Carriage Bottle Mr. Chitranjan Kumar, Lab Representative Sample Condition on Receipt

Fit for analysis

Items required to be Tested

As per contract.

Any Specific Test Method Reporting Date

22.07.2024

ANALYSIS RESULTS

61%

Parameters	Mo	Method of	Mothed of Limit acres	Sampling Station
	Unit	Test	Limit as per NAAOS 2009	Near CW Pump House of NTPC Baraur
- Common was a co	8777577	1.034	NAAQS 2009	Results
TOTAL PROTEST LEADER	1 2	IS 5182	1.3	69.8
 Particulate Matter (PM₁₀) 	μg / m ²	(Part-23)	100 μg / m ³	66.3
	_			67.7
White production to your production of the second	Processing Control	IS 5182	11000000000000000000000000000000000000	43.0 31.6
Particulate Matter (PM_{2.5})	μg / m ³	(Part-24)	60 µg / m ³	31.6 41.8
		18-25000000	2005	
				14.2 11.2
	μg / m ³	IS 5182 (Part-2)	80 µg / m ³	8.6
 Sulphur Dioxide as SO₂ 				9.4
				13.4
				14.0
				34.4
			80 µg / m³	31.5
4. Nitrogen Dioxide as NO ₂	177512 VISSAUT	IS 5182		21.3
4. Nill ogen blokide as No2	μg / m ³	(Part-6)	oo hg / m-	22.5
				26.7
				35.0
Average Value				
PM _m	pg/m ^a			67.9
PM _{2.8}	pg/m"			38.8
50,	µg / m ⁵	TE = HOUS		12.0
NO ₂	jug / m²	Z de = HUUS	12	28.6

Reviewed by :

Waterprizated Stangersons - 1 Abhishek Kumar, Sec. Uc (Air Proximate)

---- END OF REPORT ---

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Quality Manager:

Dr. (Mrs.) Shreyasee Prasad



N.B.











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Captain Page Nag

OMSHIVA TEST HOUSE PVT LTD STH/24/07/138

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample :

Location of Sampling:

Analysis Details:

Analysis Start Date

Sample Code

Near Bariahii Village

AAQ (As per NAAQS)

W.O No.:

4000283588-057-1019

STH/24/07/138

WO Date:

20.07.2022

Annexure-VII

Laboratory Provided Details:

ULR Number

STH/TR/24-25/07/138

Date of Sampling

09.07.2024

Sample Received on

10.07.2024 IS 5182 (Part - 14 & 5)

Method of Sampling Env. Condition

Container

33.ºC Temp.

Humidity :

61%

Sample Condition on Receipt

Analysis Completion Date

10.07.2024

15.07.2024

Instrument ID Sample Quantity &

Sample Collected by

STH/Equip/55, 39

30 ml x 6 for each (NO₂, SO₂); Filter Paper

& Sample Carriage Bottle Mr. Chitranjan Kumar; Lab Representative:

Fit for analysis As per contract

Items required to be Tested Any Specific Test Method

No

Reporting Date

22.07.2024

ANALYSIS RESULTS

Parameters	Unit	Method of	Limit as per NAAQS 2009	Sampling Station Near Bariahi Village of NTPC Baraun
		Test	NAAQ5.2009	Results
 Particulate Matter (PM₁₀) 	μg / m ⁵	IS 5182 (Part-23)	100 µg / m³	78.0 67.8 72.6
2. Particulate Matter (PM _{2.5})	μg / m³	IS 5182 (Part-24)	60 µg / m³	44,4 32.9 43.1
3. Sulphur Dioxide as SO ₂	μg / m ³	IS 5182 (Part-2)	80 pg / m³	13.7 11.7 9.9 8.4 9.9 12.2
4. Nitrogen Dioxide as NO ₂	μg / m ^a	IS 5182 (Part-6)	80 µg / m³	37.4 34.7 25.9 28.2 32.2 39.7
Werage Value			-	-25-2
PM ₁₀	μg / m ³			72.8
PM _{L3}	μg / m ³			40.1
SO ₃	µg / m³		SHIP TO THE STATE OF	11.0
NO ₂	µg / m³		NOW.	33.0

