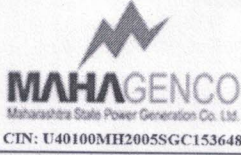


MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED

Bhusawal Thermal Power Station, Deepnagar

(An ISO 9001:2015, ISO 14001:2015 ISO 45001:2018, EMS 50001:2011 Certified Units)



Chief Engineer (O&M),
Bhusawal Thermal Power Station,
Deepnagar, Tal. Bhusawal
Dist. Jalgaon (MS) - 425307
☎ (02582) 250207
✉ cegenbhusawal@mahagenco.in

Dispatch Section
2 x 500 MW, BTPS, Stg-3

Ref. No: CE(O&M)/BTPS/Env. Cell/FL-44

Date: 11 2 AUG 2025

No - 1578

To,
Director,
Regional Office (WCZ),
MoEF&CC, Ground floor, East wing,
New Secretariat Building,
Civil lines, Nagpur-440001.

Subject: Updated status of compliance of Environmental Clearance Conditions pertains to 1x660MW Bhusawal Thermal Power plant six monthly report for the period of Jan-2025 to Jun- 2025.

- Ref.:** 1) Environmental Clearance vide Ltr. No. J 13012/75/2010-IA. II(T)Dtd.27.11.2012.
2) Extension granted vide Letter No. J 13012/75/2010 -IA. II (T), Dtd.30.05.2017.
3) Extension granted vide Letter No. J 13012/75/2010 -IA. II (T), Dtd.14.01.2020.
4) Letter by MoEF&CC for change in coal source & flue gas exit velocity-No. j-13012/75/2010-IA. II (T), dt.11.09.2020.

Respected Sir/Madam,

With reference to the above subject, the updated status of compliance for the Environmental Clearance (EC) Conditions for Unit No. 6 (1x660MW), BTPS Project for the period of **Jan-2025 to Jun-2025** is as per attachment.

Bhusawal TPS is taking all environmental mitigating measures for implementation and provision of systems to achieve environmental clearance conditions, Consent conditions, MoEF&CC norms as per the guidelines of MOEF&CC/CPCB/MPCB.

Chief Engineer (O&M)
BTPS, Deepnagar

Encl: As stated above

Copy s.w.r.to:

1. Sub-Regional Officer, Jalgaon, MPCB office, Hall "A" 3rd Floor, B. J. Market, **Jalgaon-425001.**
2. The Executive Director (E&S), MSPGCL, HDIL Tower, "A" wing, 3rd Floor, Prof. A. K. Marg, Bandra (East), **MUMBAI-51.**

**Environmental Clearance Conditions for
1x660 MW Coal Based Thermal Power Project at Bhusawal**

EC Conditions

Point-4-A-Specific Conditions

No.	EC Conditions	Compliance
4-A- (i)	It shall be ensured that old units of Unit 2x210 MW viz. Unit-II and Unit-III are retrofitted to ensure that ESPs for these units comply with 50 mg/Nm ³ . Old ESP shall be accordingly replaced.	<p>a) Unit No. 2 (210 MW) was decommissioned w.e.f. 01.04.2017 (It was declared closed as per MSPGCL Board Resolution No. MSPGCL / CS / BM / 172 / 172.12 Dtd.22.08.2017).</p> <p>b) According to the letter No. CEA/Thermal/TPR&M/R&M/Misc./2022/713-715 Dtd.02.09.2022 received from CEA regarding "Reconsideration of retirement of thermal units and may opt for R&M", retirement schedule of Unit No. 3 (210MW) is 31.12.2025. As per CEA letter No. CEA/TPRM/ R&M/2023/ 259-261 Dtd:09/04/2024, Unit No. 3 (210 MW) of Bhusawal TPS was considered in draft phasing plan of R&M/LE for identified coal based thermal units and incorporated in Phase-I for opting comprehensive R&M of thermal units. Primary DPR report of R&M of Unit-3 is submitted by CPRI to CE (P&P), MSPGCL.</p> <p>Moreover, it is to state that, Bhusawal TPS already provided 20 Nos. of ESP fields (in 2003) & Ammonia Flue Gas Conditioning (AFGC) System since 2005 for Unit No.3 (210 MW). Regular maintenance work of all ESP fields carried out such as, Replacement of Emitting Electrodes; Repair & replacement of collecting plates, Shock bars, and rapping hammers, ERM & CRM Gearbox etc.</p> <p>As per MPCB/CPCB/MoEF&CC norms, desired SPM limit for Unit No.3 (210MW) of Bhusawal TPS is 100 mg/Nm³. Currently Bhusawal TPS has maintaining SPM level below 100 mg/Nm³ of Unit- 3 (210MW). Regular Stack Emission Monitoring is carried out from MoEF&CC recognized Agency and the results are well within prescribed limits.</p>
4-A- (ii)	Additional coal requirement of about 1.99 MTPA will be obtained from other power plants of Mahagenco which are being shut down, only as an	Ministry vide letter dt. 11.09.2020 has permitted to use existing linkages of old units of MAHAGENCO, sourced from WCL, SECL & MCL mines in view of cancellation

	interim period until Machhakatta Coal mines becomes operational.	of Machhakatta coal mine. Coal linkage from Ghugus mine has been started.
4-A- (iii)	Scheme for implementation for harnessing solar power within the premises of the plant particularly at available roof tops shall be formulated and status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	In order to implement for harnessing solar power within the premises of Bhusawal 1x660 MW project, provisions are already made for roof top solar photo voltaic (PV) system & guidance regarding incorporation of the same requested from CE (P&P) vide letter No.CE(P) / BSL / Proj / 1x660 MW / EC / Solar / No.0979 Dtd.22.06.2020 And follow up letter is sent vide letter No. CE(P)/BSL/Proj/ 1x660MW /WTP/No.01791 Dtd.28.07.2023. further site survey was carried out to identify feasible plant buildings for solar roof top project, in which around 13097 Sq. Meter area was identified. In this regard this office is in continuously follow up with CE-RE (P&P) and have drafted letter No. CE(P) /BSL/Proj/1x660MW/WTP/No.00830 Dtd.25.04.2025 for updated status of this scheme.
4-A- (iv)	Space provision for installation of FGD shall be provided for future use.	Space provided for FGD installation, however FGD system installation work is 70% completed & remaining work is under progress.
4-A- (v)	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 the Ministry for suitable amendments to environment clearance conditions wherever necessary.	Shall be observed and any variation will be intimated. However, MoEF&CC, Govt. of India Gazette Notification Dtd.21.05.2020 has permitted to use of coal by Thermal Power Plants without stipulations as regards Ash content. Hence, it is requested to relax the condition of use of coal by power plant with stipulated sulphur and ash percentage. Whereas Bhusawal TPS is using imported coal blending with raw coal to achieve the said parameters.
4-A- (vi)	A long-term study on radio activity and heavy metals contents in coal to be used shall be carried out through a reputed institute. Thereafter a mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Study on radioactive substances in coal, fly ash and bottom ash is done from M/s. Board of Radiation & Isotope Technology (BRIT), Mumbai. Samples were collected on Dtd.15.03.2020 & analysis carried out on Dtd.29.05.2020. The test reports are attached herewith for reference. Study of Heavy metals content in coal, fly ash and bottom ash is done from M/s. Central Institute of Mining & Fuel Research, Dhanbad. Samples were collected on Dtd.15.03.2020 & analysis

		<p>carried out on Dtd.02.07.2020. The test reports are attached herewith for reference.</p> <p>Proposal in process for the study of radioactive substances in coal, fly ash & bottom ash and study of heavy metals content in coal, fly ash & bottom ash for continuous monitoring.</p>
4-A- (vii)	Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land is affected, damage to any land.	<p>To control Fugitive emission at coal handling plant dust suppression system for wagon tipplers and conveyor belts is functioning and operational. Similarly, the dust extraction system at the crusher and bunker house is also operational. The dust suppression system at the stacker yard was recently installed in February 2025 and is now fully operational and functioning. Furthermore, a new dust collector system has been successfully installed at the discharge of apron feeders to effectively control excessive dusty coal. Also various additional measures will be taken to control the fugitive emission of excessive dusty coal received.</p>
4-A- (viii)	Fly ash shall not be used for mine void filling or agricultural purpose.	MSPGCL not using for mine void filling or agricultural purpose.
4-A- (ix)	A stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with continuous online monitoring equipment's for SO _x , NO _x and PM _{2.5} & PM ₁₀ . Mercury emissions from stack may also be monitored on periodic basis.	<p>A stack of 275 m height with flue gas velocity 22 m/s is provided. Bhusawal TPS has provided continuous online monitoring equipment's for SO_x, NO_x and PM. Mercury emissions from stack are monitored on periodic basis by MoEF&CC recognised & NABL accredited agency. (Reports attached).</p>
4-A- (x)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	High Efficiency Electrostatic Precipitators (ESPs) with 108 fields are provided to ensure the particulate emission within the specified limits.
4-A- (xi)	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.	Adequate Dust Extraction system such as Water Spraying system in dusty areas such as CHP area is provided. The erection & commissioning dust suppression & dust extraction is completed & are in service.
4-A- (xii)	Utilization of 100% fly ash generated shall be made from day one of operation of Unit-VI (660 MW). Status	To follow the 100% Utilization from day one of operation, fly ash generated from 660 MW is given to Existing trader

	of 100% ash utilization of other units shall be submitted to the R.O. of the Ministry and the State Pollution Control Board from time to time.	agencies for 2X500 MW under 80% quota. Similarly, separate Ash sales orders for 660MW are issued from July-2025.
4-A-(xiii)	Fly ash shall be collected in dry form and storage facilities (silos) shall be provided. Unutilized fly ash shall be disposed of in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed of in low lying area.	Bhusawal TPS has provided facility for collection and storage of Dry Fly Ash for Unit-6 (1x660 MW). Fly Ash utilization for the period of Jan-2025 to Jun-2025 for BTPS is included in 2X500 MW under 80% quota & the utilization is 106.35 %.
4-A-(xiv)	Rehabilitation of abandoned ash pond shall ensure that ecological restoration is physically manifested within a period of three years and accordingly action plan formulated, and details submitted to the regional office of the Ministry and the State Pollution Control Board.	The land pertains to the Forest Department and As per Forest Department, as the natural growth of local species is already grown in the area, no need of plantation to be developed by BTPS.
4-A-(xv)	Three tier green belts shall be developed all around Ash Pond-II over and over Green Belt around the plant boundary.	In view to development of Green Belt around the plant Boundary, Total 1,73,000 trees will be planted. During the period of July 2024 to July 2025, total 40,000 Numbers of trees planted, and further plantation is in progress.
4-A-(xvi)	Ash pond shall be lined with HDPE / 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.	New ash pond not proposed for 1x660MW unit. Old ash pond will be utilized by rising of ash bund up to RL 270 meter in phased manner.
4-A-(xvii)	Hydrogeology of the area 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 any deterioration is observed specific mitigation measures shall be undertaken and reports / data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.	To monitor water quality of the area, collection & analysis of Ground water & Surface water samples carried out through NABL Accredited laboratory on regular intervals. (Reports attached) .
4-A-(xviii)	No ground water shall be extracted for use in operation of the power plant even in lean season.	Ground water not extracted for operation of the power plant.

