



एन टी पी सी लिमिटेड
(एनटीपीसी लिमिटेड)
NTPC Limited
(A Govt. of India Enterprise)
(Formerly National Thermal Power Corporation)

नबीनगर / Nabinagar

Ref:1086/NSTPS/ Emt, Mgt./03/2023

Date: 30.12.2023

To,
The Ministry of Environment, Forest & Climate Change
Regional Office, Eastern Central Zone
Bungalow No A-2, Shyamli Colony
Ranchi- 834002
Email: ro.ranchi-mef@gov.in

Sub: Submission of Environment Condition Compliance Report for the period from April-2023 to Sep-2023 for NSTPS Nabinagar.


Ref: MOEF Clearance award letter no J-13012/127/2007/IA.II (T), dt. 27.12.2010.

Ref: MOEF clearance award letter no J-13012/127/2007/IA.II (T) dt 14.01.2020.

Dear Sir,

With reference to the above, please find enclosed ECCR (Environment Condition Compliance Report) for the period from April-2023 to Sep-2023 of Nabinagar Super Thermal Power Station (3X660MW).

Yours Sincerely,


(Krishna Deo Pandey)
DGM (EMG)
NSTPS, Nabinagar.



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S.N.	CONDITIONS	EC Compliance Report as on 30.09.2023
Specific Conditions		
SC-01	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.	Vision doc submitted with 1 st ECCR submitted on 27.05.2014.
SC-02	Land requirement shall be restricted to 1500 acres (including ash pond).	Total Land Acquired = 2972 Acres • Stage I - (3x660MW)- Around 1500 Acre (including Ash Pond), Under execution. • Stage II- (3x800MW) - around 1472 acres Proposed.
SC-03	Provision for installation of FGD shall be provided for future use.	FGD is provisioned and FGD work under progress.
SC-04	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ . 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.	• ESP with efficiency of 99.97% is operational in running units to limit PM emission <30 mg/Nm ³ . • Provision for dust extraction system in coal handling area and ash handling areas including transfer points as well as other vulnerable dusty areas has been provisioned and being provided.
SC-05	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MoEF for suitable amendments to environmental clearance condition wherever necessary.	Being complied. In case of variation in supply of coal quality, fresh reference shall be made to MoEF.
SC-06	Stack of 275 m height shall be installed and provided with continuous online monitoring equipment for SO _x , NO _x and Particulate Matter. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.	• 275 m stack has been provided with continuous online monitoring system for SO _x , NO _x and PM. • Exit velocity \geq 22 m/sec is being complied. • Hg Emission Monitoring is being carried out offline and online Hg analyser has also been installed and commissioned in Unit # 1, Unit # 2 and Unit # 3 Stacks.
SC-7	Existing de-generated water bodies (if any) in the study area shall be regenerated at the project proponent's expenses in consultation with the state Govt.	Study has been conducted by M/s Geoscience Consultancy Services Roorkee. Final report yet to be submitted.

(K.D. Panigrahy)

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Nabinagar Super Thermal Power Station, Post-Aditi Nagar, Distt.: Aurangabad (Bihar) Pin Code: 824304

पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7 इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110003

Registered Office : NTPC Bhawan, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Delhi-110 003

कॉरपोरेट आइडेंटिफिकेशन नम्बर / Corporate Identification Number : L40101DL1975GOI007966 वेबसाइट / website: www.ntpc.co.in



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SC-8	Detailed hydro-geological study shall be conducted (including sustainability of water source study) shall be carried out by an institute of repute and report submitted to the Regional Office (RO) of the ministry. Further hydro-geological study shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the RO of the Ministry.	Hydro-geological study of NSTPS Nabinagar has been conducted by National Institute of Hydrology, Roorkee. Report of study has already been submitted. Hydro-geological study is being carried out by M/s Geoscience Consultancy Services Roorkee Vide PO No. 4000303494 dated 31.03.2023. Final report will be submitted once the study is completed.
SC-9	Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional Office of the Ministry within three months.	Source of water for meeting the requirement during lean season shall be same as during normal period of operation. The source of the water is from Indrapuri Barrage on Sone River.
SC-10	No ground water shall be extracted for use in operation of the power plant even in lean season.	Ground water is not being extracted for operation of units under any circumstances.
SC-11	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 water bodies have been disturbed due to setting up and operation of NSTPS units.
SC-12	Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.	The quantity of water drawn for Nabinagar STPS from Indrapuri Barrage shall be limited to committed quantity for the project by State Govt. and therefore minimum required environmental flow shall be maintained.
SC-13	COC (Cycle of Concentration) of 5.0 shall be adopted. The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.	COC of 5.0 has been adopted. Treated effluents are recycled and reused and plant has been designed for Zero liquid discharge.

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	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	A sewage treatment plant installed and operational and the treated sewage is being sent to horticulture ring for raising greenbelt/plantation.
SC-14	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Complied.
SC-15	Utilization of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	System for 100% extraction of dry fly ash along with suitable storage facilities has been designed. A utilization plan has been made for 100% fly ash utilization and all efforts are being made for 100 % ash utilization.
SC-16	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. 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 ash pond. No ash shall be disposed off in low lying area.	Dry Fly Ash Extraction system (DAES) is under operational which collects 100% fly ash in dry form however, dry ash transportation by railway wagons is under construction. Unutilized fly ash shall be disposed through High Concentrated Slurry Discharge (HCSD) and bottom ash through normal slurry mode. Heavy metal monitoring of bottom ash is being carried out periodically. Report attached as Annexure - 'A' Heavy metal monitoring of Ash Pond effluent shall be carried out once as pond effluents are discharged.
SC-17	Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	NSTPS has different systems for disposal of Fly ash and bottom ash: • High Concentration Slurry Disposal System (HCSD) for fly Ash (Lagoon-I). • Wet Slurry Disposal with Ash Water Re-circulation for Bottom Ash. (Lagoon – II & III). In HCSD lagoon (01 No), the disposed layers of ash are solidified, therefore leaching from HCSD lagoon is minimal. In one bottom ash lagoon, 300 mm thick high concentrated slurry is spread to make it impervious and in another BA lagoon 0.3m thick impervious liner of soil blended with bentonite to achieve a permeability $<1 \times 10^{-6}$ cm/sec is provided.

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		<p>Various instruments (Piezometers, water level sounders, settlement markers) are installed in body of Ash Dyke at various locations for monitoring the health of ash dyke embankment. The supernatant from the Ash Dykes are recycled back to the plant to ensure minimum water inside ash dyke.</p> <p>Adequate safety measures have already been incorporated at design & construction level so as to prevent dyke from breaching. Operational and preventive measures are in practice to prevent any occurrence of breaching.</p>
SC-18	<p>Disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be carried out only after obtaining permission from DGMS(Directorate General of Mines Safety) and it shall be ensured that the bottom and sides of the mined-out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.</p>	<p>Noted and disposal of Bottom Ash in abandoned mines is not envisaged. In case, it is carried out in future, it shall be carried out as per direction stipulated in EC conditions.</p>
SC-19	<p>Green Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised, and adequate justification shall be submitted to the Ministry.</p> <p>Tree density shall not be less than 2500 per ha with survival rate not less than 75 %.</p>	<p>Green belt is being developed with plantation of native species with specified tree density and survival rate by Forest Department, Govt. of Bihar.</p> <p>Approx. 1,48,000 Saplings have been planted under mass afforestation program with survival rate more than 75%.</p>
SC-20	<p>The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.</p>	<p>As per Hydro-Geological Study by NIH, Roorkee, the concentration of fluoride is within the prescribed limit (i.e.1.5 mg/L) for drinking water requirement in surface water nearby NSTPS project area.</p> <p>However, as per NSTPS Nabinagar, R&R community development scheme, requisite amount has been deposited to Public Health</p>

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		Engineering Department (PHED), Aurangabad for installation of 110 hand pump for safe and clean drinking water in the nearby villages and 90% work is completed.
SC-21	Further an amount of Rs 60.53 Crores shall be earmarked as one-time capital cost for CSR program as committed by the project proponent. Subsequently a recurring expenditure of Rs 10.40 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six months along with road map for implementation.	As per approved Community development (CD) plan under R&R scheme, work has been undertaken for 50.58 Crores value upto FY 2023-24. Further proposal for 4.65 crores, CD activities is under pipeline for award of the work in FY 2024-2025. For Balance amount 5.30 Cr, activities are under finalization with stakeholders and District administration. Detail annexed as Annexure – CSR (SC-21).
SC-22	While identifying CSR activities it shall be ensured that need based assessment for the nearby villages within study area shall be conducted to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people shall be undertaken. Special scheme for Bidi workers of Solapur shall be formulated. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such program. Company shall provide separate budget for community development activities and income generating programs. Vocational training program for possible self-employment and jobs shall be imparted to identified villagers free of cost.	Being complied. The suggested activities are included in approved CD plan by DM, Aurangabad for its implementation based on need-based assessment. NSTPS, Nabinagar sponsored to 30 youths for skill development program at CIPET Hajipur, Agro based training like vermicomposting provided to 50 PAPs and Bee keeping training & honey production training has been provided to 50 PAPs, training for farmers and reimbursement of tuition fees for ITI course to the 115 PAPs/their wards. In future Agro based training shall be imparted as a part of CD plan. Vocational training for skill development to villagers and sewing training provided to girls in the villages. Different Infrastructure need based projects are also being undertaken such as Chhath ghats, community halls etc. at panchayat level.
SC-23	Shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	Being complied. NSTPS/NTPC Limited has in-built own system for monitoring and implementation of complete CSR/R&R Community Development Plan at the Unit Level, Region level and corporate level. A specific social audit shall be undertaken after.



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General Conditions		
GC-1	A well-designed rainwater harvesting shall be put in place before commissioning of the plant. Central Ground water Authority /Board shall be consulted for finalization of appropriate rainwater harvesting technology/design within a period of three months from the date of this clearance and details shall be furnished.	Approval of Central Ground Water Board (CGWB) granted for construction of Rainwater harvesting (RWH). 1. P.O. No. 5500041923 dated 06.01.2023 awarded for construction of 4 numbers of RWH near raw water reservoirs of NSTPS Plant. The same is under final stage and will be completed by March-2024. 2. PO No. 5500043203 dtd.06.09.2023 awarded for RWH at Township and same is under progress.
GC-2	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.	Provision for adequate safety measures is being implemented as stipulated. Details of safety measures and plant lay out has already been submitted to RO of ministry.
GC-3	Storage facilities for auxiliary liquid fuel such as LDO and/ 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.	License for storage of LDO has been granted by department of Explosive, Nagpur on 16.10.2018 and is valid upto 31.12.2026. Sulphur content in the liquid fuel does not exceed 0.5%. On-site Disaster Management Plan has been prepared and approved for implementation.
GC-4	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg,Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Being Complied. Being complied. Ground water analysis report is attached as Annexure-B

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GC-5	Monitoring of surface water quantity and quality 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.	Being complied Surface water analysis report is attached as Annexure-C.
GC-6	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First Aid and sanitation arrangements have been made for the drivers and other contract workers. Toilets and drinking water arrangement are being made at main plant area.
GC-7	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/earmuffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.	Noise level monitoring being done. Noise level monitoring report is attached as Annexure-D Requisite Personal protective equipment being ensured, and training imparted, and requisite training being imparted. Periodical examination of workers being carried out working in high noise area.
GC-8	Regular monitoring of ambient air ground level concentration of SO ₂ , NO _x , PM _{2.5} & PM ₁₀ and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	AAQM at specified 04 locations is being carried out regularly. AAQM report is attached as Annexure-E. Online Ambient Air Quality station have already been Installed (in consultation with pollution control board) and commissioned and all are operational.
GC-9	Provision shall be made for the housing of construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile	Housing of construction labour (as applicable) with all necessary infrastructure and facilities are being provided within the site by concerned agencies as per contract.