Reviewed by:

School Shipstory: Abhishek Kumar, Sec. I/c (Air Proximate)

--- END OF REPORT ---

(1) This report applies only to sample tested as above. (2) Total Liability of our Laboratory is limited to invoiced amount. (3) Test Report endorsed only the tests and not the product certificate. (4) Test Report cannot be reproduced partially or full for legal/court purpose eithors written permission of the Laboratory.

Quality Manager: Dr. (Mrs.) Shreyasee Prasad



N.B.











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cao@shivatesthouse.in App Marie Design Play





TEST REPORT

OMSHIVA TEST HOUSE PVT LTD STH/24/08/106

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number STH/TR/24-25/08/106

Date of Sampling 07.08.2024 Sample Received on 09.08.2024

Method of Sampling

IS 5182 (Part - 14 & 5) Env. Condition Temp. 35.°C Humidity:

instrument ID STH/Equip/26, 113 Sample Quantity & 30 ml x 6 for each (NO₂, SO₂); Filter Paper

Container & Sample Carriage Bottle

Mr. Chitranjan Kumar, Lab Representative Sample Collected by

Information by Customer:

Name / Nature of Sample : AAQ (As per NAAQS) Location of Sampling: Near Neta Jee Bhawan W.O No.: 4000283588-057-1019

WO Date: 20.07.2022

Analysis Details:

Sample Code STH/24/08/106

09.08.2024 Analysis Start Date 14.08.2024 Analysis Completion Date

Fit for analysis: Sample Condition on Receipt

Items required to be Tested As per contract

Any Specific Test Method No

Reporting Date 16.08.2024

ANALYSIS RESULTS

70%

	D.F. ethand	N. Frank and the	There's account	Sampling Station	
Parameters	Unit	Method of	Limit as per	Near Neta Jee Bhawan of NTPC Baraun	
7.75700700f600759	CAMING I	Test	NAAQS 2009	Results	
Particulate Matter (PM ₁₀)	μg / m ²	IS 5182	100 µg / m ³	75.2 e9.0	
2.5.5	(CO) (CO) (CO)	(Part-23)	7000 E #0.000	71,9	
		IS 518Z		38.8	
Particulate Matter (PM_{2.5})	μg / m ⁸	(Part-24)	60 µg / m³-	33.8	
NG .55	1000	30,000,000,00	h-4-	41.3	
				19.3	
	μg / m ³	IS 5182 (Part-2)	80 µg / m²	16.6	
 Sulphur Dioxide as SO₂ 				10.8 12.4	
				93	
				17.0	
				37.8	
			80 μg / m ³	36.8	
 Nitrogen Dioxide as NOz 	μg / m³	IS 5182		30,8	
4. Nill Ogen Dioxide as NO1	1007 111	(Part-6)	00 µg i iii	32.0	
				31.4	
Control of the Contro				36.7	
Average Value PMu	1 227 228			72.1	
	μg / m³	Jeg.	11000	38.0	
PM ₂₅	μg/m³	12	125		
SO ₂	µg/m²	Tatipu (Salata	0 /31	14.2	
NO ₂	µg / m³	2/ Indipu	no Colony S	34.3	

Authorized Signatory : Abhishek Kumer, Sec. Uc (Air Proximate)

---- END OF REPORT --

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

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TEST REPORT

OMSHIVA TEST HOUSE PVT LTI STH/24/08/107

Name and Address of Customer:

NTPC LIMITED

Add: Barauni Thermal Power Plant Project

NH 31. BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number STH/TR/24-25/08/107

07.08.2024 Date of Sampling Sample Received on 09.08.2024

Method of Sampling

IS 5182 (Part - 14 & 5)

Env. Condition 35 °C Temp. Humidity.