4-A-(xix)	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 (including a natural drainage system) in this area will be disturbed.
4-A-(xx)	COC of 5.0 shall be adopted.	Maintaining COC - 5.0.
4-A-(xxi)	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.	Regular ground water monitoring around the ash pond area is carried out from NABL accredited agency. No new ash pond is proposed for 1x660MW unit. Old ash pond will be utilized by rising of ash bund up to RL 270 meter in phased manner. Hence there is no provision of piezometers. However, there is a provision of 4 percolation wells near ash bund, from which the water sample is collected and analyzed from NABL accredited agency every month. (Reports attached).
4-A-(xxii)	Monitoring surface water quality and quantity in the area shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Regular monitoring of surface water quality in and around the periphery of Bhusawal TPS carried out through MoEF&CC recognized and NABL Accredited agency (Reports attached).
4-A-(xxiii)	Wastewater generated from the plant shall be treated before discharge to comply with limits prescribed by the SPCB.	Wastewater generated from the plant is treated at ETP (1 x 660 MW) and used for ash handling purpose. It is not discharge outside the plant and treated water parameters are well within limits prescribed by the SPCB.

4-A-(xxiv)	The project proponent shall undertake rainwater harvesting measures and shall develop water storage for use in the operation of the plant. A rainwater harvesting system shall be put in place which shall comprise of rainwater collection from the built up and open area in the plant premises. The action plan for implementation shall be submitted to the Regional Office of the Ministry.	Total six numbers of Rainwater Harvesting ponds are proposed for the project. Out of these six Rainwater Harvesting ponds, five are in M/s. BHEL scope and one Rainwater Harvesting Pond is in MSPGCL scope. Out of five Rainwater Harvesting Ponds in M/s. BHEL scope. Three ponds have been completed, two are currently in progress, and Proposal for Rainwater Harvesting Pond in MSPGCL scope is submitted to HO for approval and further process.
4-A-(xxv)	It shall be ensured that the area drainage is not disturbed due to the proposed project.	It is ensured that the area drainage is not disturbed due to this project.
4-A-(xxvi)	The levelling in plant area should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted the design for diversion should be such that the diverted canals not only drain the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas / major canals that enter into creek / nallah etc. Major canals should not be altered but their bunds should be strengthened and desilted.	No major or minor canal is passing through the proposed plant area.
4-A-(xxvii)	The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	Potable water is being supplied in villages Nimbhora Bk., Kapil nagar, Sakri & Fekari. Also, water supply scheme work is in progress for village Pimprisekam & Fulgaon.
4-A-(xxviii)	As part of CSR, regular health check-ups of villagers in the nearby villages shall be carried out and records maintained.	Shall be complied.
4-A-(xxix)	A time bound implementation of the CSR shall be formulated within six months and submitted to the Ministry. It shall be ensured that an in-built monitoring mechanism for the CSR schemes identified, and R&R are in place and annual social audit shall be got done from the nearest	CSR Phase-I- Civil works completed as per Grampanchayat Demands (As per Annex). CSR Phase-II- Cancelled. CSR Phase-III, IV, V and other CSR work are in progress. (As per Annex)

	government institute repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time. The achievements should be put on the company's website.	
4-A-(xxx)	CSR scheme shall be undertaken based on need-based assessment in and around the villages within 5 km of the site and in constant consultation with the Village Panchayat and the District Administration. As part of CSR employment of local youth after imparting relevant training as may be necessary shall be undertaken as committed.	All villagers under 5 Km distance are considered in CSR Phase-I & Phase-III works. Works shall be carried out as per demands from Grampanchayat.
4-A-(xxxi)	The amount of Rs. 18.20 Crores shall be earmarked as onetime capital cost for CSR program as committed by the project proponent. Subsequently a recurring expenditure of Rs. 3.64 Crores per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six months along with a road map for implementation.	Various works such as roads, paver blocks, drains, wall compound, schools, water supply scheme etc. are already completed and few are in progress. Annexure is attached herewith.
4-A-(xxxii)	Green Belt consisting of 3 tiers of plantations of native species around plant and 100 m width shall be raised. The density of trees shall not less than 2500 per ha with survival rate not less than 80%.	Green belt development is part of M/s. BHEL EPC package. The work is already started and out of total 1.73 lakhs plantation 40,000 plants are planted. Remaining plantation work is in progress.
4-A-(xxxiii)	An Environmental Cell comprising of at least one expert in environmental science / engineering occupational health and social scientist, shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the head of the organization who would be accountable for implementation of environmental regulations and social impact	Complied.

	improvement / mitigation measures.	
	4-B- GENERAL CONDITION	
4-B- (i)	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	Trade effluents are connected to Central Monitoring Basin (CMB) of Effluent Treatment Plant (ETP). All trade effluents are treated at ETP & reused within the plant premises. ETP: Installation of ETP is completed & it is in service. STP: Installation of STP is completed & it is in service. Storm water drains connected to rainwater harvesting pond separately.
4-B- (ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt plantation.	Sewage treatment plant provided, and the treated sewage shall be used for raising greenbelt plantation.
4-B- (iii)	Adequate safety measures shall be provided in the plant area to check / minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with the location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	In view of Safety to avoid spontaneous fire in coal yard, especially during summer season, dust suppression system at the stacker yard installed and is fully operational and functioning.
4-B- (iv)	Storage facilities for auxiliary liquid fuel such as LDO / HFO / LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	Storage facilities for auxiliary liquid fuels such as LDO/HFO/LSHS are provided.
4-B- (v)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First Aid and sanitation arrangements are made for the drivers and other contract workers during construction phase.
4-B- (vi)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85dB (A) from source. For	Acoustic enclosures, silencers and mufflers, wherever required shall be provided for reducing the noise levels. Personal protective equipment shall be

	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.	provided to employees & workers. Noise level measurement for Unit No. 6 (1 x 660 MW), the work order is in process.
4-B- (vii)	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.	To monitoring of ambient air quality regularly 03 Nos. of CAAQMS provided, Installation of 4 th CAAQMS station is in progress.
4-B- (viii)	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 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.	Provision is made for the housing of construction labour (as applicable) near site with all necessary infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing is in form of temporary structures which will be removed after the completion of the project.
4-B- (ix)	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 his 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	Advertise was published in newspapers. a) Lokmat Times, Aurangabad on or before dtd.15/ 12/2012. b) Dainik Sakal, Jalgaon on or before dtd.15/ 12/2012.

	also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in .	
4-B- (x)	A copy of the clearance letter shall be sent by the proponent to concern Panchayat, Zilha Parishad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions, if any, received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Sent vide letter no. Dy. CE (C)/CCC/BSL/ 3116, dated 15/12/2012.
4-B- (xi)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, SPM, RSPM (PM _{2.5} & PM ₁₀), SO ₂ , NO _x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	Shall be complied.
4-B- (xii)	The environment statement for each financial year ending 31 st 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 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.	Shall be complied.
4-B- (xiii)	The project proponent shall submit six monthly reports on the status of	Submitted regularly.

	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 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.	
4-B-(xiv)	The 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 upload the compliance status in their website and update 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 gate of the power plant.	Shall be complied.
4-B-(xv)	Separate funds shall be allocated for implementation of environmental protection measures along with item wise breakup. These costs 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.	Separate funds shall be allocated for implementation of Environment protection measures.
4-B-(xvi)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	The date of financial closure of the project shall be received from CGM (Finance), Mumbai. The land development work was started on 24/06/2019 by M/s. BHEL.

4-B-(xvii)	Full cooperation shall be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry / CPCB / SPCB who would be monitoring the compliance of environmental status.	Shall be complied.
5.	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.	The Ministry has extended the validity of Environmental Clearance up to 26/11/2022 vide its letter J-13012/75/2010-IA.II (T), dated 14/01/2020, as cited at ref. 3. Also as per MoEF& CC Notification No S.O. 221 (E) dtd 18.01.2021 cited under ref 4, the validity of Environmental Clearance is further extended by one year i.e. till 26/11/2023. Further, the EAC after detailed deliberation on the information submitted by MSPGCL for the EC validity extension at MoEF&CC organized 43 rd meeting of the Expert Appraisal Committee held on 19.06.23 at New Delhi, have recommended the proposal for extension of Environmental Clearance (EC) dtd. 27.11.2012, till 26.11.2024.
7.	Concealing factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted.
8.	In case of any deviation or alternation in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the conditions imposed and to add additional environmental protection measures required, if any.	Shall be observed and informed in case of any deviation.
*Additional conditions sought by ministry vide letter no. J-13012/75/2010-IA.II (T), dt. 14.01.20.		
i.	Progress (both physical and financial) of construction of power plant including provisions installation of FGD and SCR shall be submitted as a part of six-monthly compliance report.	Combined report submitted to CEA by CE (P).

ii.	Emission norms and specific water consumption as per the Ministry's norms dated 07.12.2015 and 28.06.2018 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.	Shall be complied.
iii.	Technology selection for adoption of FGD for control of SO _x . In case of wet FGD, source of limestone, impact of transportation, handling, storage and disposal of Gypsum including land requirement.	FGD Technology: Wet type Limestone FGD technology is selected for control of SO _x . Wet Limestone FGD is the most suitable technology for the units of capacity > 500 MW. Wet Limestone FGD can handle large flue gas volumes, and it can absorb variation in Sulphur fluctuations. The Sulphur removal efficiency of Wet Limestone FGD is high @ 99 %. The operating cost of Wet Limestone FGD is less in comparison with other FGD technologies.
iv.	Alternate technology analysis and justification of Technology Selection for NO _x reduction.	<p>Two types of technologies are available for NO_x reduction.</p> <p>a) Selective Catalytic Reduction Technology (SCR) : It is an advanced active emissions control technology system that injects Ammonia vapours into the flue gas stream where the NO_x is reduced to Nitrogen (N₂) and Water (H₂O) abetted by passing over a metal catalyst bed typically containing Titanium oxide, Vanadium oxides, Molybdenum or Tungsten.</p> <p>b) Selective Non-Catalytic Reduction Technology (SNCR): Nitrogenous reducing agent viz., Ammonia or Urea is injected into hot flue gas where it reacts with NO_x in gas stream and reducing it to Nitrogen (N₂) gas and Water (H₂O) vapor.</p> <p>SCR technology is typically much more efficient at reducing NO_x emissions up to 90%. SCR allows a reaction to take place at a lower temperature because the catalyst lowers the energy needed to begin the reaction (This is called the activation energy). Since SCR systems utilize metal catalysts, the reaction activation energy is much lower in SCR.</p>

v.	The stack emissions (minimum, maximum, 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 and power generation and to be submitted in the compliance report.	Bhusawal TPS has monitored regularly after commissioning of Unit-6 (1x660MW). The reports are attached herewith.
vi.	The commitment letter in the form of undertaking for shutting / closing down the existing unit of 210 MW capacity which was commissioned in 1982 and more than 25 years shall be submitted with the date of closure.	Shall be submitted.
vii.	Further, Specific Condition No. (i) of EC dated 27.11.2012 states that existing units (Unit-II & III: 2x210 MW) shall be retrofitted with ESPs to ensure that PM emissions will be below 50 mg/Nm ³ . Status of this conditions shall be submitted.	Same as per point A Specific Condition (i).