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	toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	
GC-10	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in .	Complied.
GC-11	A copy of the clearance letter shall be sent by the proponent to concern Panchayat, Zila Parisad/ 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.	All three Units in operation. NPGCL Nabinagar is now merged with NTPC Ltd. named as Nabinagar Super Thermal Power Station (NSTPS). Data uploading on NTPC website has been done.
GC-12	An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to the head of the organization.	Complied.
GC-13	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,	Complied.

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	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.	
GC-14	The environment statement for each financial year ending 31st March 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 e-mail.	Being complied. Environmental Statement sent to MOEF&CC and BSPCB on dated 22.09.2023.
GC-15	The project proponent shall submit six monthly reports on the status of the implementation 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 e-mail to the Regional Office, Ministry of Environment and Forests.	Noted. Compliance report shall be submitted regularly. All three Units in operation. NPGCL Nabinagar is now merged with NTPC Ltd. named as Nabinagar Super Thermal Power Station (NSTPS). Data uploading on NTPC website has been done and updated the same periodically.



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GC-16	Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. 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 NO _x (from stack & ambient air) shall be displayed at the main gate of the power plant.	Compliance report is being submitted regularly as per schedule. Environmental Impact Assessment Report has already been submitted to Regional office & Environment Management Plan / Environment Statement has been submitted to MoEF&CC from time to time. Display Board has been installed at the main Gate of the Power Plant. Real Time Environment Monitoring data is being displayed.
GC-17	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. This cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	An amount of Rs. 801.3 Crores have been earmarked in the Feasibility Report for Nabinagar STTP towards environmental measures like ESP (102.9 cr), Chimney (95.45 cr), Cooling System (164.32), Ash Handling and Disposal (413.9cr), Effluent Treatment (12.49 cr), Recycle and Reuse, Sewage Treatment (1.0cr), Dust Extraction and Suppression System (2.66 cr), Fire Fighting and Safety, Green Belt and Afforestation etc. (6.0 cr), DM Plant and treatment (1.5 cr), Env. Lab equipment (1.0 cr) Various system are under implementation at site.
GC-18	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.	Investment approval for the project was accorded by Board of NTPC Limited on 21.01.2013. The first, second and third Unit has been commissioned and commercial operation has been started from 6 th Sep'2019, 23 rd July'2021 and 01 st Jun'2022 respectively.
GC-19	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.	Full cooperation is being extended as and when required.

नबीनगर सुपर थर्मल पावर स्टेशन, पोस्ट-अदिति नगर, जिला: औरंगाबाद (बिहार), पिन कोड : 824304

Nabinagar Super Thermal Power Station, Post-Aditi Nagar, Distt.: Aurangabad (Bihar) Pin Code: 824304

पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7 इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110003

Registered Office : NTPC Bhawan, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Delhi-110 003

कॉरपोरेट आइडेंटिफिकेशन नम्बर / Corporate Identification Number : L40101DL1975GOI007966 वेबसाइट / website: www.ntpc.co.in



नबीनगर / Nabinagar

ADDITIONAL CONDITIONS (J-13012/127/2007-1A.II(T))		
AC-1	The details of technology selection for adoption of FGD for control of SO _x shall be submitted. In case of wet FGD, details regarding source of limestone, impact of transportation, handling storage and disposal of Gypsum including land requirement shall be submitted.	Details regarding adoption of FGD submitted with previous compliance report dt 31.03.2020.
AC-2	In case SCR/SCNR is not adopted, an alternate technology analysis and justification of technology selection for NO _x reduction is to be submitted.	For NO_x reduction system: The boiler is of sliding pressure supercritical, once-through type, utilizing a Tangential Firing System for NO _x control in addition with SOFA (Separated Over Fire Air) and COFA (Close-coupled Over Fire Air) system.
AC-3	Progress of construction power plant till its commissioning, installation of FGD and De-Nox measures shall be submitted as a part of six-monthly compliance reports.	Details of FGD progress report attached as Annexure-F .
AC-4	Emission norms and specific water consumption as per ministry norms dated 07.12.2018 and 28.12.2018 shall be complied with. As committed, Flue gas desulphurization unit and selective catalytic reactor to control SO ₂ and NO _x respectively shall be installed.	Being complied. FGD erection work is under progress.
AC-5	Water requirement for FGD to be installed in the existing units has to be provided. Therefore, water balance to be modified based on the water requirement for whole units including a plan on ZLD.	Water balance diagram has been submitted along with previous compliance report of 31 st Mar-2020.
AC-6	The stack emissions (min, max, average and 98 percentile) shall be submitted for the period of six months in the compliance report. Further daily water withdrawal, consumption, power generation and average PLF shall be submitted. The specific water consumption per MWhr shall be calculated based on water consumption shall be submitted in the compliance report.	Stack emission data for compliance period is enclosed at Annexure-G . Water consumption data for compliance period is enclosed at Annexure-H .

नबीनगर सुपर थर्मल पावर स्टेशन, पोस्ट-अदिति नगर, जिला: औरंगाबाद (बिहार), पिन कोड : 824304

Nabinagar Super Thermal Power Station, Post-Aditi Nagar, Distt.: Aurangabad (Bihar) Pin Code: 824304

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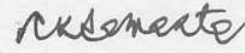


नबीनगर / Nabinagar

AC-7	The plant shall operate only after meeting the new emission norms as notified by ministry. Else, extension of timelines from CPCB for implementing pollution control measures for meeting new norms shall be obtained and copy of the same shall be submitted to Ministry.	SPM is within emission norm. SO _x emission shall be within stipulated norms after FGD installation and commissioning.
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30.12.2023
(K.D. Pandey)
DGM (EMG)


B. Agrawal
AGM (TS & EMG)


Head of Station
Nabinagar Super Thermal Power Station,
Nabinagar

चंदन कुमार सामंता / Chandan Kumar Samanta
मुख्य महाप्रबंधक / Chief General Manager
नबीनगर सुपर थर्मल पावर स्टेशन
Nabinagar Super Thermal Power Station



Test Report

Sample Number:	VEL/ASH/01	Report No.:	VEL/C/2306220001
Name & Address of the Party:	M/s Nabinagar Super Thermal Power Station, P.O.-Aditi Nagar, Aurangabad, Bihar-82430, India	Format No.:	7.8 F-03
Sample Description:	Fly Ash	Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Collected by:	Vardan EnviroLab Representative	Reporting Date:	03/07/2023
Parameter Required:	As per Work Order	Period of Analysis:	22/06/2023 to 03/07/2023
Sampling Quantity:	250 gm.	Receipt Date:	22/06/2023
		Sampling Date:	17/06/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	1.26	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	4.64	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	5.20	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	5.06	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	4.60	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	210.22	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	6.50	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	36.50	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	3.92	µg/gm

End of Report



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Test Report

Sample Number: VEL/ASH/02
Name & Address of the Party: M/s Nabinagar Super Thermal Power Station,
P.O.-Aditi Nagar, Aurangabad, Bihar-82430, India

Sample Description: Bottom Ash (Unit -I)
Sample Collected by: Vardan EnviroLab Representative
Parameter Required: As per Work Order
Sampling Quantity: 250 gm.

Report No.: VEL/C/2306220002
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022
Reporting Date: 03/07/2023
Period of Analysis: 22/06/2023 to 03/07/2023
Receipt Date: 22/06/2023
Sampling Date: 17/06/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	7.76	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	0.98	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	3.42	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	310.65	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	5.42	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	13.54	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	6.22	µg/gm

End of Report



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Test Report

Sample Number:	VEL/ASH/03	Report No.:	VEL/C/2306220003
Name & Address of the Party:	M/s Nabinagar Super Thermal Power Station, P.O.-Aditi Nagar, Aurangabad, Bihar-82430, India	Format No.:	7.8 F-03
Sample Description:	Bottom Ash (Unit -II)	Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Collected by:	Vardan EnviroLab Representative	Reporting Date:	03/07/2023
Parameter Required:	As per Work Order	Period of Analysis:	22/06/2023 to 03/07/2023
Sampling Quantity:	250 gm.	Receipt Date:	22/06/2023
		Sampling Date:	17/06/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	0.21	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	0.15	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	2.84	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	0.36	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	3.46	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	275.63	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	5.96	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	7.23	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	5.45	µg/gm

End of Report



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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/ASH/04
Name & Address of the Party: M/s Nabinagar Super Thermal Power Station,
P.O.-Aditi Nagar, Aurangabad, Bihar-82430, India
Sample Description: Bottom Ash (Unit -III)
Sample Collected by: Vardan EnviroLab Representative
Parameter Required: As per Work Order
Sampling Quantity: 250 gm.

Report No.: VEL/C/2306220004
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022
Reporting Date: 03/07/2023
Period of Analysis: 22/06/2023 to 03/07/2023
Receipt Date: 22/06/2023
Sampling Date: 17/06/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	0.17	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	0.08	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	4.26	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	0.67	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	4.60	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	245.92	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	4.46	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	42.40	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	3.96	µg/gm

End of Report



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Test Report

Sample Number: VEL/C/01
Name & Address of the Party: M/s Nabinagar Super Thermal Power Station,
P.O.-Aditi Nagar, Aurangabad, Bihar-82430, India
Sample Description: Coal Sample
Sample Location: CHP Area
Sample Collected by: Vardan EnviroLab Representative
Parameter Required: As per Work Order
Sampling Quantity: 250 gm.

Report No.: VEL/C/2306220001
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022
Reporting Date: 03/07/2023
Period of Analysis: 22/06/2023 to 03/07/2023
Receipt Date: 22/06/2023
Sampling Date: 17/06/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	0.35	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	2.76	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.1)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	10.42	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	0.21	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	13.74	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	2.05	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	485.67	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	10.34	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	85.06	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	5.15	µg/gm
13.	Total Sulphur	IS:1350 (Part-III)	0.10 %	%
14.	Ash	IS:1350 (P-I), 1984	31.0 %	%

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Test Report

Sample Number: VEL/ASH/02
Name & Address of the Party: M/s Nabinagar Super Thermal Power Station (NSTPS) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India
Sample Description: Bottom Ash (Unit -1)
Sample Collected by: Vardan EnviroLab Representative
Parameter Required: As per Work Order
Sampling Quantity: 250 gm.