Instrument ID STH/Equip/27, 114

Sample Quantity & 30 ml x 6 for each (NO₂, SO₂); Filter Paper Container & Sample Carriage Bottle

Sample Collected by Mr. Chitranjan Kumar; Lab Representative Information by Customer:

Name / Nature of Sample : AAQ (As per NAAQS)

Location of Sampling: Near Ash Dyke

W.O No.: 4000283588-057-1019

WD Date: 20.07.2022

Analysis Details:

Reporting Date

Sample Code STH/24/08/107

Analysis Start Date 09.08.2024

Analysis Completion Date 14.08.2024

Sample Condition on Receipt

Fit for analysis Items required to be Tested As per contract

16.08.2024

Any Specific Test Method No

ANALYSIS RESULTS

70%

Parameters	Unit	Method of Test	Limit as per NAAQS 2009	Sampling Station Near Ash Dyke of NTPC Barauni Results
1. Particulate Matter (PM ₁₀)	μg / m ^g	IS 5182 (Part-23)	100 μg / m³	72.6 66.5 72.3
2. Particulate Matter (PM _{2.5})	μg/m³	IS 5182 (Part-24)	60 μg / m ³	40,2 31,4 37,7
3. Sulphur Dioxide as SO ₂	μg / m²	IS 5182 (Part-2)	80 μg / m ³	16.2 13.4 19.8 7.7 9.3 14.7
4. Nitrogen Dioxide as NO₂	μg / m³	IS 5182 (Part-6)	80 µg / m³	37.2 35.7 32.0 30.3 31.4 36.1
werage Value				1100
PM _{III}	μg/m ²			70.5
PM _{ZA}	µg/m³	TEST HI	USE	36.4
SO ₂	pg/m³	13	131	12.0
NO ₂	µg/m³	18/	. 15-1	33.8

Authorized Signatory : Abhishek Kumar, Sec. Vc (Air Proximate)

---- END OF REPORT ---

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

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OMSHIVA TEST HOUSE PVT LTD STH/24/08/108

TEST REPORT

Name and Address of Customer:

NTPC LIMITED ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

Env. Condition

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number STH/TR/24-25/08/108

Date of Sampling 07.08.2024 Sample Received on 09.08.2024

Method of Sampling

IS 5182 (Part - 14 & 5)

Instrument ID STH/Equip/54, 115

30 ml x 6 for each (NO₂, SO₂); Filter Paper Sample Quantity & Container & Sample Carriage Bottle

Temp.

Mr. Chitranjan Kumar, Lab Representative Sample Collected by

35°C

Humidity

Information by Customer:

AAQ (As per NAAQS) Name / Nature of Sample :

Location of Sampling: Near CW Pump House W.O No.: 4000283588-057-1019

WO Date: 20.07.2022

Analysis Details:

Sample Code STH/24/08/108

09.08.2024 Analysis Start Date Analysis Completion Date 14.08.2024

Sample Condition on Receipt

Fit for analysis Items required to be Tested As per contract

Any Specific Test Method No

Reporting Date 16.08.2024

ANALYSIS RESULTS

70%

Parameters		Method of	I trade as were	Sampling Station
	Unit	0.0000000000000000000000000000000000000	Limit as per	Near CW Pump House of NTPC Baraun
52-0770304577075	150000	Test	NAAQS 2009	RESULTS
1. Particulate Matter (PM ₁₀)	μg/m³	IS 5182 (Part-23)	100 µg / m ³	72.6 63.9 66.3
2. Particulate Matter (PM _{2.5})	µg / m³	IS 5182 (Part-24)	60 µg / m ³	41.8 34.2 36.7
3. Sulphur Dioxide as SO ₂	μg / m²	IS 5182 (Part-2)	80 µg / m³	14.9 13.7 11.8 7.9 9.4 11.0
4. Nitrogen Dioxide as NO ₂	μg / m²	IS 5182 (Part-6)	80 µg / m²	34,4 33,3 30,8 30,2 32,0 33,2
Werage Value				3374
PM _m	μg / m ³		_	67.6
PM _{2.5}	µg / m ^b	TEST H	OUSE	37.5
SO ₂	μg / m ⁵	18	121	11.4
NO ₂	µg/m³	Pattage	Colony	32.3