***Additional condition sought by ministry vide letter No. J-13012/75/2010-IA. II (T), dt. 11.09.2020.**

i	As proposed, a stack of 275 m height with flue gas velocity not less than 18.30 m/s shall be installed along with Flue gas desulphurization system and provided with continuous online monitoring equipment for SOX, NOX, PM. Mercury emission from stack may also be monitored on periodic basis.	Shall be complied.
ii	An interlocking arrangement shall be set up to shut down power plant when Flue-gas Desulphurization (FGD) is not functional.	Shall be complied. 70% work of installation is completed and remaining work in progress.
iii.	The transportation of coal shall be done by rail subject to ministry notification dated 21.05.2020.	Shall be complied, work in progress.
iv.	The ash content in the coal shall be in accordance with ministry's notification dated 21.05.2020 and subsequent amendment.	Shall be complied.

v.	Water consumption in the FGD, in case of wet lime dosing and management of gypsum including its land requirement shall be provided.	Shall be complied.
*Additional conditions sought by ministry vide letter no. J-13012/75/2010-IA.II (T), dt. 14.12.2023		
	Action plan for green plantation shall be prepared. A dedicated team under supervision of project head shall work for developing green belt as per CPCB guidelines or as recommended in the EC letter. Green plantation shall be carried out before the month of October 2023 around the plant boundary. Action plan and its implementation shall be certified by IRO, Nagpur in the month of October.	Green belt development is part of M/s. BHEL EPC package. The work is already started and out of total 1.73 Lakhs plantation 40,000 plants are planted. Remaining plantation work is in progress.

Manual Stack Emission Monitoring Report Period Jan-2025 to Jun-2025

Month	Unit	Stack Emmission					Avg.PLF (%)	Power Generation (MUs)	Water Consumption (M3)	Sp. Water Consumption (M3/KWh)
		SPM (mg/Nm3)			SO2 (mg/Nm3)	NO2 (mg/Nm3)				
		Min	Max	Avg						
Jan-25	U- 6	36	42	38	51	60	--	--	--	--
Feb-25	U- 6	20	24	34	204	50	80.60	89.375	368750	4.13
Mar-25	U- 6	20	25	23	1123	43	44.57	218.863	1184625	4.30
Apr-25	U- 6	21	23	22	1107	40	72.59	344.93	1457625	3.30
May-25	U- 6	21	24	23	1199	176	80.65	396.04	1547194	3.41
Jun-25	U- 6	MNC	MNC	MNC	MNC	MNC	81.85	369.497	1574125	3.63

***Remarks: - MNC:** Monitoring not carried out due to Technical problem.

Manual Ambient Air Quality Monitoring Report Period Jan-2025 to Jun-2025

Month	Location	PM2.5 (µg/m3)	PM10 (µg/m3)	SO2 (µg/m3)	NOx (µg/m3)	Pb (µg/m3)	NH ₃ (µg/m3)	CO (µg/m3)	O ₃ (µg/m3)	Benzo Pyrene	C6H6 (Benzene)	Ni (ng/m3)	As (ng/m3)
Jan-25	ETP (500MW)	26.15	64.39	19.51	24.69	BLQ	24.00	1.29	23.55	BLQ	1.24	4.66	1.02
	Fire fighting House (500MW)	30.77	68.15	22.29	27.47	BLQ	24.60	1.43	27.15	BLQ	1.39	5.28	1.21
	New Guest House	25.44	58.25	17.95	23.04	BLQ	23.25	1.34	23.88	BLQ	1.23	4.16	0.92
	Pimprisekam Railway Gate	29.49	65.73	21.26	28.48	BLQ	23.53	1.71	26.45	BLQ	1.35	4.98	1.10
Feb-25	ETP (500MW)	20.00	64.00	30.98	30.03	BLQ	23.25	1.50	22.80	BLQ	1.31	4.11	2.38
	Fire fighting House (500MW)	22.50	64.50	32.90	30.23	BLQ	23.40	1.36	26.08	BLQ	1.30	4.28	2.05
	New Guest House	23.75	66.25	28.53	29.53	BLQ	22.95	1.70	25.35	BLQ	1.44	4.25	1.75
	Pimprisekam Railway Gate	24.50	65.00	29.33	32.83	BLQ	22.50	1.85	27.53	BLQ	1.43	3.92	1.93
Mar-25	ETP (500MW)	18.00	49.00	32.43	29.45	BLQ	23.20	1.48	22.97	BLQ	1.31	4.02	2.44
	Fire fighting House (500MW)	21.75	65.00	33.00	29.78	BLQ	23.50	1.35	26.20	BLQ	1.41	3.68	2.04
	New Guest House	21.25	66.00	32.20	27.90	BLQ	22.35	1.78	24.78	BLQ	1.43	3.72	1.35
	Pimprisekam Railway Gate	23.25	63.50	29.63	28.43	BLQ	22.48	1.78	26.55	BLQ	1.16	3.69	1.91
Apr-25	ETP (500MW)	25.75	69.38	21.18	26.90	BLQ	29.25	1.11	23.28	BLQ	1.15	4.44	1.35
	Fire fighting House (500MW)	31.75	73.38	24.98	34.59	BLQ	28.74	1.30	24.40	BLQ	1.18	5.30	1.38
	New Guest House	24.13	58.63	19.86	26.90	BLQ	24.58	0.89	24.18	BLQ	1.14	3.79	1.18
	Pimprisekam Railway Gate	32.88	77.63	23.41	26.65	BLQ	31.83	1.42	25.89	BLQ	1.23	4.79	1.35
May-25	ETP (500MW)	17.25	56.25	17.21	21.63	BLQ	22.97	0.99	22.74	BLQ	1.10	3.60	1.10
	Fire fighting House (500MW)	20.88	62.00	20.59	25.65	BLQ	23.82	1.20	23.30	BLQ	1.14	3.64	1.12
	New Guest House	16.88	47.38	13.39	19.14	BLQ	21.53	0.88	23.20	BLQ	1.08	BLQ	0.93
	Pimprisekam Railway Gate	22.88	63.38	19.38	23.95	BLQ	24.10	1.14	23.12	BLQ	1.12	4.68	1.14
Jun-25	ETP (500MW)	19.63	57.88	15.08	20.00	BLQ	23.90	0.90	22.57	BLQ	1.03	3.40	0.88
	Fire fighting House (500MW)	24.75	64.38	18.80	24.68	BLQ	26.08	1.01	23.58	BLQ	1.22	3.68	0.99
	New Guest House	16.00	47.00	12.44	16.83	BLQ	22.97	0.73	23.67	BLQ	1.02	3.00	0.76
	Pimprisekam Railway Gate	26.00	65.75	17.15	22.45	BLQ	23.20	1.06	24.43	BLQ	1.10	3.63	1.00

2 X 500MW

MONTHLY UTILISATION OF FLY ASH AT BHSAWAL TPS FOR THE PERIOD JAN-2025 TO JUN-2025																			
MONTH	* COAL CONS.(MT) (Net)	ASH %	TOTAL ASH GEN.(MT)	Total Bottom Ash Generated (MT)	Total Fly Ash Generated (MT)	Dry Fly Ash Utilization (MT)			CATEGORYWISE ASH UTILISATION (MT)							Total Wet Ash Uti	Total Ash Uti (MT)	Dry Fly Ash Uti (%)	Total ASH UTI (%)
						Fly Ash Qty Lifted By 80% offtakers (Cement Companies and Others)	Fly Ash Qty Lifted By 20% offtankers (SSI)	Total DFA Utilization	AGRI / FERTILIZE R (MT)	BRICKS / BLOCKS (MT)	Building/ CEMENT (MT)	ROAD / CONST. / EMBANKM ENT (MT)	Ash Dyke Raising/e mbanknt	LAND FILL / MINE FILL (MT)	ASBESTO S(MT)				
Jan-25	437534.00	38.07	166569.19	49970.76	116598.44	103724.29	20426.76	124151.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	124151.05	106.48	74.53
Feb-25	400180.00	38.03	152188.45	45656.54	106531.92	94753.19	20188.10	114941.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	114941.29	107.89	75.53
Mar-25	475331.00	39.02	185474.16	55642.25	129831.91	107984.73	20461.46	128446.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	128446.19	98.93	69.25
Apr-25	399900.00	39.43	157680.57	47304.17	110376.40	84697.52	15476.20	100173.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100173.72	90.76	63.53
May-25	363567.00	38.83	141173.07	42351.92	98821.15	92400.00	21991.20	114391.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	114391.20	115.76	81.03
Jun-25	306958.00	38.64	118608.57	35582.57	83026.00	84060.38	20009.42	104069.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	104069.80	125.35	87.74
TOTAL	2383470.00		921694.01	276508.20	645185.81	567620.11	118553.14	686173.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	686173.25	106.35	74.45

Remarks :- Pond Ash Lifted from Ash Bund is used for Agri./Fertilizers,Bricks/Blocks,Road Const/ Embankment, Land Fill/ Mine Fill & Asbestos

ULR-TC550925000003968F

TEST REPORT

Sample ID : W/02/25/0228	Report No.: W/02/25/0228	Report Date	17/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Open well (Mr. Prashant Bonde, Village: Manyarkhede)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	17/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		

Chemical Testing; Group: Water, Residues in Water

Physical & Chemical Parameters

1.	Temperature	30.1	-	-	°C	IS 3025 (Part 9):1984
2.	Colour	1	Max. 5	Max.15	Hazen Units	IS 3025 (Part 4), Method No.4: 1983
3.	pH Value	8.36	6.5 - 8.5	No relaxation	-	IS 3025 (Part II):2022
4.	Turbidity	2.23	Max. 1	Max.5	NTU	IS 3025 (Part 10):2023
5.	Biochemical Oxygen Demand (3 days, 27°C)	2	Not specified	Not specified	mg/L	IS 3025 (Part 44): 1993
6.	Chemical Oxygen Demand	8	Not specified	Not specified	mg/L	APHA, 24th Ed., 5220, B, 544:2023
7.	Total Suspended Solids	6	Not specified	Not specified	mg/L	IS 3025 (Part 17):, 2022
8.	Total Dissolved Solids	1050	Max. 500	Max. 2000	mg/L	IS 3025 (Part 16): 2023
9.	Dissolved Oxygen	6.2	Not specified	Not specified	mg/L	IS 3025 (Part 38), Method No.4: 1989
10.	Oil & Grease	BLQ (LOQ:1)	Not specified	Not specified	mg/L	IS 3025 (Part 39) Method No.5: 2021
11.	Free Ammonia	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA 24th Ed., 4500-NH3, B & C 424:2023
12.	Copper (as Cu)	BLQ (LOQ:0.02)	Max.0.05	Max.1.5	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
13.	Fluoride (as F)	0.69	Max. 1	Max.1.5	mg/L	ISO 15923-2:2017
14.	Iron (as Fe)	0.249	Max.1.0	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
15.	Manganese (as Mn)	BLQ (LOQ:0.02)	Max.0.1	Max.0.3	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
16.	Nitrate Nitrogen (as NO ₃ -N)	4.95	Not specified	Not specified	mg/L	APHA, 24th Ed., 4500- NO3.B, 434: 2023
17.	Selenium (as Se)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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ULR-TC550925000003968F

Sample ID : W/02/25/0228	Report No.: W/02/25/0228	Report Date	17/02/2025
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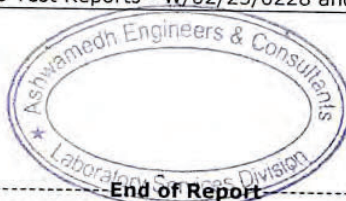
Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
18.	Sulphate (as SO ₄)	371	Max. 200	Max.400	mg/L	ISO 15923-1:2017
19.	Sulphide (as H ₂ S)	BLQ (LOQ:0.025)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 29):1986
20.	Total Kjeldahl Nitrogen	3.02	Not specified	Not specified	mg/L	APHA 24th Ed., 4500 NH ₃ , B & C, 424 & 425 or F, 429 & 4500-N org, B 452:2023
21.	Phenolic Compounds (as C ₆ H ₅ OH)	BLQ (LOQ:0.001)	Max. 0.001	Max.0.002	mg/L	Clause 6 of IS 3025(Part 43):1992
22.	Total Phosphate (as P)	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA 24th Ed.,4500- P.E.486: 2023
23.	Zinc (as Zn)	BLQ (LOQ:0.05)	Max. 5	Max.15	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
24.	Chromium (Hexa) (as Cr+6)	BLQ (LOQ:0.02)	Not specified	Not specified	mg/L	IS 3025 (Part 52):2003
25.	Cadmium (as Cd)	BLQ (LOQ:0.002)	Max. 0.003	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
26.	Cyanide (as CN)	BLQ (LOQ:0.001)	Max.0.05	No relaxation	mg/L	Clause 2 of IS 3025 (Part 27):1986
27.	Lead (as Pb)	BLQ (LOQ:0.008)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
28.	Mercury (as Hg)	BLQ (LOQ:0.0008)	Max. 0.001	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
29.	Nickel (as Ni)	0.019 (MU:±0.0034)	Max.0.02	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
30.	Arsenic (as As)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
31.	Chromium (as Cr)	0.052 (MU:±0.0022)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
32.	Vanadium (as V)	0.129	Not specified	Not specified	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

MU: Measurement Uncertainty

BLQ:Below Limit of Quantification, LOQ:Limit of Quantification.