Report No.: VEL/C/2309300002
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022
Reporting Date: 05/10/2023
Period of Analysis: 30/09/2023 to 05/10/2023
Receipt Date: 30/09/2023
Sampling Date: 27/09/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	8.45	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	0.77	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	4.10	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	323.41	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	4.80	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	12.45	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	2.46	µg/gm

End of Report



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Test Report

Sample Number: VEL/ASH/03
Name & Address of the Party: M/s Nabinagar Super Thermal Power Station (NSTPS) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India
Sample Description: Bottom Ash (Unit -II)
Sample Collected by: Vardan EnviroLab Representative
Parameter Required: As per Work Order
Sampling Quantity: 250 gm.

Report No.: VEL/C/2309300003
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022
Reporting Date: 05/10/2023
Period of Analysis: 30/09/2023 to 05/10/2023
Receipt Date: 30/09/2023
Sampling Date: 27/09/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	0.34	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	0.18	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	2.45	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	0.42	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	4.87	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	283.62	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	6.14	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	8.45	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	6.78	µg/gm

End of Report



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Test Report

Sample Number:	VEL/ASH/04	Report No.:	VEL/C/2309300004
Name & Address of the Party:	M/s Nabinagar Super Thermal Power Station (NSTPS) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India	Format No.:	7.8 F-03
Sample Description:	Bottom Ash (Unit -III)	Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Collected by:	Vardan EnviroLab Representative	Reporting Date:	05/10/2023
Parameter Required:	As per Work Order	Period of Analysis:	30/09/2023 to 05/10/2023
Sampling Quantity:	250 gm.	Receipt Date:	30/09/2023
		Sampling Date:	27/09/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	0.35	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	4.59	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	0.72	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	4.12	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	239.67	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	5.12	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	40.85	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	4.29	µg/gm

End of Report



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Test Report

Sample Number:	VEL/ASH/01	Report No.:	VEL/C/2309300001
Name & Address of the Party:	M/s Nabinagar Super Thermal Power Station (NSTPS) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India	Format No.:	7.8 F-03
Sample Description:	Fly Ash	Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Collected by:	Vardan EnviroLab Representative	Reporting Date:	05/10/2023
Parameter Required:	As per Work Order	Period of Analysis:	30/09/2023 to 05/10/2023
Sampling Quantity:	250 gm.	Receipt Date:	30/09/2023
		Sampling Date:	27/09/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	1.35	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	3.46	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	8.13	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	4.39	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	5.32	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	343.40	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	7.41	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	38.67	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	4.21	µg/gm

End of Report



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Test Report

Sample Number:	VEL/C/01	Report No.:	VEL/C/2309300001
Name & Address of the Party:	M/s Nabinagar Super Thermal Power Station (NSTPS) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India	Format No.:	7.8 F-03
Sample Description:	Coal Sample	Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Location:	CHP Area	Reporting Date:	05/10/2023
Sample Collected by:	Vardan EnviroLab Representative	Period of Analysis:	30/09/2023 to 05/10/2023
Parameter Required:	As per Work Order	Receipt Date:	30/09/2023
Sampling Quantity:	250 gm.	Sampling Date:	27/09/2023

TEST RESULTS

S. No.	Parameter	Test-Method	Results	Unit
1.	Arsenic (as As)	ICP-MS Method, APHA 3114 B :2012	0.41	µg/gm
2.	Lead (as Pb)	ICP-MS Method, APHA 3114 B :2012	3.41	µg/gm
3.	Mercury (as Hg)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.1)	µg/gm
4.	Nickel (as Ni)	ICP-MS Method, APHA 3114 B :2012	12.78	µg/gm
5.	Cadmium (as Cd)	ICP-MS Method, APHA 3114 B :2012	0.26	µg/gm
6.	Selenium (as Se)	ICP-MS Method, APHA 3114 B :2012	*BLQ(**LOQ 0.5)	µg/gm
7.	Vanadium (as V)	ICP-MS Method, APHA 3114 B :2012	14.12	µg/gm
8.	Chromium (as Cr)	ICP-MS Method, APHA 3114 B :2012	2.14	µg/gm
9.	Iron (as Fe)	ICP-MS Method, APHA 3114 B :2012	471.84	µg/gm
10.	Copper (as Cu)	ICP-MS Method, APHA 3114 B :2012	12.96	µg/gm
11.	Zinc (as Zn)	ICP-MS Method, APHA 3114 B :2012	80.16	µg/gm
12.	Manganese (as Mn)	ICP-MS Method, APHA 3114 B :2012	6.28	µg/gm
13.	Total Sulphur	IS:1350 (Part-III)	0.12 %	%
14.	Ash	IS:1350 (P-I), 1984	30.0 %	%

End of Report



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NSTPS R&R-Community Development Activities

Annexure – CSR (SC-21)

Education (Sath Padhe Sath Badhe) (5.0 crs.)							
Sl. No	Activities completed	LOA Date/ Year	Aarded/A mount in CR	Expenditure i ncurred in cr.	Under Tendering	Remarks	Activity planned 2024-25
1	Distribution of 6500 School Bags in 24 PAVs Govt. School students.	25.10.2016	0.15	0.45		Completed	
2	Distribution Stationary items in in 24 PAVs Govt. School students.	9.11.2016	0.09	0.09		Completed	
3	Distribution of 6500 Sweaters in 24 PAVs Govt. School students.	28.12.2016	0.19	0.19		Completed	
4	Quiz & Painting Competition for PAVs Govt. Schools Student.	2017	0.0057	0.0057		Completed	
5	Distribution of Computers to Kasturba Gandhi Girls school, Nabinagar.	2017	0.033	0.033		Completed	
6	Skill Development Training Programme for PAPs 29th Students in CEPE T, Hajipur.	15.02.2018	0.20	0.20		Completed	
7	Meritorious Award to all PAVs School's for 8th, 10th and 12th passed Students.	2012-2021	0.0894	0.0894		Completed	
8	Distribution of School Furnitures in 24 Govt. schools in affected villages.	4.07.2018	1.10	1.10		Completed	
9	Reimbursement of Scholarship of 115 PAP ITI students. (under process)	2019-20	0.36	0.36		Completed	
10	Procurement of Play equipment for PAVs Govt. schools	3.10.2018	0.16	0.16		Completed	
11	Play Equipment for village schools	27.06.2018	0.14			Completed	
12	Internal Electrification o (HSS SHIVANPUR) under CD activities of NPGC.	16.03.2020	0.062	0.062		completed	
13	Tailoring/Sewing Training Programme for PAVs women/girls	10.01.2020	0.042	0.035		completed	
14	Conductioning Sports Competition for PAVs Govt. School's Student.	2020	0.04	0.04		Completed	
15	Boundary wall in Middle school Salaiya	28.01.2021	0.39	0.2983		completed	
16	School Bags to students	2021-2022	0.006	0.006		Completed	
17	Solar lantern to sewing trainees	2021-22	0.007	0.007		Completed	
18	Sewing machines to 50 trainees	2021-22	0.025	0.025		Completed	
19	Constn. of class rooms in Govt. high school Salaiya	2021-22			1.92	under tendering	0
20	Solar LED lantern to Meritorious students	2022-23	0.008	0.008		Completed	
Total Rs. in Crore (A)			3.10	3.16	1.92		0.00
Health (Sankalp Aarogayam)(6.7 crs.)							
1	Mobile Van Health Service through Indian Red Cross Society, Aurangabad for 22 PAVs .	2016-17	0.0264			Completed	
2	Mobile Van Health Service through Indian Red Cross Society, Aurangabad for 22 PAVs .	2017-18	0.1			Completed	
3	Mobile Van Health Service through Indian Red Cross Society, Aurangabad for 22 PAVs .	2018-19	0.11			Completed	
4	Mobile Van Health Service through Indian Red Cross Society, Aurangabad for 22 PAVs .	28.04.2020	0.67	0.90		Completed	
5	Mobile Van Health Service through Indian Red Cross Society, Aurangabad for 22 PAVs . (new contract)	29.11.2021	0.35	0.30		Completed	0.00
6	03 General Health Camp for PAPs also organized .	2016	0.07	0.07		Completed	0.05
7	Tri- Cycle Distribution to PAPs .	2018	0.032	0.032		Completed	0.04
8	Addl. PHC Construction at Meh. (Meh completed and PHC running)	17.04.2015	0.66	0.66		Completed	
9	Addl. PHC Construction at Ankorha.	11.06.2015		0	0.59	under tendering (in finance)	
10	Internal Electrification of PHCs under CD activity.	2.02.2019	0.57	0.57		Completed	
11	Tri-cycle Distribution to PAPs Phase-II	2020	0.023	0.023		Completed	0.1
12	Mega health check up in villages	2021-23				Completed	0.3
13	Furniture and medical equipments to 02 APHC Meh & Ankorha. (completed for APHC Meh)	2021	0.35	0.40		Completed	0.5
		2021				Completed	
		2021				Completed	
		2021				Completed	
		2021				Completed	
		2022				Completed	
		2022				Completed	
		2022				Completed	
14	TWO Abulance vans for PHC in Barun and Nabinagar	2023			0.52	proposal initiated	
Total Rs. in Crore			2.96	2.96	1.11		0.99

Sl. No	Activities completed	LOA Date/ Year	Aarded/A mount in CR	Expenditure i ncurred in cr.	Under Tendering	Remarks	Activity planned 2024-25
Drinking Water (Jal Dhara) (1.5 crs.)							
Sl. No	Activities completed			Expenditure (Cr)			Activity planned 2022-23
1	Installation of 10 nos. Hand Pump for Saduri Resstallment Colony.	27.06.2017	0.03	0.025		Completed	
2	Installation of 110 hand pumps in the 22 villages. (on deposit work basis)	2020-21	0.6	0.6		Completed	
3	8 nos. Installtion of hand pump	2023-24	0.05	0		locations to be	0
4	Installation of 102 hand pumps in the 22 villages. (on deposit work basis)						0.55
Total Rs. in Crore (C)			0.68	0.63	0		0.55
Sanitation (Nirmal) and other activities (0.35+.30 crs.)							
Sl. No	Activities completed			Expenditure (Cr.)			Activity planned 2022-23
1	Distribution of Dustbin, Broom, Duster Cloth, Hand Wash Soap at 05 nos. Govt. Schools at PAVs.	2018	0.02	0.02		Completed	
2	Community toilets in Govt. schools						0.23
3	swachhata abhiyan		0.1	0.1		Completed	
Total Rs. in Crore (D)			0.02	0.12			0.23
Welfare & Cultural Activities (1.30 crs.)							
1	Assistance of PAPs Girl Marriage	2016	0.001	0.001		Completed	
2	Distribution of Tripal for Baghi HSOs Resettled at Saduri RC.	2016	0.0043	0.0043		Completed	
3	Providing 20 nos. Wheel chair to Railway Division, Mughalsarai.	2016	0.0138	0.0138		Completed	
4	Distribution of 100 Blankets and Cloth, Balti, Tarpoline on request of Indian Cross Society, Aurangabad.	2017	0.0322	0.0322		Completed	
5	Sponsoring and Supporting Sports event and other activities.	2017	0.0155	0.0155		Completed	
6	Vermicompost Training for PAPs by TM Bhagalpur University on 23-24th March 2018 at NPGC Campus.	2018	0.0041	0.0041		Completed	
7	Distribution of blanket among helpless and poor people of PAPs of NPGCL project	2019-21	0.075	0.075		Completed	
8	Contribution of Yagya, Rahra Village	2020	0.004	0.004		Completed	
9	Jal Jivan Hariyali, 2020	2020	0.027	0.027		Completed	
10	Organizing cricket/ahteletic games tournament for the villagers of the PAVs	2020-22	0.05	0.05		Completed	0.06
11	COVID-19 welfare actives like Food distribution to villagers, Face mask distribution, Sanitaztion activities	2020	0.28	0.28		Completed	
12	Skill upgradation training (Agro based training) Vermi Composting and Bee keeping.	2022-23	0.05	0.05		Completed	0.050
13	Skill development awareness camp	2023-24	0.078	0.078		Completed	
14	Blankets distribution to Poor villagers	2022-24	0.10	0.10		Completed	0.10
15	Azadi Ka Amrit Mahotsav	2022-23	0.028	0.028		Completed	
16	100 nos. fire victim kits through Red Cross Society, Aurangabd	2021-22	0.035	0.035		Completed	
17	Food kits distribution to poorers in nearby villages during Covid	2020-21	0.187	0.187		Completed	
18	Meritorious Award to all PAVs School's for 8th, 10th and 12th passed Students on the eve of 25th august	2023-2024	0.002	0.002		Completed	
19	Contribution to Football Goldcup Tournamnt 2023	2023-2025	0.005	0.005		Completed	
20	UTKARSH scholarship to meritorious students	2023-2024	0.025	0.025		under process	
Total Rs. in Crore (E)			1.02	0.99			0.21