Authorized Signatory: Abhishek Kumar, Sec. I/c (Air Proximate)

---- END OF REPORT ---

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

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TEST REPORT

cao@shivatesthouse.in







Name and Address of Customer:

NTPC LIMITED

TESTINO

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31. BARAUNI

BEGUSARAI-851 116

Information by Customer:

Name / Nature of Sample :

AAQ (As per NAAQS) Location of Sampling:

Near Barlahi Village

W.O Noc

Analysis Details:

Analysis Start Date

Sample Code

4000283588-057-1019

WO Date:

20.07.2022

09.08.2024 14.08.2024

STH/24/08/109

Laboratory Provided Details:

ULR Number

STH/TR/24-25/08/109

Date of Sampling

07.08.2024

Sample Received on

09.08.2024

Method of Sampling

IS 5182 (Part - 14 & 5) 35°C

Env. Condition

Instrument ID

Container

Temp.

STH/Equip/55, 116

Sample Quantity &

30 ml x 6 for each (NO₂, SO₂); Filter Paper

& Sample Carriage Bottle

Sample Collected by

70%

Reporting Date

Items required to be Tested

Sample Condition on Receipt

Analysis Completion Date

Fit for analysis As per contract

16.08.2024

Any Specific Test Method

No

Mr. Chitranjan Kumar; Lab Representative

Humidity

ANALYSIS RESULTS

Parameters	Unit	Method of Test	Limit as per NAAQS 2009	Sampling Station Near Bariahi Village of NTPC Barauni
		1 CSC	DOMEST TOUR	Results
arter automorphism of the control of the control		IS 5182		68.2
 Particulate Matter (PM₁₀) 	pg / m ³	(Part-23)	100 µg / m ³	56.5
AN TELEVISION TO THE TANK	11775	th attrest		64.4
		IS 5182	Table 2 comments	37.6
Particulate Matter (PM_{2.5})	μg / m ³	(Part-24)	60 µg / m ³	32,6
	11,696.110	(Pan-24)	.1500007.00000	36.3
			80 µg / m³	14.7
	µg / m³	IS 5182 (Part-2)		12.6
3. Sulphur Dioxide as SO ₂				7.7 6.9 8.5
Sulpriul Dioxide as SO2				6.9
				8.5
				10.0
				33.7
		71000000000		32.1
4. Nitrogen Dioxide as NO ₂	µg / m²	IS 5182	80 μg / m ⁵	32.0
4. Indoger provide de 1102	PM-C-198-	(Part-6)	And Ships and	30.8
				30.3
r				32.A
Average Value				
PM _{±0}	ug í m³			63 (0
PM _{t,i}	μg / m ⁵	/	EST HOUSE	35.5
SO,	µg / m³	(3)	12	10.1
NO ₂	μg / m³	15/2	stimury Colory Col	31,9

Authorized Signatory: Abhishek Kumar, Sec. Vc (Air Proximate)

Quality Manager: Dr. (Mrs.) Shreyasee Prasad

--- END OF REPORT -----















TESTING

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TE-HERRI

ure-VII

TEST REPORT

Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Laboratory Provided Details:

ULR Number STH/TR/24-25/09/615

Date of Sampling 23.09.2024 Sample Received on 25.09.2024

Method of Sampling IS 5182 (Part - 14 & 5)

Humidity.

Env. Condition 38 °C Temp.