Note: Sample ID W/02/25/0228 bears two Test Reports - W/02/25/0228 and W/02/25/0228N.

Saanvi Dalal
Section In-charge (Chemical)
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End of Report

Note:

1. The result listed refers only to the tested sample(s) and applicable parameter(s).
2. This report is not to be reproduced except in full, without written approval of the laboratory.
3. In case sampling is not done by laboratory, the results apply to the sample as received.
4. There are no additions to, deviations or exclusions from the method.





Test Report

Sample ID : W/02/25/0228	Report No.: W/02/25/0228N	Report Date	17/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Open well (Mr. Prashant Bonde, Village: Manyarkhede)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	17/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		

Chemical Testing; Group: Water, Residues in Water

Physical & Chemical Parameters

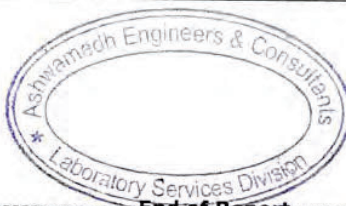
1.	Chromium (Trivalent)	0.052	Not specified	Not specified	mg/L	IS 3025 (Part 2):2019/ISO 11885:2007
2.	Total Residual Chlorine	BLQ (LOQ:0.05)	Not specified	Not specified	mg/L	APHA 24th Ed. 4500- Cl.G. 357: 2023
3.	Fixed Dissolved Solid	704	Not specified	Not specified	mg/L	IS 3025 (Part 18):1984
4.	Bioassay Test	80% Survival of fish after 96 hour in 100% water sample	Not specified	Not specified	-	IS 6582:1971

MU: Measurement Uncertainty.

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.

Note: Sample ID W/02/25/0228 bears two Test Reports - W/02/25/0228 and W/02/25/0228N.

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Section In-charge (Chemical)
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End of Report

Note:

1. The result listed refers only to the tested sample(s) and applicable parameter(s).
2. This report is not to be reproduced except in full, without written approval of the laboratory.
3. In case sampling is not done by laboratory, the results apply to the sample as received.
4. There are no additions to, deviations or exclusions from the method.





ULR-TC550925000003969F

TEST REPORT

Sample ID : W/02/25/0229	Report No.: W/02/25/0229	Report Date	18/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell (Gram Panchayat, Village: Manyarkhede)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	18/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		

Chemical Testing; Group: Water, Residues in Water

Physical & Chemical Parameters

1.	Temperature	29.8	-	-	°C	IS 3025 (Part 9):1984
2.	Colour	1	Max. 5	Max.15	Hazen Units	IS 3025 (Part 4), Method No.4: 1983
3.	pH Value	8.12	6.5 - 8.5	No relaxation	-	IS 3025 (Part 11):2022
4.	Turbidity	0.25	Max. 1	Max.5	NTU	IS 3025 (Part 10):2023
5.	Biochemical Oxygen Demand (3 days, 27°C)	2	Not specified	Not specified	mg/L	IS 3025 (Part 44): 1993
6.	Chemical Oxygen Demand	8	Not specified	Not specified	mg/L	APHA. 24th Ed., 5220, B, 544:2023
7.	Total Suspended Solids	7	Not specified	Not specified	mg/L	IS 3025 (Part 17):. 2022
8.	Total Dissolved Solids	1618	Max. 500	Max. 2000	mg/L	IS 3025 (Part 16): 2023
9.	Dissolved Oxygen	6.2	Not specified	Not specified	mg/L	IS 3025 (Part 38), Method No.4: 1989
10.	Oil & Grease	BLQ (LOQ:1)	Not specified	Not specified	mg/L	IS 3025 (Part 39) Method No.5: 2021
11.	Free Ammonia	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA 24th Ed., 4500-NH3, B & C 424:2023
12.	Copper (as Cu)	BLQ (LOQ:0.02)	Max.0.05	Max.1.5	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
13.	Fluoride (as F)	0.57	Max. 1	Max.1.5	mg/L	ISO 15923-2:2017
14.	Iron (as Fe)	0.430	Max.1.0	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
15.	Manganese (as Mn)	BLQ (LOQ:0.02)	Max.0.1	Max.0.3	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
16.	Nitrate Nitrogen (as NO ₃ -N)	3.08	Not specified	Not specified	mg/L	APHA 24th Ed., 4500- NO3, B, 434: 2023
17.	Selenium (as Se)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

Saanvi Dalal

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ULR-TC550925000003969F

Sample ID : W/02/25/0229	Report No.: W/02/25/0229	Report Date	18/02/2025
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Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
18.	Sulphate (as SO ₄)	410	Max. 200	Max.400	mg/L	ISO 15923-1:2017
19.	Sulphide (as H ₂ S)	BLQ (LOQ:0.025)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 29):1986
20.	Total Kjeldahl Nitrogen	2.1	Not specified	Not specified	mg/L	APHA 24th Ed., 4500 NH ₃ , B & C, 424 & 425 or F, 429 & 4500-N org. B 452:2023
21.	Phenolic Compounds (as C ₆ H ₅ OH)	BLQ (LOQ:0.001)	Max. 0.001	Max.0.002	mg/L	Clause 6 of IS 3025(Part 43):1992
22.	Total Phosphate (as P)	0.10	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- P.E.486: 2023
23.	Zinc (as Zn)	0.273	Max. 5	Max.15	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
24.	Chromium (Hexa) (as Cr+6)	BLQ (LOQ:0.02)	Not specified	Not specified	mg/L	IS 3025 (Part 52):2003
25.	Cadmium (as Cd)	BLQ (LOQ:0.002)	Max. 0.003	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
26.	Cyanide (as CN)	BLQ (LOQ:0.001)	Max.0.05	No relaxation	mg/L	Clause 2 of IS 3025 (Part 27):1986
27.	Lead (as Pb)	BLQ (LOQ:0.008)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
28.	Mercury (as Hg)	BLQ (LOQ:0.0008)	Max. 0.001	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
29.	Nickel (as Ni)	0.021 (MU:±0.0034)	Max.0.02	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
30.	Arsenic (as As)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
31.	Chromium (as Cr)	0.051 (MU:±0.0022)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
32.	Vanadium (as V)	0.087	Not specified	Not specified	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

MU: Measurement Uncertainty.

BLQ:Below Limit of Quantification, LOQ:Limit of Quantification.

Note: Sample ID W/02/25/0229 bears two Test Reports - W/02/25/0229 and W/02/25/0229N.


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End of Report

Note:

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3. In case sampling is not done by laboratory, the results apply to the sample as received.
4. There are no additions to, deviations or exclusions from the method.
5. Statement of conformity is based on the decision rule applied.



Test Report

Sample ID : W/02/25/0229	Report No.: W/02/25/0229N	Report Date	18/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell (Gram Panchayat, Village: Manyarkhede)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	18/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Chromium (Trivalent)	0.051	Not specified	Not specified	mg/L	IS 3025 (Part 2):2019/ISO 11885:2007
2.	Total Residual Chlorine	BLQ (LOQ:0.05)	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- Cl.G, 357: 2023
3.	Fixed Dissolved Solid	1169	Not specified	Not specified	mg/L	IS 3025 (Part 18):1984
4.	Bioassay Test	100% Survival of fish after 96 hour in 100% water sample	Not specified	Not specified	-	IS 6582:1971

MU: Measurement Uncertainty

Limit of Quantification, LOQ: Limit of Quantification.

Note: Sample ID W/02/25/0229 bears two Test Reports - W/02/25/0229 and W/02/25/0229N.

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4. There are no additions to, deviations or exclusions from the method.





ULR-TC550925000003978F

TEST REPORT

Sample ID : W/02/25/0238	Report No.: W/02/25/0238	Report Date	15/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Open well (Mr. Prabhakar Talele, Village: Velhara)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	15/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		

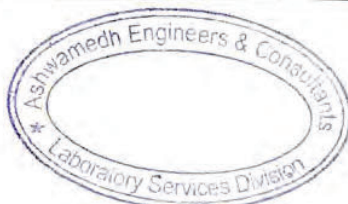
Chemical Testing; Group: Water, Residues in Water

Physical & Chemical Parameters

1.	Temperature	29.2	-	-	°C	IS 3025 (Part 9):1984
2.	Colour	1	Max. 5	Max.15	Hazen Units	IS 3025 (Part 4), Method No.4: 1983
3.	pH Value	8.18	6.5 - 8.5	No relaxation	-	IS 3025 (Part 11):2022
4.	Turbidity	BLQ (LOQ:0.2)	Max. 1	Max.5	NTU	IS 3025 (Part 10):2023
5.	Biochemical Oxygen Demand (3 days, 27°C)	2	Not specified	Not specified	mg/L	IS 3025 (Part 44): 1993
6.	Chemical Oxygen Demand	8	Not specified	Not specified	mg/L	APHA, 24th Ed., 5220, 8, 544:2023
7.	Total Suspended Solids	8	Not specified	Not specified	mg/L	IS 3025 (Part 17): 2022
8.	Total Dissolved Solids	1000	Max. 500	Max. 2000	mg/L	IS 3025 (Part 16): 2023
9.	Dissolved Oxygen	6.3	Not specified	Not specified	mg/L	IS 3025 (Part 38), Method No.4: 1989
10.	Oil & Grease	BLQ (LOQ:1)	Not specified	Not specified	mg/L	IS 3025 (Part 39) Method No.5: 2021
11.	Free Ammonia	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA 24th Ed., 4500-NH3, B & C 424:2023
12.	Copper (as Cu)	BLQ (LOQ:0.02)	Max.0.05	Max.1.5	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
13.	Fluoride (as F)	0.60	Max. 1	Max.1.5	mg/L	ISO 15923-2:2017
14.	Iron (as Fe)	0.260	Max.1.0	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
15.	Manganese (as Mn)	BLQ (LOQ:0.02)	Max.0.1	Max.0.3	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
16.	Nitrate Nitrogen (as NO ₃ -N)	3.0	Not specified	Not specified	mg/L	APHA, 24th Ed., 4500- NO3.B, 434: 2023
17.	Selenium (as Se)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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ULR-TC550925000003978F