Sl. No	Activities completed	LOA Date/ Year	Aarded/A mount in CR	Expenditure i ncurrred in cr.	Under Tendering	Remarks	Activity planned 2024-25
Community Development Programme at Aurangabad District (10.40 crs.)							
1	Furnishing of public meeting hall in District office, Aurangabad.	08.06.2020	0.066	0.066		Completed	
2	Construction of Football Stadium at Nabinagar	17.08.2017	0.805	0.41		Completed	
3	Development work at Nabinagar Stadium	2023-24	0.37	0		work yet to start	
4	Uplifment of Ramesh Chowk in Aurangabad.	2017	0.44	0.44		Completed	
5	Development of Cultural heritage at Deo Block.	2017-18	2.6	2.35		Completed	
	Construction of Control room and Entrance gate at Deo through Deposit work, under CD activity of NPGC	05.02.2018	0.48			Completed	
	Shifting of High Mast light from Ramesh Cowk , Aurangabad	11.03.2019	0.05			Completed	
6	Development of Gandhi Maidan, Aurangabad.	17.08.2017	0.72	0.54		completed	
7	Support during Chhath puja, Bihar Diwas, Sena Diwas, Surya Mahtosav,Goldcup and others Misc. works.		0.43	0.43		Completed.	
8	Construction of Ground for Flag hosting at Gandhi Maidan Aurangabad		0.07	0.07		Completed.	
9	Construction of Vehicle Shed and Aluminium Frame Work at DLAO, Aurangabad	13.01.2020	0.118	0.118		completed	
10	Installation of Inter-Telecome at Collectorate office, Aurangabad As per request of DM, Aurangabad	2019	0.04	0.04		completed	
11	Instllation of Wrestling Mat at Aurangabad	15.01.2020	0.04	0.04		Completed	
12	Installation of A.C. at Collectorate office, Aurangabad As per request of DM, Aurangabad	2020	0.035	0.035		Completed	
13	Boundarywall, Gate and other misc. works at Gandhi Maidan aurangabad	26.03.2020	0.78	0.62		completed	
14	Godrej furniture at District Collectorate		0.08	0.08		Completed	
15	200 KV DG Set for Aurangabad hospital.		0.24	0.24		Completed	
16	Wooden Badminton court	21.09.2021	0.118	0.118		completed	
17	Tentt and light during ChaitiChath 2022	2022	0.0242	0.0242		completed	
18	Tentt and light during Kartik Chath 2022	2022	0.023	0.023		completed	
19	Sports- footbal gold cup 2022	2022	0.005	0.005		completed	
20	Ek Sam Sahido Ke NAM	2022-23	0.005	0.005		completed	
21	Misc. arrangement at Aurangabad community hall	2021-22	0.0147	0.0147		completed	
22	Manav Srinkhla at Aurangabad for Social awareness program	2020-21	0.022	0.022		completed	
23	Construction of toilet complex for public uses at District Civil Court,Aurangabad .	2023-24	0	0	0.15	work yet to start	
Total Rs. in Crore (F)			7.5789	5.69	0.15		0
INFRASTRUCTURE (Buniyadi Sanrachna) (34.98 Crs.)							
1	Construction of Road near by village & Repair Ankorha-Majhiwan Road	25.01.2014	0.93	0.60		Completed	
2	Construction of PCC Road at Kundwa to Indrapura	12.04.2015	0.66	0.48		Completed	
3	Construction of PCC Road to village Parsa	27.08.2016	0.39	0.37		Completed	
4	Construction of PCC Road to village Ankhora	02.11.2016	0.44	0.405		Completed	
5	Construction of PCC Road to village Meh	22.09.2017	0.18	0.095		Completed	
6	Madhe Community Ghat	07.01.2017	0.167	0.167		Completed	
7	Narari Khurd Community Ghat	06.04.2017	0.20	0.2		Completed	
8	Construction of PCC Road to village Madhe-Sivanpur	09.10.2017	0.27	0.27		Completed	
9	Construction of PCC Road to village Sasna	09.08.2017	0.19	0.15		Completed	
10	Construction of PCC Road to village Nararikala Village	06.09.2017	0.23	0.21		Completed	
11	Construction of PCC Road to village Prembigha Village	23.08.2017	0.19	0.19		Completed	
12	Construction of temporary drain/culvert at Marar Sargara Vilage	02.12.2016	0.09	0.069		Completed	
13	Strengthening of Ankhora village apporoch Road	2.11.2016	0.045	0.04		Completed	
14	Construction of PCC Ground at community centre Shivanpur	15.12.2017	0.032	0.032		Completed	
15	Construction of PCC Road and drain to village Nararikhurd	09.10.2017	0.34	0.20		Completed	
16	Construction of PCC Road to village Benibigha	10.08.2017	0.22	0.067		Completed	
17	Construction of Road at Belauti Village	08.05.2018	0.13	0.08		Completed	
18	Construction of Road at Pathra Village	08.05.2018	0.254	0.17		Completed	
19	Construction of Road & Drain at Raghunathpur Village	04.08.2018	0.60	0.30		Completed	
20	Construction of Road at Rampur Village	23.07.2018	0.36	0.30		Completed	
21	Construction of Road & Drain at Saduri R C	16.08.2018	0.22	0.15		Completed	
22	Construction of PCC Road at Simra Dusad Village	17.09.2019	0.49	0.266		completed	
23	Construction of Power Sub Station in Kundwa Village	2016-19	5.66	5.65		Completed	
24	Supply Installation of 100 Nos. Solar Street Light System for Project Affected Villages of NPGC	19.07.2016	0.265	0.265		Completed	
25	Madhe Road Repairs	2014	0.04	0.04		Completed	
26	Reparing & maintenance of Road from Narari Khurd Thana to Gate no 01	22.12.2017	0.04	0.04		Completed	
27	Shifting of Chourahi Baba Religious place from Main Plant area.	10.06.2020	0.215	0.215		Completed	
28	Construction of road at Madar under CD activities of NPGC	08.07.2020	0.582	0.483		completed	

Sl. No	Activities completed	LOA Date/ Year	Aarded/A mount in CR	Expenditure i ncurred in cr.	Under Tendering	Remarks	Activity planned 2024-25
29	Construction of internal road & Drain at Saduri Village under CD Activities	24.07.2020	0.233	0.22		completed	
30	Construction of PCC Roads and drainage system PAVs ,under CD activities (Kurwa village-Ash dyke area)	13.08.2020	0.34	0.34		completed	
31	Construction of Road at Khaira under CD activities of NPGC	23.07.2020	0.534	0.382		completed	
32	Construction of internal road at Meh under CD activities of NPGC	08.08.2020	0.48	0.48		completed	
33	Strengthening of Meh-Indrapuri Barrage road	24.08.2020	1.48	1.05		completed	
34	Construction of road at Rahara under CD activities of NPGC	30.09.2020	1.035	0.60		completed	
35	Construction of road at Kurwa under CD activities of NPGC	01.10.2020	1.19	1.01		completed	
36	Construction and development work of Ghat at village-Salaiya under CD activities for NPGC	29.09.2020	0.24	0.22		completed	
37	Construction of road & drains at Ankorha under CD activities of NPGC	28.12.2020	1.78	1.14		work under progress	
38	Construction of road on both side of boundary wall along approach road leading to plant under CD works	21.10.2020	0.785	0.74		Completed	
39	Construction of road at Majhiwan under CD activities of NPGC	02.01.2021	0.69	0.0698		Completed	
40	Construction of Roads at village-Sasna under CD activities for NPGC	01.07.2021	0.68	0.68		Completed	
41	Construction of road at Madhe under CD activities of NPGC	13.01.2021	2.28	2.28		Completed	
42	Construction of road at Shivanpur under CD activities of NPGC	31.05.2022	0.91	0.785		work under progress 95 % completed	
43	Construction of Dariyabad Internal Road	23.02.2021	0.215	0.215		completed & closed	
44	Construction of PCC Road and drainage system PAVs under CD activities (Khaira-Dariyabad)	06.01.2021	0.36	0.35		completed	
45	Construction of Road at Amba under CD activities of NPGC	23.02.2021	0.165	0.165		Completed.	
46	Construction of Kurhwa link road connecting labour colony road(along north main plant boundary wall) and Kurhwa-Ankorha road) under CD works of NPGC	24.03.2021	0.37	0.30		Completed	
47	Construction of PCC road at Village -Indrapura under CD Activities for NPGC	16.03.2021	0.10	0.10		Completed	
48	Construction of Belauti-salaiya Cement concrete road	22.02.2021	0.69	0.407		Completed	
49	Contruction of road in village Benibigha	10.02.2023	0		0.37	under vetting	0.38
50	construction of ghat in kudwan	2023-24			0.7	under vetting	
51	Balance road in kudwan	2023-24			0.30	Under finalization	0.5
52	Balance road in Marar	04.02.2023			0.25	Under finalization	0.37
53	Balance road in shivanpur	2023-24			1.41	Under finalization	1.42
54	Construction (Relocation) of Temple on Govt land in Saduri rehabilitation colony.	19.09.2020	0.1	0.1		completed	
55	Constn. of community hall at Badem	07.01.2022	0.24	0.12		completed	
56	Construction of PCC Road & Drain at Ankorha Village under CD activities of NPGC	14.10.2017	0.39			Completed	
Total Amount (G)			28.72	23.26	3.03		2.67
Total Amount in Cr. (A+B+C+D+E+F+G)			44.07	36.80	6.21		4.65



Test Report

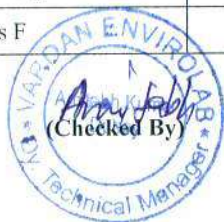
Sample Number: VEL/GW/01
Name & Address of the Project: M/s Nabinagar Super Thermal Power Station,
P.O.-Aditi Nagar, Aurangabad, Bihar-82430,
India