Instrument ID STH/Equip/26, 113

Sample Quantity & 30 ml x 6 for each (NO2, SO2); Filter Paper Container & Sample Carriage Bottle

Sample Collected by Mr. Chitranjan Kumar, Lab Representative Information by Customer:

Name / Nature of Sample : AAO (As per NAAOS)

Location of Sampling : Near Ash Dyke

W.O No.: 4000283588-057-1019

WO Date: 20.07.2022

Analysis Details:

Sample Code STH/24/09/615

Analysis Start Date 25.09.2024 Analysis Completion Date 29.09.2024

Sample Condition on Receipt Fit for analysis

Items required to be Tested As per contract

Any Specific Test Method

29.09.2024 Reporting Date Report Prepared By S.K. Singh

ANALYSIS RESULTS

72%

Poramatare	Parameters Unit Method of Test		Limit as per	Sampling Station / Result
ranameters			NAAQS 2009	Near Ash Dyke
Chemical Analysis				
1. Particulate Matter (PM ₁₀)	µg / m ³	IS 5182 (Part-23)	100	69.5
Particulate Matter (PM_{2.5})	μg./ m ³	IS 5182 (Part-24)	60	39.3
 Sulphur Dioxide as SO₂ 	μg / m ³	IS 5182 (Part-2)	80	13.4
 Nitrogen Dioxide as NO₂ 	μg / m ³	IS 5182 (Part-6)	80	34.0
 Ozone (O₃) 	μg / m ³	IS 5182 (Part-9)	180	43.5
6. Ammonia as NH ₃	нд / m ⁸	IS 5182 (Part-25)	400	14.8
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10)	4	0.54
Metal Analysis	.v			
8. Arsenic (As)	ng / m³	NAAQS (VOL-1)	6	BLQ
Nickel as Ni	ng/m³	NAAQS (VOL-1)	20	BLQ
10. Lead (Pb)	μg / m ³	IS 5182 (Part-22)	1	BLQ
Residues Analysis				
11. Benzene (C ₆ H ₆)	μg / m ³	IS 5182 (Part-11)	5	0.22
12. Benzo(a) Pyrene	ng / m ³	IS 5182 (Part-12)	1	0.19

BLQ= Below Limit of Quantification

Reviewed by: Vishal Sharma (DQM)

Authorized Signatory: Chittaranian Das, Sec. Vc (Food, Residue 8) Water Proximate)

Authorized Signatory : Abhishek Kumar, sec lic (Air Proximate:

Authorized Signatory: Sagar Gokhe, Sec. Vc (Metals) Quality Manager

Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT ---

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Email: coo@shivatesthouse.in cao@shivatesthouse in







TO HARRY

TEST REPORT

Name and Address of Customer:

NTPC LIMITED.

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31. BARAUNI

BEGUSARAI - 851 116

Near Vinod Bhawan

WO Date:

Laboratory Provided Details:

ULR Number STH/TR/24-25/09/616

Date of Sampling 23.09.2024 Sample Received on 25.09.2024

IS 5182 (Part - 14 & 5) Method of Sampling

38 °C Env. Condition Temp. **Humidity**

Instrument ID STH/Equip/27, 114

30 ml x 6 for each (NO2, SO2); Filter Paper Sample Quantity & Container & Sample Carriage Bottle

Sample Collected by Mr. Chitranjan Kumar; Lab Representative Information by Customer:

Name / Nature of Sample : AAO (As per NAAOS) Location of Sampling: 4000283588-057-1019 W.O No.:

20.07.2022

Analysis Details:

Sample Code STH/24/09/616

Analysis Start Date 25.09.2024 Analysis Completion Date 29.09.2024

Sample Condition on Receipt Fit for analysis

Items required to be Tested As per contract

Any Specific Test Method No

Reporting Date 29.09.2024 Report Prepared By S.K. Singh

ANALYSIS RESULTS

72%

Parameters	Unit	Method of Test	Limit as per NAAQS 2009	Sampling Station / Result Near Vinod Bhawan
1 maneters				
Chemical Analysis				
Particulate Matter (PM ₁₀)	μg / m ³	IS 5182 (Part-23)	100	63.4
Particulate Matter (PM_{2.5})	μg / m ^a	IS 5182 (Part-24)	60	35.5
 Sulphur Dioxide as SO₂ 	μg / m ³	IS 5182 (Part-2)	80	11.0
 Nitrogen Dioxide as NO₂ 	μg / m ³	IS 5182 (Part-6)	80	31.5
 Ozone (O₃) 	μg / m ³	IS 5182 (Part-9)	180	34.34
 Ammonia as NH₃ 	µg/m³	IS 5182 (Part-25)	400	13.4
7. Carbon Monoxide (CO)	mg / m ³	IS 5182 (Part-10)	4	0.45
Metal Analysis			,	, pa
8. Arsenic (As)	ng/m³	NAAQS (VOL-1)	6	BLQ
Nickel as Ni	ng/m³	NAAQS (VOL-1)	20	BLQ
10. Lead (Pb)	µg / m³	IS 5182 (Part-22)	1	BLQ
Residues Analysis				
11. Benzene (C₅H₅)	μg / m ³	IS 5182 (Part-11)	5	0.26
12. Benzo(a) Pyrene	ng / m ³	IS 5182 (Part-12)	1	0.25

BLO= Below Limit of Quantification

Reviewed by:

Vishal Sharma (DQM)

Authorized Signatory: Chittaranjan Das, Sec. No (Food, Residue 5 Water Proximate)

Authorized Signatory: Abhishek Kumar, sec. vojak Proximate)

Authorized Signatory: Sagar Gokhe, Sec. Vc (Metals) Quality Manager

Dr. (Mrs.) Shreyasee Prasad

---- END OF REPORT -----

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TEST REPORT

+919431047908





Name and Address of Customer:

NTPC LIMITED

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Location of Sampling : Near Bariyahi Village

WO Date:

Laboratory Provided Details :

STH/TR/24-25/09/617 ULR: Number

Date of Sampling 23.09.2024 Sample Received on 25.09.2024

Method of Sampling IS 5182 (Part - 14 & 5)

Env. Condition 38.ºC Temp. Humidity

Instrument ID STH/Equip/54, 115

Sample Quantity & 30 ml x 6 for each (NO2, SO2); Filter Paper Container & Sample Carriage Bottle

Mr. Chitranjan Kumar; Lab Representative Sample Collected by

Name / Nature of Sample : AAQ (As per NAAQS). W.O.No.: 4000283588-057-1019

20.07.2022

Analysis Details:

Sample Code STH/24/09/617

25.09.2024 Analysis Start Date Analysis Completion Date 29.09.2024

Sample Condition on Receipt Fit for analysis

Items required to be Tested As per contract

Any Specific Test Method

29.09.2024 Reporting Date: Report Prepared By S.K. Singh

ANALYSIS RESULTS

72%

Parameters	Unit	Method of Test	Limit as per	Sampling Station / Result
	23332		NAAQS 2009	Near Bariyahi Village
Chemical Analysis				
 Particulate Matter (PM₁₀) 	µg/m³	IS 5182 (Part-23)	100	67.1
 Particulate Matter (PM_{2.5}) 	µg / m ³	IS 5182 (Part-24)	60	36.3
 Sulphur Dioxide as SO₂ 	µg / m³	IS 5182 (Part-2)	80	12.2
 Nitrogen Dioxide as NO₂ 	pg/m³	IS 5182 (Part-6)	80	35.3
5. Ozone (Os)	µg / m ³	IS 5182 (Part-9)	180	40.25
6. Ammonia as NH ₃	µg/m³	IS 5182 (Part-25)	400	15.7
Carbon Monoxide (CO)	mg / m ³	IS 5182 (Part-10)	4	0.43
Metal Analysis				200.00
8. Arsenic (As)	ng/m³	NAAQS (VOL-1)	6	BLQ
9. Nickel as Ni	ng / m ³	NAAQS (VOL-1)	20	BLQ
10. Lead (Pb)	μg / m ²	IS 5182 (Part-22)	1	BLQ
Residues Analysis		oreserve-statements.		
11. Benzene (C ₆ H ₆)	μg / m ³	IS 5182 (Part-11)	5	0.21
12. Benzo(a) Pyrene	ng/m ²	IS 5182 (Part-12)	1	0.23