Sample ID : W/02/25/0238	Report No.: W/02/25/0238	Report Date	15/02/2025
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Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
18.	Sulphate (as SO ₄)	81.9	Max. 200	Max.400	mg/L	IS 3025 (Part 24)/Sec-I: 2022
19.	Sulphide (as H ₂ S)	BLQ (LOQ:0.025)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 29):1986
20.	Total Kjeldahl Nitrogen	1.45	Not specified	Not specified	mg/L	APHA 24th Ed., 4500 NH ₃ , B & C, 424 & 425 or F, 429 & 4500-N org, B 452:2023
21.	Phenolic Compounds (as C ₆ H ₅ OH)	BLQ (LOQ:0.001)	Max. 0.001	Max.0.002	mg/L	Clause 6 of IS 3025(Part 43):1992
22.	Total Phosphate (as P)	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- P.E.486: 2023
23.	Zinc (as Zn)	0.062	Max. 5	Max.15	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
24.	Chromium (Hexa) (as Cr+6)	BLQ (LOQ:0.02)	Not specified	Not specified	mg/L	IS 3025 (Part 52):2003
25.	Cadmium (as Cd)	BLQ (LOQ:0.002)	Max. 0.003	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
26.	Cyanide (as CN)	BLQ (LOQ:0.001)	Max.0.05	No relaxation	mg/L	Clause 2 of IS 3025 (Part 27):1986
27.	Lead (as Pb)	BLQ (LOQ:0.008)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
28.	Mercury (as Hg)	BLQ (LOQ:0.0008)	Max. 0.001	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
29.	Nickel (as Ni)	0.015	Max.0.02	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
30.	Arsenic (as As)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
31.	Chromium (as Cr)	0.051 (MU:±0.0022)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
32.	Vanadium (as V)	0.082	Not specified	Not specified	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

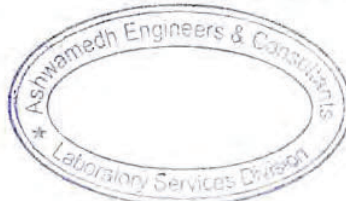
MU: Measurement Uncertainty

BLQ:Below Limit of Quantification, LOQ:Limit of Quantification.

Note: Sample ID W/02/25/0238 bears two Test Reports - W/02/25/0238 and W/02/25/0238N.



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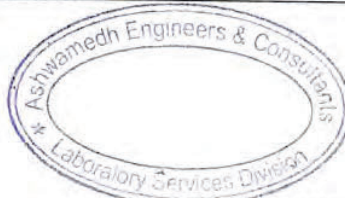
Test Report

Sample ID : W/02/25/0238	Report No.: W/02/25/0238N	Report Date	15/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Openwell (Mr. Prabhakar Talele, Village: Velhara)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	15/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Chromium (Trivalent)	0.051	Not specified	Not specified	mg/L	IS 3025 (Part 2):2019/ISO 11885:2007
2.	Total Residual Chlorine	BLQ (LOQ:0.05)	Not specified	Not specified	mg/L	APHA 24th Ed. 4500- Cl.G. 357: 2023
3.	Fixed Dissolved Solid	758	Not specified	Not specified	mg/L	IS 3025 (Part 18):1984
4.	Bioassay Test	90% Survival of fish after 96 hour in 100% water sample	Not specified	Not specified	-	IS 6582:1971
MU: Measurement Uncertainty BLQ:Below Limit of Quantification, LOQ:Limit of Quantification. Note: Sample ID W/02/25/0238 bears two Test Reports - W/02/25/0238 and W/02/25/0238N.						

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ULR-TC550925000003979F

TEST REPORT

Sample ID : W/02/25/0239	Report No.: W/02/25/0239	Report Date	19/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Open well (Gram Panchayat, Village: Velhara)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	19/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Temperature	30.2	-	-	°C	IS 3025 (Part 9):1984
2.	Colour	1	Max. 5	Max.15	Hazen Units	IS 3025 (Part 4), Method No.4: 1983
3.	pH Value	8.23	6.5 - 8.5	No relaxation	-	IS 3025 (Part II):2022
4.	Turbidity	0.26	Max. 1	Max.5	NTU	IS 3025 (Part 10):2023
5.	Biochemical Oxygen Demand (3 days, 27°C)	2	Not specified	Not specified	mg/L	IS 3025 (Part 44): 1993
6.	Chemical Oxygen Demand	8	Not specified	Not specified	mg/L	APHA, 24th Ed., 5220, B, 544:2023
7.	Total Suspended Solids	6	Not specified	Not specified	mg/L	IS 3025 (Part 17):. 2022
8.	Total Dissolved Solids	1028	Max. 500	Max. 2000	mg/L	IS 3025 (Part 16): 2023
9.	Dissolved Oxygen	6.2	Not specified	Not specified	mg/L	IS 3025 (Part 38), Method No.4: 1989
10.	Oil & Grease	BLQ (LOQ:1)	Not specified	Not specified	mg/L	IS 3025 (Part 39) Method No.5: 2021
11.	Free Ammonia	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA 24th Ed., 4500-NH3, B & C 424:2023
12.	Copper (as Cu)	BLQ (LOQ:0.02)	Max.0.05	Max.1.5	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
13.	Fluoride (as F)	0.60	Max. 1	Max.1.5	mg/L	ISO 15923-2:2017
14.	Iron (as Fe)	0.183	Max.1.0	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
15.	Manganese (as Mn)	0.055	Max.0.1	Max.0.3	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
16.	Nitrate Nitrogen (as NO ₃ -N)	6.7	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- NO3,B, 434: 2023
17.	Selenium (as Se)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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ULR-TC550925000003979F

Sample ID : W/02/25/0239	Report No.: W/02/25/0239	Report Date	19/02/2025
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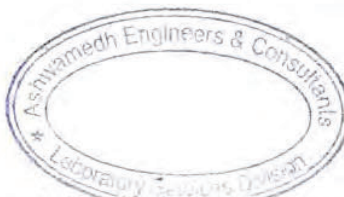
Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
18.	Sulphate (as SO ₄)	829	Max. 200	Max.400	mg/L	ISO 15923-1:2017
19.	Sulphide (as H ₂ S)	BLQ (LOQ:0.025)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 29):1986
20.	Total Kjeldahl Nitrogen	2	Not specified	Not specified	mg/L	APHA 24th Ed., 4500 NH ₃ , B & C, 424 & 425 or F, 429 & 4500-N org, B 452:2023
21.	Phenolic Compounds (as C ₆ H ₅ OH)	BLQ (LOQ:0.001)	Max. 0.001	Max.0.002	mg/L	Clause 6 of IS 3025(Part 43):1992
22.	Total Phosphate (as P)	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- P,E,486: 2023
23.	Zinc (as Zn)	BLQ (LOQ:0.05)	Max. 5	Max.15	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
24.	Chromium (Hexa) (as Cr+6)	BLQ (LOQ:0.02)	Not specified	Not specified	mg/L	IS 3025 (Part 52):2003
25.	Cadmium (as Cd)	BLQ (LOQ:0.002)	Max. 0.003	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
26.	Cyanide (as CN)	BLQ (LOQ:0.001)	Max.0.05	No relaxation	mg/L	Clause 2 of IS 3025 (Part 27):1986
27.	Lead (as Pb)	BLQ (LOQ:0.008)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
28.	Mercury (as Hg)	BLQ (LOQ:0.0008)	Max. 0.001	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
29.	Nickel (as Ni)	0.020 (MU:±0.0034)	Max.0.02	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
30.	Arsenic (as As)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
31.	Chromium (as Cr)	0.057 (MU:±0.0022)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
32.	Vanadium (as V)	0.087	Not specified	Not specified	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

MU: Measurement Uncertainty

BLQ:Below Limit of Quantification, LOQ:Limit of Quantification.

Note: Sample ID W/02/25/0239 bears two Test Reports - W/02/25/0239 and W/02/25/0239N.

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4. There are no additions to, deviations or exclusions from the method.



Test Report

Sample ID : W/02/25/0239	Report No.: W/02/25/0239N	Report Date	19/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Open well (Gram Panchayat, Village: Velhara)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/485 dated 07.02.2025	Date - Completion of Analysis	19/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Chromium (Trivalent)	0.057	Not specified	Not specified	mg/L	IS 3025 (Part 2):2019/ISO 11885:2007
2.	Total Residual Chlorine	BLQ (LOQ:0.05)	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- Cl.G, 357: 2023
3.	Fixed Dissolved Solid	714	Not specified	Not specified	mg/L	IS 3025 (Part 1B):1984
4.	Bioassay Test	100% Survival of fish after 96 hour in 100% water sample	Not specified	Not specified	-	IS 6582:1971
MU: Measurement Uncertainty BLQ:Below Limit of Quantification, LOQ:Limit of Quantification. Note: Sample ID W/02/25/0239 bears two Test Reports - W/02/25/0239 and W/02/25/0239N.						


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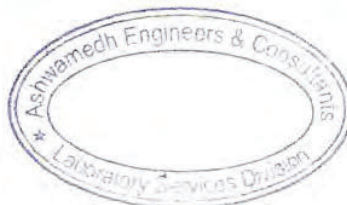
ULR-TC550925000003980F

TEST REPORT

Sample ID : W/02/25/0240	Report No.: W/02/25/0240	Report Date	15/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell (Near Samshan Bhumi, Village: Jadgaon)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/486 dated 07.02.2025	Date - Completion of Analysis	15/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Temperature	30.4	-	-	°C	IS 3025 (Part 9):1984
2.	Colour	1	Max. 5	Max.15	Hazen Units	IS 3025 (Part 4), Method No.4: 1983
3.	pH Value	7.84	6.5 - 8.5	No relaxation	-	IS 3025 (Part 11):2022
4.	Turbidity	0.25	Max. 1	Max.5	NTU	IS 3025 (Part 10):2023
5.	Biochemical Oxygen Demand (3 days, 27°C)	2	Not specified	Not specified	mg/L	IS 3025 (Part 44): 1993
6.	Chemical Oxygen Demand	7	Not specified	Not specified	mg/L	APHA, 24th Ed. 5220, B, 544:2023
7.	Total Suspended Solids	6	Not specified	Not specified	mg/L	IS 3025 (Part 17): 2022
8.	Total Dissolved Solids	1668	Max. 500	Max. 2000	mg/L	IS 3025 (Part 16): 2023
9.	Dissolved Oxygen	6.3	Not specified	Not specified	mg/L	IS 3025 (Part 38), Method No.4: 1989
10.	Oil & Grease	BLQ (LOQ:1)	Not specified	Not specified	mg/L	IS 3025 (Part 39) Method No.5: 2021
11.	Free Ammonia	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA 24th Ed., 4500-NH3, B & C 424:2023
12.	Copper (as Cu)	BLQ (LOQ:0.02)	Max.0.05	Max.1.5	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
13.	Fluoride (as F)	0.63	Max. 1	Max.1.5	mg/L	ISO 15923-2:2017
14.	Iron (as Fe)	0.335	Max.1.0	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
15.	Manganese (as Mn)	0.038	Max.0.1	Max.0.3	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
16.	Nitrate Nitrogen (as NO ₃ -N)	2.92	Not specified	Not specified	mg/L	APHA,24th Ed.4500- NO3.B, 434: 2023
17.	Selenium (as Se)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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ULR-TC550925000003980F