Report No.: VEL/GW/2306210001
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated
14.06.2022

Sample Description: Ground Water
Sample Location: Near Auxiliary Boiler
Sample Collected by: Vardan EnviroLab Representative
Preservation: Refrigerated
Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025

Reporting Date: 03/07/2023
Period of Analysis: 21/06/2023 to 03/07/2023
Receipt Date: 21/06/2023
Sampling Date: 18/06/2023
Sampling Quantity: 2.0 Ltr.
Sampling Type: Grab
Parameter Required: As per work order

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.40	--	6.5 to 8.5	No Relaxation
2.	Temperature	IS:3025 (P-9)	28.0	°C	--	--
3.	Electrical Conductivity	IS: 3025 (P-14)	776	µS/cm	--	--
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU	1	5
5.	Total Dissolved Solids	IS: 3025 (P-16)	492.00	mg/L	500	2000
6.	Total Suspended Solids	IS: 3025 (P-17)	12.00	mg/L	--	--
7.	Dissolved Oxygen	IS: 3025 (P-38)	6.5	mg/L	--	--
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	BLQ(LOQ-2.0)	mg/L	--	--
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	BLQ(LOQ-4.0)	mg/L	--	--
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L	--	--
11.	M-Alkalinity	IS: 3025 (P-51)	160.6	mg/L	--	--
12.	Calcium Hardness	IS: 3025 (P-40)	165.66	mg/L	--	--
13.	Magnesium Hardness	APHA, 3500 Mg B	89.83	mg/L	--	--
14.	Total Hardness	IS: 3025 (P-21)	255.49	mg/L	200	600
15.	Sodium	IS: 3025 (P-45)	16.6	mg/L	--	--
16.	Potassium	IS: 3025 (P-45)	2.0	mg/L	--	--
17.	Sulphate as SO ₄	IS: 3025 (P-24)	585	mg/L	200	400
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	13.40	mg/L	45	No Relaxation
19.	Fluoride as F	APHA 4500 F D	0.60	mg/L	1.0	1.5



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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/GW/01

Report No.: VEL/GW/2306210001

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
20.	Chloride as Cl	IS: 3025 (P-32)	67.86	mg/L	250	1000
21.	Reactive Silica	IS: 3025 (P-35)	15.40	mg/L	--	--
22.	Colloidal Silica	IS: 3025 (P-35)	1.16	mg/L	--	--
23.	Total Organic Carbon	IS 3025 (P-69)	0.25	mg/L	--	--
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.5	2.4
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	1.0	No relaxation
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	1.5
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	0.34	mg/L	5	15
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.1	0.3
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.02	No Relaxation
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L	0.01	No Relaxation
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	--	--
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.01	No Relaxation
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L	0.01	No Relaxation
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.003	No Relaxation
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L	0.001	No Relaxation
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	No Relaxation
39.	Total coliform	IS 1622	8	MPN/100ml	--	--
40.	E. coli	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	

Note:-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



Handwritten signature and date: 3.7.20



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Page 2 of 2



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/GW/02 Report No.: VEL/GW/2306210002
 Name & Address of the Project: M/s Nabinagar Power Generating Company (NPGC) Format No.: 7.8 F-03
 Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India Party Reference No.: 4000280838-057-2035 Dated 14.06.2022

Reporting Date: 03/07/2023
 Period of Analysis: 21/06/2023 to 03/07/2023
 Receipt Date: 21/06/2023
 Sampling Date: 18/06/2023
 Sampling Quantity: 2.0 Ltr.
 Sampling Type: Grab
 Parameter Required: As per work order

Sample Description: Ground Water
 Sample Location: Main Bazar Area
 Sample Collected by: Vardan EnviroLab Representative
 Preservation: Refrigerated
 Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.20	--	6.5 to 8.5	No Relaxation
2.	Temperature	IS:3025 (P-9)	27.0	°C	--	--
3.	Electrical Conductivity	IS: 3025 (P-14)	825	µS/cm	--	--
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU	1	5
5.	Total Dissolved Solids	IS: 3025 (P-16)	502.00	mg/L	500	2000
6.	Total Suspended Solids	IS: 3025 (P-17)	7.00	mg/L	--	--
7.	Dissolved Oxygen	IS: 3025 (P-38)	6.6	mg/L	--	--
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	BLQ(LOQ-2.0)	mg/L	--	--
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	BLQ(LOQ-4.0)	mg/L	--	--
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L	--	--
11.	M-Alkalinity	IS: 3025 (P-51)	315.55	mg/L	--	--
12.	Calcium Hardness	IS: 3025 (P-40)	285.80	mg/L	--	--
13.	Magnesium Hardness	APHA, 3500 Mg B	80.05	mg/L	--	--
14.	Total Hardness	IS: 3025 (P-21)	365.85	mg/L	200	600
15.	Sodium	IS: 3025 (P-45)	14.2	mg/L	--	--
16.	Potassium	IS: 3025 (P-45)	1.2	mg/L	--	--
17.	Sulphate as SO ₄	IS: 3025 (P-24)	62.75	mg/L	200	400
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	14.28	mg/L	45	No Relaxation
19.	Fluoride as F	APHA 4500 F D	0.56	mg/L	1.0	1.5



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Test Report

Sample Number: VEL/GW/02

Report No.: VEL/GW/2306210002

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
20.	Chloride as Cl	IS: 3025 (P-32)	49.35	mg/L	250	1000
21.	Reactive Silica	IS: 3025 (P-35)	26.45	mg/L	--	--
22.	Colloidal Silica	IS: 3025 (P-35)	1.86	mg/L	--	--
23.	Total Organic Carbon	IS 3025 (P-69)	0.20	mg/L	--	--
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.5	2.4
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	1.0	No relaxation
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	1.5
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	5	15
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.1	0.3
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.02	No Relaxation
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L	0.01	No Relaxation
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	--	--
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.01	No Relaxation
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L	0.01	No Relaxation
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.003	No Relaxation
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L	0.001	No Relaxation
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	No Relaxation
39.	Total coliform	IS 1622	12	MPN/100ml	--	--
40.	E. coli	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	

Note:-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



3.7.2021



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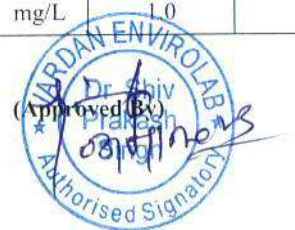




Test Report

Sample Number:	VEL/GW/03	Report No.:	VEL/GW/2306210003
Name & Address of the Project:	M/s Nabinagar Power Generating Company (NPGC) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India	Format No.:	7.8 F-03
		Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Description:	Ground Water	Reporting Date:	03/07/2023
Sample Location:	Village-Sasana	Period of Analysis:	21/06/2023 to 03/07/2023
Sample Collected by:	Vardan EnviroLab Representative	Receipt Date:	21/06/2023
Preservation:	Refrigerated	Sampling Date:	18/06/2023
Sampling and Analysis Protocol:	APHA 23 rd Edition 2017 & IS 3025	Sampling Quantity:	2.0 Ltr.
		Sampling Type:	Grab
		Parameter Required:	As per work order

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.46	--	6.5 to 8.5	No Relaxation
2.	Temperature	IS:3025 (P-9)	25.8	°C	--	--
3.	Electrical Conductivity	IS: 3025 (P-14)	515	µS/cm	--	--
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU	1	5
5.	Total Dissolved Solids	IS: 3025 (P-16)	315.00	mg/L	500	2000
6.	Total Suspended Solids	IS: 3025 (P-17)	7.00	mg/L	--	--
7.	Dissolved Oxygen	IS: 3025 (P-38)	6.8	mg/L	--	--
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	BLQ(LOQ-2.0)	mg/L	--	--
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	BLQ(LOQ-4.0)	mg/L	--	--
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L	--	--
11.	M-Alkalinity	IS: 3025 (P-51)	225.85	mg/L	--	--
12.	Calcium Hardness	IS: 3025 (P-40)	136.35	mg/L	--	--
13.	Magnesium Hardness	APHA, 3500 Mg B	49.02	mg/L	--	--
14.	Total Hardness	IS: 3025 (P-21)	185.55	mg/L	200	600
15.	Sodium	IS: 3025 (P-45)	46.2	mg/L	--	--
16.	Potassium	IS: 3025 (P-45)	1.6	mg/L	--	--
17.	Sulphate as SO ₄	IS: 3025 (P-24)	45.15	mg/L	200	400
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	5.75	mg/L	45	No Relaxation
19.	Fluoride as F	APHA 4500 F D	0.42	mg/L	1.0	1.5



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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/GW/03

Report No.: VEL/GW/2306210003

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
20.	Chloride as Cl	IS: 3025 (P-32)	35.12	mg/L	250	1000
21.	Reactive Silica	IS: 3025 (P-35)	22.55	mg/L	--	--
22.	Colloidal Silica	IS: 3025 (P-35)	5.20	mg/L	--	--
23.	Total Organic Carbon	IS 3025 (P-69)	0.26	mg/L	--	--
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.5	2.4
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	1.0	No relaxation
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	1.5
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	5	15
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.1	0.3
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.02	No Relaxation
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L	0.01	No Relaxation
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	--	--
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.01	No Relaxation
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L	0.01	No Relaxation
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.003	No Relaxation
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L	0.001	No Relaxation
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	No Relaxation
39.	Total coliform	IS 1622	11	MPN/100ml	--	--
40.	E. coli	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	

Note:-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



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Test Report

Sample Number:	VEL/GW/04	Report No.:	VEL/GW/2306210004
Name & Address of the Project:	M/s Nabinagar Power Generating Company (NPGC) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India	Format No.:	7.8 F-03
		Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Description:	Ground Water	Reporting Date:	03/07/2023
Sample Location:	Switch Yard	Period of Analysis:	21/06/2023 to 03/07/2023
Sample Collected by:	Vardan EnviroLab Representative	Receipt Date:	21/06/2023
Preservation:	Refrigerated	Sampling Date:	18/06/2023
Sampling and Analysis Protocol:	APHA 23 rd Edition 2017 & IS 3025	Sampling Quantity:	2.0 Ltr.
		Sampling Type:	Grab
		Parameter Required:	As per work order

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.62	--	6.5 to 8.5	No Relaxation
2.	Temperature	IS:3025 (P-9)	26.7	°C	--	--
3.	Electrical Conductivity	IS: 3025 (P-14)	930	µS/cm	--	--
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU	1	5
5.	Total Dissolved Solids	IS: 3025 (P-16)	605.00	mg/L	500	2000
6.	Total Suspended Solids	IS: 3025 (P-17)	BLQ(LOQ-1.0)	mg/L	--	--
7.	Dissolved Oxygen	IS: 3025 (P-38)	7.1	mg/L	--	--
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	BLQ(LOQ-2.0)	mg/L	--	--
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	BLQ(LOQ-4.0)	mg/L	--	--
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L	--	--
11.	M-Alkalinity	IS: 3025 (P-51)	305.4	mg/L	--	--
12.	Calcium Hardness	IS: 3025 (P-40)	328.69	mg/L	--	--
13.	Magnesium Hardness	APHA, 3500 Mg B	132.16	mg/L	--	--
14.	Total Hardness	IS: 3025 (P-21)	460.85	mg/L	200	600
15.	Sodium	IS: 3025 (P-45)	37.9	mg/L	--	--
16.	Potassium	IS: 3025 (P-45)	4.0	mg/L	--	--
17.	Sulphate as SO ₄	IS: 3025 (P-24)	76.4	mg/L	200	400
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	14.82	mg/L	45	No Relaxation
19.	Fluoride as F	APHA 4500 F D	0.42	mg/L	1.0	1.5