BLQ= Below Limit of Quantification

Reviewed by: Vishal Sharma (DQM)

Authorized Signatory: Chittaranjan Das, Sec. Jc (Food, Readus & Water Proximate)

Authorized Signatory: Abhishek Kumar, Sec. Vc (Air Proximate

Authorized Signatory: Sagar Gokhe, Sec. Vc (Metals) Quality Manager:

Dr. (Mrs.) Shreyasee Prasad

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TEST REPORT





OMSHIVA TEST HOUSE PVT LT STH/24/09/618

Name and Address of Customer:

NTPC LIMITED

TESTING.

ADD: BARAUNI THERMAL POWER PLANT PROJECT

NH 31, BARAUNI

BEGUSARAI - 851 116

Information by Customer:

Name / Nature of Sample :

AAQ (As per NAAQS)

Location of Sampling:

Near CW Pump House

Stage 2

W.O.No.:

Sample Code

Analysis Details:

Analysis Start Date

4000283588-057-1019

WO Date:

20.07.2022

25.09.2024

29.09.2024

Laboratory Provided Details:

ULR Number

STH/TR/24-25/09/618

Date of Sampling

23.09.2024

Sample Received on

25.09.2024

Method of Sampling

IS 5182 (Part - 14 & 5)

Env. Condition Instrument ID

Container

Temp.

38°C

Humidity -72% Sample Condition on Receipt. Items required to be Tested

Analysis Completion Date

Fit for analysis

STH/24/09/618

STH/Equip/55, 116

30 ml x 6 for each (NO₂, SO₂); Filter Paper

Any Specific Test Method

Report Prepared By

As per contract No

& Sample Carriage Bottle

Reporting Date

29.09.2024 S.K. Singh

Sample Collected by

Sample Quantity &

Mr. Chitranjan Kumar; Lab Representative

ANALYSIS RESULTS

	Parameters	Unit	Method of Test	Limit as per NAAQS 2009	Sampling Station / Result Near CW Pump House Stage 2
	Farableters				
Ch	iemical Analysis				
1.	Particulate Matter (PM10)	μg / m ³	IS 5182 (Part-23)	100	63.2
2.	Particulate Matter (PM _{2.5})	μg / m ³	IS 5182 (Part-24)	60	33.3
3.	Sulphur Dioxide as SO ₂	µg/m³	IS 5182 (Part-2)	80	9.3
4.	Nitrogen Dioxide as NO ₂	µg/m³	IS 5182 (Part-6)	80	29.8
5.	Ozone (O ₃)	µg/m³	IS 5182 (Part-9)	180	38.2
6.	Ammonia as NH ₃	µg / m³	IS 5182 (Part-25)	400	14.76
7.	Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10)	4	0.39
M_{6}	rtal Analysis				
8.	Arsenic (As)	ng/m³	NAAQS (VOL-1)	6	BLQ
9.	Nickel as Ni	ng / m²	NAAQS (VOL-1)	20	BLQ
10	Lead (Pb)	μg / m ³	IS 5182 (Part-22)	1	BLQ
Re	sidues Analysis	151			
11	Benzene (C ₆ H ₆)	µg/m³	IS 5182 (Part-11)	5	0.19
12	. Benzo(a) Pyrene	ng/m³	IS 5182 (Part-12)	1	0.21

BLQ= Below Limit of Quantification

Reviewed by: Vishal Sharma (DQM)

Authorized Signatory: Chittaranian Das, Sec. l/c (Food, Residue &

Water Proximate)

Authorized Signatory: Abhishak Kumar, Sec. to (Air Proximate)

Authorized Signatory:

Sagar Gokhe, Sec. Vo (Metals)

Quality Manager

Dr. (Mrs.) Shreyasee Prasad

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