Sample ID : W/02/25/0240	Report No.: W/02/25/0240	Report Date	15/02/2025
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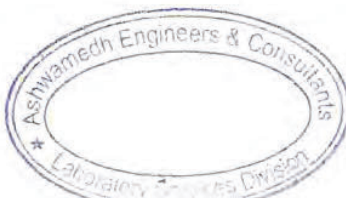
Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
18.	Sulphate (as SO ₄)	193	Max. 200	Max.400	mg/L	IS 3025 (Part 24):Sec-I: 2022
19.	Sulphide (as H ₂ S)	BLQ (LOQ:0.025)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 29):1986
20.	Total Kjeldahl Nitrogen	3.4	Not specified	Not specified	mg/L	APHA 24th Ed., 4500 NH ₃ . B & C, 424 & 425 or F, 429 & 4500-N org. B 452:2023
21.	Phenolic Compounds (as C ₆ H ₅ OH)	BLQ (LOQ:0.001)	Max. 0.001	Max.0.002	mg/L	Clause 6 of IS 3025(Part 43):1992
22.	Total Phosphate (as P)	0.11	Not specified	Not specified	mg/L	APHA,24th Ed.4500- P.E.486: 2023
23.	Zinc (as Zn)	0.094	Max. 5	Max.15	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
24.	Chromium (Hexa) (as Cr+6)	BLQ (LOQ:0.02)	Not specified	Not specified	mg/L	IS 3025 (Part 52):2003
25.	Cadmium (as Cd)	BLQ (LOQ:0.002)	Max. 0.003	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
26.	Cyanide (as CN)	BLQ (LOQ:0.001)	Max.0.05	No relaxation	mg/L	Clause 2 of IS 3025 (Part 27):1986
27.	Lead (as Pb)	BLQ (LOQ:0.008)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
28.	Mercury (as Hg)	BLQ (LOQ:0.0008)	Max. 0.001	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
29.	Nickel (as Ni)	0.020 (MU:±0.0034)	Max.0.02	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
30.	Arsenic (as As)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
31.	Chromium (as Cr)	0.076	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
32.	Vanadium (as V)	0.232	Not specified	Not specified	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

MU: Measurement Uncertainty.

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

Note: Sample ID W/02/25/0240 bears two Test Reports - W/02/25/0240 and W/02/25/0240N.

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Note:


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4. There are no additions to, deviations or exclusions from the method.



Test Report

Sample ID : W/02/25/0240	Report No.: W/02/25/0240N	Report Date	15/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell (Near Samshan Bhumi, Village: Jadgaon)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/486 dated 07.02.2025	Date - Completion of Analysis	15/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Chromium (Trivalent)	0.076	Not specified	Not specified	mg/L	IS 3025 (Part 2):2019/ISO 11885:2007
2.	Total Residual Chlorine	BLQ (LOQ:0.05)	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- Cl.G. 357: 2023
3.	Fixed Dissolved Solid	1054	Not specified	Not specified	mg/L	IS 3025 (Part 18):1984
4.	Bioassay Test	100% Survival of fish after 96 hour in 100% water sample	Not specified	Not specified	-	IS 6582:1971
MU: Measurement Uncertainty. BLQ:Below Limit of Quantification, LOQ:Limit of Quantification. Note: Sample ID W/02/25/0240 bears two Test Reports - W/02/25/0240 and W/02/25/0240N.						


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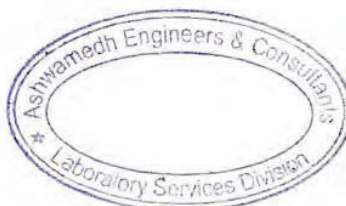
ULR-TC550925000003981F

TEST REPORT

Sample ID : W/02/25/0241	Report No.: W/02/25/0241	Report Date	15/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Openwell (Mr. Ganesh Sukhdev Baviskar, Village: Jadgaon)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/486 dated 07.02.2025	Date - Completion of Analysis	15/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Temperature	30	-	-	°C	IS 3025 (Part 9):1984
2.	Colour	1	Max. 5	Max.15	Hazen Units	IS 3025 (Part 4), Method No.4: 1983
3.	pH Value	8.23	6.5 - 8.5	No relaxation	-	IS 3025 (Part II):2022
4.	Turbidity	0.26	Max. 1	Max.5	NTU	IS 3025 (Part 10):2023
5.	Biochemical Oxygen Demand (3 days, 27°C)	2	Not specified	Not specified	mg/L	IS 3025 (Part 44): 1993
6.	Chemical Oxygen Demand	8	Not specified	Not specified	mg/L	APHA, 24th Ed.,5220, B, 544:2023
7.	Total Suspended Solids	7	Not specified	Not specified	mg/L	IS 3025 (Part 17):. 2022
8.	Total Dissolved Solids	1686	Max. 500	Max. 2000	mg/L	IS 3025 (Part 16): 2023
9.	Dissolved Oxygen	6.1	Not specified	Not specified	mg/L	IS 3025 (Part 38), Method No.4: 1989
10.	Oil & Grease	BLQ (LOQ:1)	Not specified	Not specified	mg/L	IS 3025 (Part 39) Method No.5: 2021
11.	Free Ammonia	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA 24th Ed., 4500-NH3, B & C 424:2023
12.	Copper (as Cu)	BLQ (LOQ:0.02)	Max.0.05	Max.1.5	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
13.	Fluoride (as F)	0.62	Max. 1	Max.1.5	mg/L	ISO 15923-2:2017
14.	Iron (as Fe)	0.191	Max.1.0	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
15.	Manganese (as Mn)	BLQ (LOQ:0.02)	Max.0.1	Max.0.3	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
16.	Nitrate Nitrogen (as NO ₃ -N)	2.64	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- NO3.B, 434: 2023
17.	Selenium (as Se)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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ULR-TC550925000003981F

Sample ID : W/02/25/0241	Report No.: W/02/25/0241	Report Date	15/02/2025
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Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
18.	Sulphate (as SO ₄)	182	Max. 200	Max.400	mg/L	IS 3025 (Part 24)/Sec-I: 2022
19.	Sulphide (as H ₂ S)	BLQ (LOQ:0.025)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 29):1986
20.	Total Kjeldahl Nitrogen	3.1	Not specified	Not specified	mg/L	APHA 24th Ed., 4500 NH ₃ , B & C, 424 & 425 or F, 429 & 4500-N org. B 452:2023
21.	Phenolic Compounds (as C ₆ H ₅ OH)	BLQ (LOQ:0.001)	Max. 0.001	Max.0.002	mg/L	Clause 6 of IS 3025(Part 43):1992
22.	Total Phosphate (as P)	BLQ (LOQ:0.1)	Not specified	Not specified	mg/L	APHA,24th Ed.,4500- P.E.486: 2023
23.	Zinc (as Zn)	BLQ (LOQ:0.05)	Max. 5	Max.15	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
24.	Chromium (Hexa) (as Cr+6)	BLQ (LOQ:0.02)	Not specified	Not specified	mg/L	IS 3025 (Part 52):2003
25.	Cadmium (as Cd)	BLQ (LOQ:0.002)	Max. 0.003	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
26.	Cyanide (as CN)	BLQ (LOQ:0.001)	Max.0.05	No relaxation	mg/L	Clause 2 of IS 3025 (Part 27):1986
27.	Lead (as Pb)	BLQ (LOQ:0.008)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
28.	Mercury (as Hg)	BLQ (LOQ:0.0008)	Max. 0.001	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
29.	Nickel (as Ni)	0.018 (MU:±0.0034)	Max.0.02	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
30.	Arsenic (as As)	BLQ (LOQ:0.005)	Max. 0.01	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
31.	Chromium (as Cr)	0.061 (MU:±0.0022)	Max. 0.05	No relaxation	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
32.	Vanadium (as V)	0.188	Not specified	Not specified	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

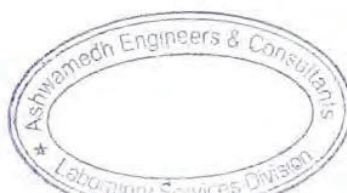
MU: Measurement Uncertainty

BLQ:Below Limit of Quantification, LOQ:Limit of Quantification.

Note: Sample ID W/02/25/0241 bears two Test Reports - W/02/25/0241 and W/02/25/0241N.


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Test Report

Sample ID : W/02/25/0241	Report No.: W/02/25/0241N	Report Date	15/02/2025
Name and Address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Open well (Mr. Ganesh Sukhdev Baviskar, Village: Jadgaon)	Date - Sampling	06/02/2025
Sample Quantity/ Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	APHA 24th Ed., 2023, 1060 B, 44, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/486 dated 07.02.2025	Date - Completion of Analysis	15/02/2025

Sr. No.	Parameter	Result	Drinking Water Specification as per IS 10500: 2012		Unit	Method
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source		
Chemical Testing; Group: Water, Residues in Water						
Physical & Chemical Parameters						
1.	Chromium (Trivalent)	0.061	Not specified	Not specified	mg/L	IS 3025 (Part 2):2019/ISO 11885:2007
2.	Total Residual Chlorine	BLQ (LOQ:0.05)	Not specified	Not specified	mg/L	APHA,24th Ed.4500- Cl.G. 357: 2023
3.	Fixed Dissolved Solid	1011	Not specified	Not specified	mg/L	IS 3025 (Part 18):1984
4.	Bioassay Test	90% Survival of fish after 96 hour in 100% water sample	Not specified	Not specified	-	IS 6582:1971
MU: Measurement Uncertainty BLQ:Below Limit of Quantification, LOQ:Limit of Quantification. Note: Sample ID W/02/25/0241 bears two Test Reports - W/02/25/0241 and W/02/25/0241N.						

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LR-TC550925000005900F

TEST REPORT

Sample ID : W/02/25/0208	Report No. W/02/25/0208	Report Date	10/03/2025
Name and address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Velhala Lake	Date - Sampling	06/02/2025
Sample Quantity / Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle 250 ml x 4 no. sterile glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	IS 1622:1981 & APHA 24th Ed., 2023, 1060 B, 44, 9060 A, 1094 & 9060 B, 1097 & ISO 19458:2006, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/491 dated 07.02.2025	Date - Completion of Analysis	09/03/2025

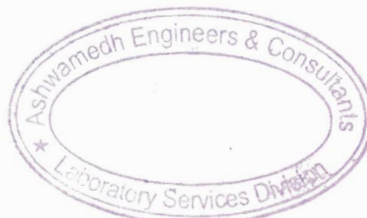
Sr.No.	Parameter	Result	Unit	Method
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Chemical Testing; Group: Water, Residues in Water