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Test Report

Sample Number: VEL/NPGCS/GW/04

Report No.: VEL/GW/2306210004

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
20.	Chloride as Cl	IS: 3025 (P-32)	125.90	mg/L	250	1000
21.	Reactive Silica	IS: 3025 (P-35)	23.50	mg/L	--	--
22.	Colloidal Silica	IS: 3025 (P-35)	7.14	mg/L	--	--
23.	Total Organic Carbon	IS 3025 (P-69)	0.24	mg/L	--	--
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.5	2.4
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	1.0	No relaxation
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	1.5
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	5	15
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.1	0.3
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.02	No Relaxation
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L	0.01	No Relaxation
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	--	--
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.01	No Relaxation
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L	0.01	No Relaxation
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.003	No Relaxation
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L	0.001	No Relaxation
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	No Relaxation
39.	Total coliform	IS 1622	14	MPN/100ml	--	--
40.	E. coli	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	

Note:-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



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Test Report

Sample Number: VEL/GW/05 **Report No.:** VEL/GW/2306210005
Name & Address of the Project: M/s Nabinagar Power Generating Company (NPGC) **Format No.:** 7.8 F-03
 Shivanpur, P.O.-Ankhora Railway Station, Bihar **Party Reference No.:** 4000280838-057-2035 Dated 14.06.2022
 Aurangabad, Bihar-824303, India

Sample Description: Ground Water **Reporting Date:** 03/07/2023
Sample Location: Village-KHAIRA **Period of Analysis:** 21/06/2023 to 03/07/2023
Sample Collected by: Vardan EnviroLab Representative **Receipt Date:** 21/06/2023
Preservation: Refrigerated **Sampling Date:** 18/06/2023
Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025 **Sampling Quantity:** 2.0 Ltr.
Parameter Required: As per work order

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.20	--	6.5 to 8.5	No Relaxation
2.	Temperature	IS:3025 (P-9)	27.0	°C	--	--
3.	Electrical Conductivity	IS: 3025 (P-14)	425	µS/cm	--	--
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU	1	5
5.	Total Dissolved Solids	IS: 3025 (P-16)	315.00	mg/L	500	2000
6.	Total Suspended Solids	IS: 3025 (P-17)	BLQ(LOQ-1.0)	mg/L	--	--
7.	Dissolved Oxygen	IS: 3025 (P-38)	7.2	mg/L	--	--
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	BLQ(LOQ-2.0)	mg/L	--	--
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	BLQ(LOQ-4.0)	mg/L	--	--
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L	--	--
11.	M-Alkalinity	IS: 3025 (P-51)	185.15	mg/L	--	--
12.	Calcium Hardness	IS: 3025 (P-40)	136.55	mg/L	--	--
13.	Magnesium Hardness	APHA, 3500 Mg B	52.73	mg/L	--	--
14.	Total Hardness	IS: 3025 (P-21)	189.28	mg/L	200	600
15.	Sodium	IS: 3025 (P-45)	12.2	mg/L	--	--
16.	Potassium	IS: 3025 (P-45)	1.5	mg/L	--	--
17.	Sulphate as SO ₄	IS: 3025 (P-24)	16.6	mg/L	200	400
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	4.8	mg/L	45	No Relaxation
19.	Fluoride as F	APHA 4500 F D	BLQ(LOQ-0.2)	mg/L	1.0	1.5



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Test Report

Sample Number: VEL/GW/05

Report No.: VEL/GW/2306210005

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
20.	Chloride as Cl	IS: 3025 (P-32)	34.40	mg/L	250	1000
21.	Reactive Silica	IS: 3025 (P-35)	5.15	mg/L	--	--
22.	Colloidal Silica	IS: 3025 (P-35)	0.70	mg/L	--	--
23.	Total Organic Carbon	IS 3025 (P-69)	0.22	mg/L	--	--
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.5	2.4
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	1.0	No relaxation
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	1.5
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	5	15
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.1	0.3
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.02	No Relaxation
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L	0.01	No Relaxation
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	--	--
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.01	No Relaxation
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L	0.01	No Relaxation
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.003	No Relaxation
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L	0.001	No Relaxation
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	No Relaxation
39.	Total coliform	IS 1622	<2	MPN/100ml	--	--
40.	E. coli	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	

Note:-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



3.7.20w



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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/GW/06 Report No.: VEL/GW/2306210006
 Name & Address of the Project: M/s Nabinagar Power Generating Company (NPGC) Format No.: 7.8 F-03k
 Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India Party Reference No.: 4000280838-057-2035 Dated 14.06.2022

Reporting Date: 03/07/2023
 Period of Analysis: 21/06/2023 to 03/07/2023
 Receipt Date: 21/06/2023
 Sampling Date: 18/06/2023
 Sampling Quantity: 2.0 Ltr.
 Sampling Type: Grab
 Parameter Required: As per work order

Sample Description: Ground Water
 Sample Location: Village-Shivanpur (Pota Kevin)
 Sample Collected by: Vardan EnviroLab Representative
 Preservation: Refrigerated
 Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.21	--	6.5 to 8.5	No Relaxation
2.	Temperature	IS:3025 (P-9)	27.6	°C	--	--
3.	Electrical Conductivity	IS: 3025 (P-14)	982	µS/cm	--	--
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU	1	5
5.	Total Dissolved Solids	IS: 3025 (P-16)	625.00	mg/L	500	2000
6.	Total Suspended Solids	IS: 3025 (P-17)	22.00	mg/L	--	--
7.	Dissolved Oxygen	IS: 3025 (P-38)	6.2	mg/L	--	--
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	BLQ(LOQ-2.0)	mg/L	--	--
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	BLQ(LOQ-4.0)	mg/L	--	--
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L	--	--
11.	M-Alkalinity	IS: 3025 (P-51)	310.69	mg/L	--	--
12.	Calcium Hardness	IS: 3025 (P-40)	235.16	mg/L	--	--
13.	Magnesium Hardness	APHA, 3500 Mg B	76.24	mg/L	--	--
14.	Total Hardness	IS: 3025 (P-21)	311.40	mg/L	200	600
15.	Sodium	IS: 3025 (P-45)	12.4	mg/L	--	--
16.	Potassium	IS: 3025 (P-45)	1.0	mg/L	--	--
17.	Sulphate as SO ₄	IS: 3025 (P-24)	32.36	mg/L	200	400
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	7.0	mg/L	45	No Relaxation
19.	Fluoride as F	APHA 4500 F D	0.62	mg/L	1.0	1.5



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Test Report

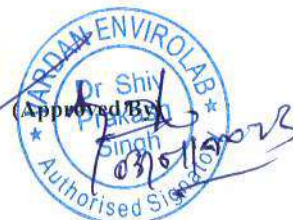
Sample Number: VEL/GW/06

Report No.: VEL/GW/2306210006

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
20.	Chloride as Cl	IS: 3025 (P-32)	32.12	mg/L	250	1000
21.	Reactive Silica	IS: 3025 (P-35)	16.15	mg/L	--	--
22.	Colloidal Silica	IS: 3025 (P-35)	5.66	mg/L	--	--
23.	Total Organic Carbon	IS 3025 (P-69)	0.45	mg/L	--	--
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.5	2.4
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	1.0	No relaxation
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	1.5
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	5	15
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.1	0.3
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.02	No Relaxation
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L	0.01	No Relaxation
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	--	--
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.01	No Relaxation
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L	0.01	No Relaxation
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.003	No Relaxation
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L	0.001	No Relaxation
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	No Relaxation
39.	Total coliform	IS 1622	13	MPN/100ml	--	--
40.	E. coli	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	

Note:-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



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Test Report

Sample Number:	VEL/GW/07	Report No.:	VEL/GW/2306210007
Name & Address of the Project:	M/s Nabinagar Power Generating Company (NPGC) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India	Format No.:	7.8 F-03
		Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
Sample Description:	Ground Water	Reporting Date:	03/07/2023
Sample Location:	STP Township	Period of Analysis:	21/06/2023 to 03/07/2023
Sample Collected by:	Vardan EnviroLab Representative	Receipt Date:	21/06/2023
Preservation:	Refrigerated	Sampling Date:	18/06/2023
Sampling and Analysis Protocol:	APHA 23 rd Edition 2017 & IS 3025	Sampling Quantity:	2.0 Ltr.
		Sampling Type:	Grab
		Parameter Required:	As per work order

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.62	--	6.5 to 8.5	No Relaxation
2.	Temperature	IS:3025 (P-9)	27.2	°C	--	--
3.	Electrical Conductivity	IS: 3025 (P-14)	810	µS/cm	--	--
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU	1	5
5.	Total Dissolved Solids	IS: 3025 (P-16)	470.00	mg/L	500	2000
6.	Total Suspended Solids	IS: 3025 (P-17)	5.00	mg/L	--	--
7.	Dissolved Oxygen	IS: 3025 (P-38)	6.9	mg/L	--	--
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	BLQ(LOQ-2.0)	mg/L	--	--
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	BLQ(LOQ-4.0)	mg/L	--	--
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L	--	--
11.	M-Alkalinity	IS: 3025 (P-51)	257.00	mg/L	--	--
12.	Calcium Hardness	IS: 3025 (P-40)	198.25	mg/L	--	--
13.	Magnesium Hardness	APHA, 3500 Mg B	54.06	mg/L	--	--
14.	Total Hardness	IS: 3025 (P-21)	252.31	mg/L	200	600
15.	Sodium	IS: 3025 (P-45)	36.7	mg/L	--	--
16.	Potassium	IS: 3025 (P-45)	2.5	mg/L	--	--
17.	Sulphate as SO ₄	IS: 3025 (P-24)	65.49	mg/L	200	400
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	16.15	mg/L	45	No Relaxation
19.	Fluoride as F	APHA 4500 F D	0.64	mg/L	1.0	1.5



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Test Report

Sample Number: VEL/GW/07

Report No.: VEL/GW/2306210007

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
20.	Chloride as Cl	IS: 3025 (P-32)	32.36	mg/L	250	1000
21.	Reactive Silica	IS: 3025 (P-35)	26.90	mg/L	--	--
22.	Colloidal Silica	IS: 3025 (P-35)	3.20	mg/L	--	--
23.	Total Organic Carbon	IS 3025 (P-69)	0.45	mg/L	--	--
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.5	2.4
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	1.0	No relaxation
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	1.5
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	5	15
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L	0.1	0.3
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.02	No Relaxation
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L	0.01	No Relaxation
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	--	--
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.01	No Relaxation
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L	--	--
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L	0.01	No Relaxation
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.003	No Relaxation
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L	0.001	No Relaxation
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L	0.05	No Relaxation
39.	Total coliform	IS 1622	14	MPN/100ml	--	--
40.	E. coli	IS 15185:2016	Absent	Per 100ml	Shall not be detectable in any 100 ml sample	