Physical & Chemical Parameters

1	Temperature	30.2	°C	IS 3025 (Part 9):1984
2	pH value (at 25°C)	8.39	-	IS 3025 (Part 11): 2022
3	Biochemical Oxygen Demand (3 days, 27°C)	2	mg/L	IS 3025 (Part 44): 1993
4	Chemical Oxygen Demand	8	mg/L	APHA, 24th Ed., 5220, B, 544: 2023
5	Total Suspended Solids	7	mg/L	IS 3025 (Part 17): 2022
6	Total Dissolved Solids	202	mg/L	IS 3025 (Part 16): 2023
7	Oil & Grease	BLQ (LOQ:1)	mg/L	APHA, 24th Ed., 5520, B, 572: 2017
8	Dissolved Oxygen	6.3	mg/L	IS 3025 (Part 38):1989
9	Chloride (as Cl)	49.4	mg/L	ISO-15923-1:2017
10	Iron (as Fe)	0.325	mg/L	IS 3025 (Part 2):2019/ISO 11885:2007
11	Fluoride (as F)	0.50	mg/L	ISO-15923-2:2017
12	Calcium (as Ca)	19.2	mg/L	IS 3025 (Part 40), Method No.5: 1991
13	Magnesium (as Mg)	11.6	mg/L	IS 3025 (Part 46): 1994
14	Nitrate (as NO ₃)	3.61	mg/L	APHA, 24th Ed., 4500- NO ₃ , B, 434: 2023
15	Sulphate (as SO ₄)	41.5	mg/L	ISO-15923-1:2017
16	Total Alkalinity (as CaCO ₃)	82.5	mg/L	IS 3025 (Part 23):1986
17	Total Hardness (as CaCO ₃)	96	mg/L	IS 3025 (Part 21), Method No.5: 2009
18	Total Phosphate (as P)	BLQ (LOQ:0.1)	mg/L	ISO-15923-1:2017
19	Sodium (as Na)	24	mg/L	IS 3025 (Part 45): 2019
20	Potassium (as K)	2.8	mg/L	IS 3025 (Part 45): 2019
21	Tannin & Lignin	0.23	mg/L	APHA, 24th Ed., 5500, B, 590: 2023
22	Silica (Total) (as SiO ₂)	0.33	mg/L	IS 3025 (Part 35), Method No.4: 1988
23	Bicarbonate (as HCO ₃)	48	mg/L	IS 3025 (Part 51): 2001
24	Carbonate (as CO ₃)	1.08	mg/L	IS 3025 (Part 51):2001

Pagare
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Saansi Dalal
Section-in-Charge (Chemical)
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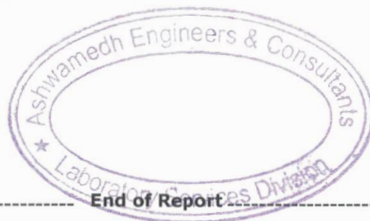
JLR-TC550925000005900F

Sample ID : W/02/25/0208		Report No. W/02/25/0208		Report Date		10/03/2025
Sr.No.	Parameter	Result	Unit	Method		
Biological Testing; Group: Water						
Microbiological Parameters						
25	Total Plate Count (35°C, 48 h)	32	CFU/ml	APHA, 24th Ed., 9215-B, 1120: 2023		
26	Escherichia coli	Absent	/100 ml	APHA, 24th Ed., 9221-G, 1144: 2023		
27	Yeast and Mould (25°C, 7 days)	<1	CFU/ml	APHA, 24th Ed., 9610-C, 1299: 2023		

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

Note: Sample ID W/02/25/0208 bears two Test Reports -W/02/25/0208 and W/02/25/0208N

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Page 2 of 2

TEST REPORT

Sample ID : W/02/25/0208	Report No. W/02/25/0208N	Report Date	10/03/2025
Name and address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Tal. Bhusawal, Dist. Jalgaon - 425307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Velhala Lake	Date - Sampling	06/02/2025
Sample Quantity / Packing	10 L x 1 no. plastic can 1 L x 1 no. glass bottle 250 ml x 4 no. sterile glass bottle	Date - Receipt of Sample	07/02/2025
Sampling Procedure	IS 1622:1981 & APHA 24th Ed., 2023, 1060 B, 44, 9060 A, 1094 & 9060 B, 1097 & ISO 19458:2006, IS 6582:1971	Date - Start of Analysis	07/02/2025
Order Reference	Test Request No. AEC/TR/02/2025/491 dated 07.02.2025	Date - Completion of Analysis	09/03/2025

Sr.No.	Parameter	Result	Unit	Method
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Chemical Testing; Group: Water, Residues in Water

Physical & Chemical Parameters

1	Bioassay Test	90% Survival of fish after 96 hours in 100% water sample	-	IS 6582:1971
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Biological Testing; Group: Water

Microbiological Parameters

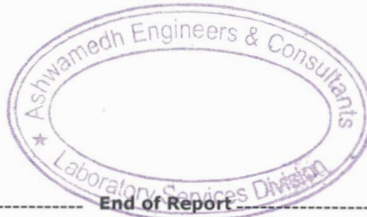
2	Acid Producing Bacteria	Absent	/100 ml	APHA, 24th Ed., 9221-G, 1144:2023
3	Iron Reducing Bacteria	Absent	/100 ml	IS 1622:1981, Ed 24, Amd. 1, 2, 3 & 4, (3.6.2), Page no. 16
4	Slime formers (Pseudomonas and Enterobacter)	Absent	/100 ml	IS 1622:1981, Ed., 24, Amd. 1, 2, 3 & 4, (3.10), Page No. 18
5	Sulphate Reducing Bacteria	<2	MPN Index /100 ml	IS 1622:1981, Ed 24, Amd. 1, 2, 3 & 4, (3.7), Page no. 17
6	Manganese Bacteria	Absent	/100 ml	Elsevier-Sciencedirect water research 44(2010)
7	Nitrifying Bacteria	<1.8	/100 ml	APHA, 24th Ed., 9245A, 1221:2023

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

Note: Sample ID W/02/25/0208 bears two Test Reports -W/02/25/0208 and W/02/25/0208N

Akshata Pagare

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Page 1 of 1

PHYSICAL PROGRESS REPORT - PROFORMA FOR UNDER CONSTRUCTION UNITS SECTOR: STATE

NAME OF THE THERMAL POWER PROJECT WITH NO OF UNITS & RESPECTIVE CAPACITY: 1x660 MW Bhusawal Thermal Power Project, Unit no 06.									
DEVELOPER NAME/ IMPEMETING AGENCY: Maharashtra State Power Generation Company Ltd, Mumbai.									
COMPLETE ADDRESS OF TPP: At Village PimpariSekam, Tal Bhusawal, Dist Jalgaon, Maharashtra, 425307.									
CONTACT DETAILS OF NODAL OFFICER, NAME, EMAIL, MOBILE NO: Mr. S.M. Dhamange, Suptd. Engineer (P&P), email: cgmngpp@mahagenco.in, 8828502488.						E-GEN PORTAL REGISTRATION STATUS- YES/NO, If Yes Registration No (Unit wise):-Yes Reg no. 1200002450			
Commercial Operation Date (COD) of the Unit has been declared on 22/02/2025.									
MAIN PLANT PACKAGE (BTG VENDOR/EPC CONTRACTOR): MAIN VENDOR (ORDER DATE)									
Main EPC Contractor (BTG+BOP) for 1x660MW Bhusawal Project is M/s BHEL, LOA dated 17/01/2018.									
Sl.	Packages		Vendor/Contracting Agency	No of UNIT	Date of Award/ Start date	Present Status	% Completion	Original (Scheduled) Date of Completion	Actual/*Anticipated Date of Completion
1	BOILER	CIVIL WORKS	BHEL/ Powermech	1x660MW	30/05/2019	Completed	98%	25/11/2019	Act: 15/11/2019
		STRUCTURAL WORKS	BHEL/Indwell		25/10/2019	Work in progress: 16634/17111MT		26/01/2022	Ant: Dec-2025
		PRESSURE PARTS COMPLETION	BHEL/Indwell		25/10/2019	Work in progress: 7216/7221MT.		22/05/2021	Act: Oct-2024
BOILER BALANCE WORKS: <ul style="list-style-type: none"> Balance insulation work in progress. Balance structural erection/platforms in boiler is in progress. MS/HRV ERV setting work balance. WWSB 97/98 trial taken found ok & 4 trial balance. LRSB 42/44 trial taken & LRSB commissioning 6 nos. balance. SCAPH balance erection & commissioning in progress. PG test balance. 									
2	TG	CIVIL WORKS	BHEL / Powermech	1x660MW	30/05/2019	Completed	100%	13/03/2022	Act: 11/01/2021
		STRUCTURAL WORKS	BHEL / Powermech		30/05/2019	8950/9000MT		13/03/2022	Act: Jan-2025
		PRESSURE PARTS COMPLETION (Boiler feed line piping)	BHEL/Indwell		25/10/2019	TOTAL570/570Joints		02/01/2022	Act: August- 2023

FIRE-FIGHTING BALANCE WORKS:

- Coal Conv. 2A/B spray nozzles fixing balance.
- All coal conveyor spray network & riser supports balance.
- Coal Conv 9 spray network erection is balance.
- Switch yard area west & south area hydrant line erection is balance.
- PTP, WTP area & NDCT area, hydrant line connection with header is balance.
- Steam line drains are directly connected to fire trenches.
- FF Booster pump & foam pump auto pickup trial is balance C&I side.
- Hose reel box erection is balance at all locations.
- Hydrant & spray line alignment not as per standard erection procedure.
- All lines painting & nomenclature is balance.
- Fire trenches water drainage is not provided.
- Powerhouse C-row column 14 staircase hydrant riser erection is balance.
- CHP, AHP & SAT transformer spray line erection is balance.
- Portable fire extinguishers placement is balance.

3.5mtr –

- Operator cabin work under progress.
- Closing of IPBD & SPBD by brick work pending.

8.5mtr –

- A-B Bay 12-14 grid slab completed.
- Illumination work is in progress.

12mtr –

- Earthing flat laid on finish floor, modification work pending.
- Finish flooring work below DTT is balance.

17mtr–

- A- Row side ventilation duct erection work is in progress.

C&I(BTG & BOP)

- C&I BTG area pending/punch points attending is in progress.
- FDA fore detection & protection commissioned is in progress.
- CPU analyser commissioning in progress.
- ETP, STP &PT DCS commissioning works in progress.
- Plant CCTV commissioning work is in progress.
- CHP, DE, DS & CSU PLC commissioning work is in progress.
- Cable dressing work pending, progressively completed.
- Live trial will be taken as per clearance.
- HVAC system commissioning at service building CCR is in progress.

3	ESP	**PASS STATUS	BHEL/Indwell	1x660MW	25/10/2019	10034/10034 MT	100%	25/03/2022	Act: Jan-2025
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****BRIEF WRITEUP ABOUT CURRENT STATUS OF ESP WORKS:**

- Illumination work is in progress.
- ESP-pass – B hopper heater JB erection in progress.
- ESP 10m level side wall insulation work in progress.

3A	FGD Plant (M/s Indwell)	CIVIL WORK	BHEL / Powermech/BJCL	1x660MW	30/05/2019 24/08/2019	2880/3096 M3	73%	10/06/2021	Ant: Aug-2025
		MATERIAL SUPPLY	BHEL		31/12/2018	3520/4800 MT		24/03/2021	Ant: Sept-2025
		ERECTION WORK	BHEL/Indwell		25/10/2019	1199/3922MT		15/04/2022	Ant: Sept-2025

BRIEF WRITEUP ABOUT CURRENT STATUS OF FGD WORK:

1) Limestone Hopper, Silo& wet ball mill:

- RCC: 2305 cum out of 2500 cum completed.
- Mill foundation casting completed.
- Limestone silo shell casting completed structural erection progress.
- Limestone Hopper & grade slab floor completed.
- Wet ball mill roof slab completed.
- FGD wet ball mill limestone silo erection & preassembly work in progress.

2) Limestone Crusher House:

- Concreting: 221cum out of 400 cum completed.
- All pedestal completed. Structural erection in progress.
- Dismantling completed & pedestal cutting work is completed.
- Foundation work in progress.