Note:-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



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Test Report

Sample Number: VEL/SW/08
Name & Address of the Project: M/s Nabinagar Power Generating Company (NPGC)
Shivanpur, P.O.-Ankhora Railway Station, Bihar
Aurangabad, Bihar-824303, India

Report No.: VEL/GW/2306210008
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022

Reporting Date: 03/07/2023
Period of Analysis: 21/06/2023 to 03/07/2023
Receipt Date: 21/06/2023
Sampling Date: 17/06/2023
Sampling Quantity: 2.0 Ltr.
Sampling Type: Grab
Parameter Required: As per work order

Sample Description: Surface Water
Sample Location: Village-MADHE
Sample Collected by: Vardan EnviroLab Representative
Preservation: Refrigerated
Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.20	--
2.	Temperature	IS:3025 (P-9)	26.1	°C
3.	Electrical Conductivity	IS: 3025 (P-14)	380	µS/cm
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU
5.	Total Dissolved Solids	IS: 3025 (P-16)	233.0	mg/L
6.	Total Suspended Solids	IS: 3025 (P-17)	BLQ(LOQ-2.0)	mg/L
7.	Dissolved Oxygen	IS: 3025 (P-38)	6.9	mg/L
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	4.06	mg/L
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	9.85	mg/L
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L
11.	M-Alkalinity	IS: 3025 (P-51)	97.19	mg/L
12.	Calcium Hardness	IS: 3025 (P-40)	80.98	mg/L
13.	Magnesium Hardness	APHA, 3500 Mg B	38.61	mg/L
14.	Total Hardness	IS: 3025 (P-21)	119.59	mg/L
15.	Sodium	IS: 3025 (P-45)	10.6	mg/L
16.	Potassium	IS: 3025 (P-45)	1.0	mg/L
17.	Sulphate as SO ₄	IS: 3025 (P-24)	16.76	mg/L
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	5.0	mg/L
19.	Fluoride as F	APHA 4500 F D	BLQ(LOQ-0.2)	mg/L



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Test Report

Sample Number: VEL/SW/08			Report No.: VEL/SW/2306210008	
S. No.	Parameter	Test-Method	Result	Unit
20.	Chloride as Cl	IS: 3025 (P-32)	30.45	mg/L
21.	Reactive Silica	IS: 3025 (P-35)	16.95	mg/L
22.	Colloidal Silica	IS: 3025 (P-35)	3.15	mg/L
23.	Total Organic Carbon	IS 3025 (P-69)	0.26	mg/L
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	0.22	mg/L
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
39.	Total coliform	IS 1622	34	MPN/100ml
40.	E. coli	IS 15185:2016	Absent	Per 100ml

Note-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



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Test Report

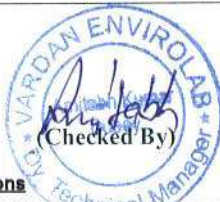
Sample Number: VEL/SW/09
Name & Address of the Project: M/s Nabinagar Power Generating Company (NPGC)
Shivanpur, P.O.-Ankhora Railway Station, Bihar
Aurangabad, Bihar-824303, India

Report No.: VEL/GW/2306210009
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022

Sample Description: Surface Water
Sample Location: Plant Effluent
Sample Collected by: Vardan EnviroLab Representative
Preservation: Refrigerated
Sampling and Analysis Protocol: APHA 23rd Edition 2017 & IS 3025

Reporting Date: 03/07/2023
Period of Analysis: 21/06/2023 to 03/07/2023
Receipt Date: 21/06/2023
Sampling Date: 17/06/2023
Sampling Quantity: 2.0 Ltr.
Sampling Type: Grab
Parameter Required: As per work order

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.80	--
2.	Temperature	IS:3025 (P-9)	27.2	°C
3.	Electrical Conductivity	IS: 3025 (P-14)	666	µS/cm
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU
5.	Total Dissolved Solids	IS: 3025 (P-16)	310.00	mg/L
6.	Total Suspended Solids	IS: 3025 (P-17)	17.00	mg/L
7.	Dissolved Oxygen	IS: 3025 (P-38)	5.3	mg/L
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	7.65	mg/L
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	26.69	mg/L
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L
11.	M-Alkalinity	IS: 3025 (P-51)	154.75	mg/L
12.	Calcium Hardness	IS: 3025 (P-40)	145.29	mg/L
13.	Magnesium Hardness	APHA, 3500 Mg B	80.02	mg/L
14.	Total Hardness	IS: 3025 (P-21)	225.49	mg/L
15.	Sodium	IS: 3025 (P-45)	40.0	mg/L
16.	Potassium	IS: 3025 (P-45)	3.6	mg/L
17.	Sulphate as SO ₄	IS: 3025 (P-24)	26.50	mg/L
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	5.02	mg/L
19.	Fluoride as F	APHA 4500 F D	0.40	mg/L



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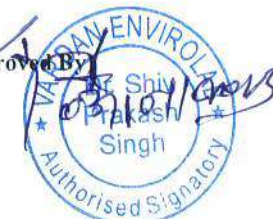


Test Report

Sample Number: VEL/SW/09			Report No.: VEL/SW/2306210009	
S. No.	Parameter	Test-Method	Result	Unit
20.	Chloride as Cl	IS: 3025 (P-32)	15.80	mg/L
21.	Reactive Silica	IS: 3025 (P-35)	12.84	mg/L
22.	Colloidal Silica	IS: 3025 (P-35)	5.15	mg/L
23.	Total Organic Carbon	IS 3025 (P-69)	0.12	mg/L
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
39.	Total coliform	IS 1622	50	MPN/100ml
40.	E. coli	IS 15185:2016	Absent	Per 100ml

Note-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



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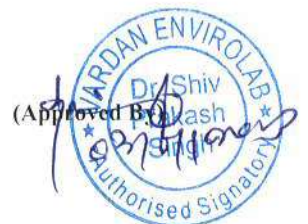
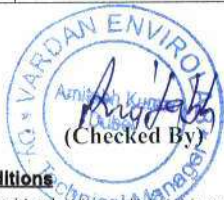




Test Report

Sample Number:	VEL/SW/10	Report No.:	VEL/GW/2306210010
Name & Address of the Project:	M/s Nabinagar Power Generating Company (NPGC) Shivanpur, P.O.-Ankhora Railway Station, Bihar Aurangabad, Bihar-824303, India	Format No.:	7.8 F-03
		Party Reference No.:	4000280838-057-2035 Dated 14.06.2022
		Reporting Date:	03/07/2023
		Period of Analysis:	21/06/2023 to 03/07/2023
Sample Description:	Surface Water	Receipt Date:	21/06/2023
Sample Location:	Raw Water Reservoir	Sampling Date:	17/06/2023
Sample Collected by:	Vardan EnviroLab Representative	Sampling Quantity:	2.0 Ltr.
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling and Analysis Protocol:	APHA 23 rd Edition 2017 & IS 3025	Parameter Required:	As per work order

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS: 3025 (P-11)	7.39	--
2.	Temperature	IS:3025 (P-9)	27.3	°C
3.	Electrical Conductivity	IS: 3025 (P-14)	323	µS/cm
4.	Turbidity	IS: 3025 (P-10)	BLQ(LOQ-1.0)	NTU
5.	Total Dissolved Solids	IS: 3025 (P-16)	194.00	mg/L
6.	Total Suspended Solids	IS: 3025 (P-17)	8.00	mg/L
7.	Dissolved Oxygen	IS: 3025 (P-38)	8.5	mg/L
8.	BOD (3 Days at 27°C)	IS 3025 (P-44)	5.79	mg/L
9.	Chemical Oxygen Demand	APHA, 5220 B Open Reflux Method	22.69	mg/L
10.	P-Alkalinity	IS: 3025 (P-51)	Nil	mg/L
11.	M-Alkalinity	IS: 3025 (P-51)	137.76	mg/L
12.	Calcium Hardness	IS: 3025 (P-40)	76.35	mg/L
13.	Magnesium Hardness	APHA, 3500 Mg B	39.01	mg/L
14.	Total Hardness	IS: 3025 (P-21)	115.45	mg/L
15.	Sodium	IS: 3025 (P-45)	14.4	mg/L
16.	Potassium	IS: 3025 (P-45)	1.3	mg/L
17.	Sulphate as SO ₄	IS: 3025 (P-24)	7.0	mg/L
18.	Nitrate as NO ₃	IS 3025 (Part -34), Chromotropic Method	5.9	mg/L
19.	Fluoride as F	APHA 4500 F D	0.42	mg/L



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Test Report

Sample Number: VEL/SW/10			Report No.: VEL/SW/2303280010	
S. No.	Parameter	Test-Method	Result	Unit
20.	Chloride as Cl	IS: 3025 (P-32)	16.80	mg/L
21.	Reactive Silica	IS: 3025 (P-35)	10.94	mg/L
22.	Colloidal Silica	IS: 3025 (P-35)	3.0	mg/L
23.	Total Organic Carbon	IS 3025 (P-69)	0.25	mg/L
24.	Boron	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
25.	Iron as Fe	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
26.	Copper as Cu	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
27.	Zinc as Zn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
28.	Manganese as Mn	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.01)	mg/L
29.	Nickel as Ni	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
30.	Arsenic as As	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.005)	mg/L
31.	Vanadium as V	VEL/STP/ICP/W-01, Issue No. -01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
32.	Lead as Pb	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
33.	Chromium as Cr ³⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L
34.	Chromium as Cr ⁶⁺	IS:3025 (P-52)	BLQ(LOQ-0.05)	mg/L
35.	Selenium as Se	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.001)	mg/L
36.	Cadmium as Cd	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
37.	Mercury as Hg	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.0005)	mg/L
38.	Total Chromium as Cr	VEL/STP/ICP/W-01, Issue No. 01, 01/11/2021	BLQ(LOQ-0.002)	mg/L
39.	Total coliform	IS 1622	40	MPN/100ml
40.	E. coli	IS 15185:2016	Absent	Per 100ml

Note-*BLQ-Below Limit of Quantification, LOQ-Limit of Quantification, STP:- Standard Testing Procedure

End of Report



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Test Report

Sample Number: VEL/N/01
Name & Address of the Project: M/s Nabinagar Super Thermal Power Station, P.O.-Aditi Nagar, Aurangabad, Bihar-82430, India

Report No.: VEL/N/2306300001
Format No.: 7.8 F-03
Party Reference No.: 4000280838-057-2035 Dated 14.06.2022
Reporting Date: 04/07/2023
Receipt Date: 30/06/2023

Sample Description: AMBIENT NOISE LEVEL MONITORING

General Information:-

Sample collected by : Vardan EnviroLab Representative
Instrument Used : Sound Level Meter
Instrument Calibration Status : Calibrated
Meteorological condition during monitoring : Clear Sky
Time of Monitoring : 06:00 AM to 06:00 AM
Surrounding Activity : Human , Vehicular & Other Plant Activities
Scope of Monitoring : Regulatory Requirement
Control measure if Any : No any
Sampling & Analysis Protocol : IS-9989 & CPCB Guidelines
Sampling Duration : 24 Hours
Parameter Required : As per Work Order

TEST RESULTS

S. No.	Locations	Date of Sampling	Test Result dB (A)					
			Day Time			Night Time		
			(L _{Max})	(L _{Min})	(L _{eq})	(L _{Max})	(L _{Min})	(L _{eq})
1.	Turbine Area	26/06/2023-27/06/2023	68.5	52.2	64.20	65.2	42.0	52.20
2.	Compressor Area	26/06/2023-27/06/2023	62.6	54.9	57.24	60.4	40.0	54.75
3.	DG Area	26/06/2023-27/06/2023	64.9	50.4	62.49	61.6	44.6	55.90
4.	Plant Area	26/06/2023-27/06/2023	60.0	50.6	62.45	58.6	41.2	51.86
5.	Outside Plant Area	26/06/2023-27/06/2023	70.4	56.7	68.22	62.9	43.8	56.28
CPCB Limits in dB(A*) Leq (Industrial Area)			75.0			70.0		

Note- *A "decibel" is a unit in which noise is measured.

End of Report



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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Hr)
ISO 9001 | ISO 14001 | ISO 45001



Test Report

Sample Number: VEL/N/01 Report No.: VEL/N/2309300001
 Name & Address of the Project: M/s Nabinagar Super Thermal Power Station, P.O.-Aditi Nagar, Aurangabad, Bihar-82430, India
 Format No.: 7.8 F-03
 Party Reference No.: 4000280838-057-2035 Dated 14.06.2022
 Reporting Date: 03/10/2023
 Receipt Date: 30/09/2023

Sample Description: AMBIENT NOISE LEVEL MONITORING

General Information:-

Sample collected by : Vardan EnviroLab Representative
 Instrument Used : Sound Level Meter
 Instrument Calibration Status : Calibrated
 Meteorological condition during monitoring : Intermittent Rain
 Time of Monitoring : 06:00 AM to 06:00 AM
 Surrounding Activity : Human , Vehicular & Other Plant Activities
 Scope of Monitoring : Regulatory Requirement
 Control measure if Any : No any
 Sampling & Analysis Protocol : IS-9989 & CPCB Guidelines
 Sampling Duration : 24 Hours
 Parameter Required : As per Work Order

TEST RESULTS

S. No.	Locations	Date of Sampling	Test Result dB (A)					
			Day Time			Night Time		
			(L _{Max})	(L _{Min})	(L _{eq})	(L _{Max})	(L _{Min})	(L _{eq})
1.	Turbine Area	27/09/2023-28/09/2023	71.4	50.3	66.78	64.2	41.8	49.70
2.	Compressor Area	27/09/2023-28/09/2023	68.3	56.7	60.26	62.8	42.4	51.68
3.	DG Area	27/09/2023-28/09/2023	65.7	52.7	60.12	63.9	46.7	51.87
4.	Plant Area	27/09/2023-28/09/2023	62.3	48.6	54.76	56.3	43.9	48.6
5.	Outside Plant Area	27/09/2023-28/09/2023	72.8	54.1	62.16	63.8	44.2	50.1
CPCB Limits in dB(A*) Leq (Industrial Area)			75.0			70.0		

Note- *A "decibel" is a unit in which noise is measured.

End of Report



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VEL/E - Page 1 of 1 | P N 6 3 1 6 0

AAQM Data (APR-2023 to SEP-2023)

Annexure - E

Parameters →		PM ₁₀	PM _{2.5}	SO ₂	NO ₂	CO	O ₃	NH ₃
UOM →		µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
Month	Location	(24-Hours. Average)	(24-Hours. Average)	(24-Hours. Average)	(24-Hours. Average)	(1-Hour. Average)	(1-Hours. Average)	(24-Hours. Average)
Applicable Norms** →		100	60	80	80	4	100	400
Apr-23	H-Blocck	69.89	44.44	15.02	30.38	0.83	32.77	NA
	Admn. Building	77.5	48.63	12.06	27.53	0.7	29.37	NA
	RWPH	72.43	41.04	19.22	33.53	0.79	27.82	NA
	Shivanpur Gate	74.18	46.86	11.52	26.35	0.72	31.99	NA
May-23	H-Blocck	71.16	45.56	16.54	31.89	0.84	35.04	BDL
	Admn. Building	79.53	50.28	13.7	29.93	0.7	30.9	BDL
	RWPH	75.07	42.19	21.42	34.41	0.79	28.46	BDL
	Shivanpur Gate	73.68	45.76	12.93	26.96	0.69	31.22	BDL
Jun-23	H-Blocck	69.79	45.96	15.31	31.89	0.82	33.55	BDL
	Admn. Building	77.53	47.63	13.1	27.69	0.68	30.04	BDL
	RWPH	72.45	41.29	21.66	31.8	0.77	27.98	BDL
	Shivanpur Gate	73.2	43.63	12.57	25.59	0.70	33.12	BDL
Jul-23	H-Blocck	56.53	38.36	17.33	30.54	0.82	34.31	BDL
	Admn. Building	54.55	38.11	15.36	28.45	0.68	30.9	BDL
	RWPH	56.96	31.16	25.19	33.69	0.77	28.98	BDL
	Shivanpur Gate	56.47	31.63	15.21	27.02	0.82	34.31	BDL
Aug-23	H-Blocck	63.29	41.35	16.04	26.51	0.81	35.20	BDL
	Admn. Building	54.72	33.13	13.58	25.87	0.68	31.59	BDL
	RWPH	54.68	31.90	21.98	35.41	0.77	29.14	BDL
	Shivanpur Gate	52.04	30.70	13.76	26.72	0.69	33.11	BDL
Sep-23	H-Blocck	61.71	41.80	12.89	25.99	0.79	34.07	BDL
	Admn. Building	54.14	33.08	11.84	25.42	0.69	30.39	BDL
	RWPH	56.15	32.14	22.45	30.94	0.76	29.18	BDL
	Shivanpur Gate	51.91	31.42	10.89	26.64	0.65	32.92	BDL

* BELOW DETECTION LIMIT

** (MoEF&CC NOTIFICATION DATED 16th NOVEMBER, 2009)

**NABINAGAR SUPER THERMAL POWER STATION
UNIT OF NTPC LTD.**

Annexure - F

S.N.	Description	Present Status	Action Required
1	Progress on FGD Package	Package is already delayed by 15 Months w.r.t. Revised schedule due to Covid Impact. 24 months w.r.t. Original schedule.	Immediate action needed for mitigating delays
		Civil Works: <ul style="list-style-type: none"> • RCC Scope: 31,420cum; Completed: 23,565 cum (75%) 	Performance of Starcon is poor. Additional Civil Agency need to be deployed by BHEL to improve work progress.
		Chimney Works A. RCC Shell Concrete: Completed - 100% B. Flue can work: <ul style="list-style-type: none"> • U#1: Flue can erection i/p. Compln by Apr 24 • U#2: fabrication completed, Erection start by Feb' 24 Comp by July'24. • U#3: cane fabrication i/p, comp by March'24. Erection start by June 24, completion by Nov24 	Flue can fabrication for U3 activities need to be expedited. Lifting activity shall also be monitored.
		Equipment Erection Works: 7200/30,000MT completed	
2	Engineering	682/832 (82%) completed	To be expedited and ensured completion of engineering at the earliest
3	Supply of main equipment	BOIs: Major BOI ordering completed. Supply Started. Details are following Ranipet- 12000/17000 MT supplied. Trichy- 6500/7400 MT Others- 1500 MT	Supply to be expedited
			Supply from other BHEL units need to be expedited.

Stack Emission Data (APR-2023 to SEP-2023)

Annexure - G

UNIT_NO	Installed Capacity (MW)	PM (mg/Nm ³)			SO ₂ (mg/Nm ³)			NO _x (mg/Nm ³)			Mercury (Hg) Emission		
		Applicable Norm *	Actual Value		Applicable Norm *	Actual Value		Applicable Norm *	Actual Value		Applicable Norm *	Actual Value	
			Min. Value for the month	Max. Value for the month		Min. Value for the month	Max. Value for the month		Min. Value for the month	Max. Value for the month		Min. Value for the month	Max. Value for the month
Apr-23													
1	660	30	22	28	100	1510	1697	100	245	347	0.03	BDL	≤0.005
2	660	30	24	29	100	1450	1614	100	230	319	0.03	BDL	≤0.005
3	660	30	23	28	100	1490	1713	100	240	323	0.03	BDL	≤0.005
May-23													
1	660	30	22	25	100	1425	1568	100	265	342	0.03	BDL	≤0.005
2	660	30	24	26	100	1490	1639	100	270	349	0.03	BDL	≤0.005
3	660	30	23	25	100	1460	1591	100	235	317	0.03	BDL	≤0.005
Jun-23													
1	660	30	22	23	100	1550	1730	100	265	337	0.03	BDL	≤0.005
2	660	30	23	22	100	1610	1688	100	230	281	0.03	BDL	≤0.005
3	660	30	24	26	100	1590	1790	100	288	306	0.03	BDL	≤0.005
Jul-23													
1	660	30	24	26	100	1350	1520	100	272	350	0.03	BDL	≤0.005
2	660	30	25	24	100	1360	1541	100	250	327	0.03	BDL	≤0.005
3	660	30	24	25	100	1450	1709	100	286	360	0.03	BDL	≤0.005
Aug-23													
1	660	30	23	26	100	1215	1615	100	290	345	0.03	BDL	≤0.005
2	660	30	24	27	100	1222	1628	100	283	327	0.03	BDL	≤0.005
3	660	30	26	29	100	1208	1664	100	288	361	0.03	BDL	≤0.005
Sep-23													
1	660	30	24	27	100	1154	1607	100	278	360	0.03	BDL	≤0.005
2	660	30	26	28	100	1237	1620	100	285	350	0.03	BDL	≤0.005
3	660	30	25	29	100	1187	1890	100	276	310	0.03	BDL	≤0.005

BDL - Below Detection Limit

* (MoEF&CC Notification Dated 7th December, 2015 AND AMENDMENT DATED 28TH JUNE, 2018)

Monthly Water Consumption for FY-2023-24								
Station		NTPC Nabinagar						
Capacity		1980 MW						
Sr No	Month	Monthly Water Withdrawal from Natural Source River /lake (m3)	Monthly Actual Industrial Water Consumption (m3)	Monthly Actual Township Water Consumption (m3)	Monthly Actual Gross Generation (MU)	PLF	SWC Withdrawal (m3/MWh)	SWC (Consumption-Industrial) (m3/MWh)
1	Apr'23	4421353	4421353	-	1344.16	94.29	3.29	3.29
2	May'23	4744273	4744273	-	1294.33	87.86	3.67	3.67
3	June'23	3695263	3695263	-	1239.32	86.93	2.98	2.98
4	July'23	3739561	3529561	21000	1305.50	88.62	2.86	2.70
5	Aug'23	4106264	3896264	21000	1339.69	90.94	3.07	2.91
6	Sept'23	4146714	3936714	21000	1346.21	94.43	3.08	2.92
Total		2,85,83,006.00	2,79,32,006.00		9053.04		3.16	3.08