3) FGD

- Absorber shell plate erection work completed, welding work in progress.
- FGD inlet duct preassembly & erection work in progress.
- Absorber structure tie beam & column erection work is in progress.
- FGD miscellaneous tanks erection & welding work completed & glass flakes lining work in progress.
- RC pump structure erection & welding work completed.
- Elevator structure erection work in progress.
- FGD- 2150 MT erection completed.
- 11/3.3KV transformer OECT1 & OECT2 placed on foundation
- 11KV SWBD & 3.3KV erection in progress.
- 11KV SPBD erection in progress.
- Oil filled X'mer SPBD bus joints tightness checked.
- Lighting work is in progress.
- LSST tank erection work in progress.
- Wet ball mill A & B motor sole plate blue making completed.
- One day silo preassembly work in progress.
- Wet ball mill A & B lub oil skid erection done.
- Internal panel control cable laying in progress.

4) FGD CR Building:

- RCC: 2700 cum out of 2800 cum completed.

- Roof slab work is completed.
- Grade slab completed.
- Brickwork plastering in progress.
- FGD Oil filled transformer (02 Nos) kept on foundation.
- MLDB (02 nos.) erected and testing work completed.
- Finishing work in progress.

5) Gypsum Dewatering Building:

- Civil Work is in progress.
- Structural fabrication and erection in progress.
- Desk sheeting for RCC slab casting work in progress.
- Grade slab work in progress.

6) FGD RC Pump House & Blower room:

- Civil work Completed.

FGD Erection: 1199MT out of 3922 MT completed.

STATUS OF BOPs							
Sl.	Packages/ Linked Project Milestones	Vendor/Contracting Agency	Date of Award/Start date	Present Status	% Completion	Original (Scheduled) Date of Completion	Actual/*Anticipated Date of Completion
1	Chimney	BHEL / Powermech/Shreevijaya	30/05/2019	Completed	100%	28/02/2022	Act: April –2024
2	Coal Handling Plant	BHEL / PMPL/BJCL / Place Maker (Conveyor Package-Civil & Structure)	30/05/2019 24/08/2019 23/12/2021	Work in Progress	95%	30/04/2022	Ant: Aug-2025
		BHEL / MacawberBeekay Pvt Ltd. (Conveyor Package-Mechanical)	27/05/2019	Work in Progress	90%	30/04/2022	Ant: Aug-2025
		BHEL / BJCL/ Place Maker (Wagon Tripler-Civil & Structure)	24/08/2019 23/12/2021	Work in Progress	99%	30/04/2022	Ant: July-2025
		BHEL / Promac (Wagon Tripler-mechanical)	28/05/2019	Work in Progress	99.5%	30/04/2022	Ant: 15 th Aug 2025
		BHEL / BJCL/ (Stacker Reclaimer-Civil)	24/08/2019	Completed	100%	30/04/2022	Act: July-2024
		BHEL / Promac (Stacker Reclaimer)	28/05/2019	Completed			
3	Ash Handling Plant	BHEL / BJCL/ Place Maker (Civil)	24/08/2019 23/12/2021	Work in Progress	98%	31/03/2022	Ant: July-2025
		BHEL / MacawberBeekay Pvt Ltd. (Mechanical)	27/05/2019	Work in Progress			
4	Fuel Oil System	BHEL / PMPL (Civil)	30/05/2019	Completed	100%	21/11/2021	Act: 20 Nov-2024
		BHEL / New Fire Engineers Pvt Ltd.	19/09/2019			21/11/2021	
5	Cooling Towers	BHEL/Hayagrev civil engineering Pvt Ltd/ PCTL	01/11/2019 05/03/2022	Completed	100%	31/03/2022	Act: May 2024
6	CW Pump house	BHEL/Alpha Power Engineering Services Pvt Ltd	29/01/2021	Completed	100%	28/02/2022	Act: January-2024

7	CW Piping	BHEL/G&J Pvt Ltd.	03/08/2020	Completed		18/02/2022	Act:08 January 2024
8	PT Plant	BHEL/Clear Water company	17/02/2020	Work in Progress	95%	12/12/2021	Ant: Aug-2025
9	DM Plant	BHEL/Wipro Enterprises Pvt Ltd	14/01/2020	Completed	100%	30/11/2021	Act: September-2023
10	Air Compressor	BHEL/Elgi Equipment Ltd.	24/08/2020	Completed	100%	04/11/2021	Act.: March- 2023
11	Fire Protection pump house	BHEL / Alpha power engineering services Pvt Ltd	29/01/2021	Work in Progress	99%	20/05/2021	Act:-06 January2024
12	Fire Protection piping	BHEL/ G&J Pvt Ltd.	03/08/2020	Work in Progress	88%	28/08/2021	Ant: Aug-2025
13	Switch Yard	MSETCL/BNC Power Projects Ltd	15/02/2021	Completed	100%	28/02/2022	Act: 25/01/2023
15	Unit Transformers	BHEL	17/01/2018	Completed	100%	20/01/2022	Act: 02/01/2025
16	Railway siding with ROB	BHEL/ISC Projects	02/01/2021	Work in Progress	90%	31/03/2022	Ant: Dec-2025
17	Power Evacuation	MSETCL/BNC Power Projects Ltd	15/02/2021	Completed	100%	28/02/2022	Act: February 2023

BRIEF WRITEUP ABOUT CURRENT STATUS OF BOPs WORK:

1) Chimney

- Staircase completed.
- Boro silicate lining application completed on 28.10.2023.
- Aviation lighting completed.
- Chimney illumination balance.

2) CHP:

(a) Conveyor package

TPs & Trestles:

- TPs curb wall erection balance.
- Structural welding balance at TPs.
- Civil balance work Monorail, handrail, seal plate safety door all TPs along conveyer system.
- 13.2 M chequered plate floor erection in progress at MCC3.
- RCC- 2934cum out of 3000 cum completed.
- Debris chute erection in progress at TP-3, TP-4 & balance at crusher house & TP-2
- TR-9 to TP-4 Modified cable tray above canopy work balance.
- Cladding sheet finishing work in progress.
 - Along Conv 6A/B, TP4 to TP5 & at road crossing locations seal plate rectification work in progress.
- Coal settling pond work decanded pump erection work in progress.
- Sump pump supply pending.
- CSU trial from DCS balance.

- Ventilation system at all MCCs from auto balance.
- Sump pump at all TPs, hoist, hook for lifting pulleys, hoist rainwater pipe balance.

Conv 9- Ventilation system including fan& ducting work to be completed. Wagon unloaded Feb-2025 & March-2025.

Crusher House (Total Height -53mtr):

- **On date 13.01.2025 load trial of crusher taken successfully.**
- Crusher DE system erection completed.
- Crusher house alikraft lift work completed HO/ to O&M.
- Structural punch point attending work in progress.

Wagon Tippler

- WT RDSO approval pending.
- Fire Fighting commissioning work balance.
- Dust Suppression system erection completed and pre-wetting work balance.
- Ventilation & exhaust system balance at WT area including ducting (Only fan erection done).
- Foot Over Bridge (FOB) In Wagon Tippler Area.
- Touch up painting of wagon tippler, hydraulic pipe line balance.

(b) Stacker Reclaimer& Coal Stockpile:

- Touch up painting, oil line, grease line painting and handrail as per painting schedule balance.
- Anchor storm & boom resting arrangement work fouling with construction supply D.P.
- Sprinkler system at Coal yard balance from auto

(a) Ash slurry pump house:

- All work completed.

(b) AHP MCC & Compressor:

- All work completed.
- PG test done.

(c) Bottom Ash Hopper:

- All work completed.
- PG test done.

(d) HCSD Silo:

- HCSD silo mechanical & commissioning work completed.
- HCSD and Silo area hydrant and spray line erection is balance.
- Road and drain balance
- PG test balance.

(e) HCSD Building:

- Weigh bridge erection work is completed commissioning balance.

(f) Ash Disposal Pipeline:

- ADPL- Garland work completed.
- Thrust block work in progress.

(g) Fly Ash Silo:

- Erection completed. Commissioning balance.
- Commissioning in progress.

4) Fuel Oil Handling System

(a) FOPPH:

- Civil work completed.
- Cable dressing, routing pending.
- Operator cabin work in progress.
- Drain sump water seepage need to be received.
- PG test balance.

(b) FOTPH:

- Civil work completed.
- Cable tray erection balance, cable dressing routing balance.
- Illumination work is in progress.
- Drain oil tank sump (Underground) heavy seepage leakage sump always filled with water both dewatering pumps are in water.
- PG test done

(c) HFO/LDO Tanks:

- All work are completed.

5) Cooling Towers (NDCT)

- Full NDCT charged.

6) CW Pump house

- Civil finishing work is in progress.
- Illumination work is in progress.

(a) CW channel (NDCT to feed pool):

- Handed over for water filling.

(b) CW electrical Annex. Building:

- Civil finishing work in progress.

7) CW Pipeline (CW Liner)

- Excavation: 15315cum out of 16000 cum completed.
- PCC: 99 cum out of 103 cum completed.
- RCC: 2816 cum out of 3070 cum completed

(a) ACW Pipeline:

- ACW system commissioned.

8) PT Plant

- Civil work completed.
- External drain work is in progress.
- Air valve/ BW line BEV –fitting completed.
- Gravity filter external painting in progress.
- Proper dressing of cabling pending.
- Below ground earthing electrode & riser not properly erected.
- Cablelaying work is in progress.

- Power cable laying and termination work for actuator is completed.
- Water leakage at water I/L channel filter house & various location attended.
- DM/NDM GSF valves are problem/in operative work completed.
- NDM GSF -9 no. are manually due to I/L valve in operative. Auto operation work completed.

9) DM Plant

(a) DM Plant Building, DM & CS Tank:

- Civil work completed.
- All Erection & commissioning DM plant completed.
- PG test is balance.

(b) CST/DM Transfer PH

10) Air compressor building:

- Boiler fill pump-A bearing replacement work completed.
- Compressor internal piping work completed. Main compressor building under TG completed.
- Duct erection is in progress.
- MAR erection is in progress.
- Supply air fan & accessories erection work is in progress.
- Singal grider EOT crane erection is completed.
- HT switchgear room finish flooring completed.

11) Fire Water Pump House:

- Cable dressing work balance.

12)Transformer Yard:

- Spare GT commissioning work is in progress.
- Fixing of chain link fencing under progress.
- Cabin link fencing in progress.
- X'mer yard area partial lighting completed.
- Streetlight work is in progress.

13) Railway Siding:

- Formation cutting: Completed.
- Murum Blanketing: 34800 cum out 35000 cum completed.
- Rail laying & linking completed except take of point insertion.

(a)Minor Bridges & Buildings:

- Concreting: 2997cum out of 3132 cum completed.
- Building finishing work is in progress.

(b) ROB:

- Excavation: Approaches excavation is in progress.
- Crash barrier work not started yet.
- Concreting: 1360cum out of 1665 cum completed.
- RE Panel casting completed.
- RE panel erection completed at Bhusawal end.
- Retaining wall at pimprisekam approach is in progress.
- RE panel work in pimprisekam approach is halted due to local hindrances.

Ozonation Plant:

- Meter calibration balance.
- Ozone dosing at CW return pipeline work completed.

Streetlight

- Work commenced on 09.09.2024
- Streetlight erection work is in progress.
- Streetlight work is in progress.

UNDER-CONSTRUCTION UNITS WISE MILESTONE DATES (ACTUAL / ANTICIPATED)				
SR. No.	MILESTONE	1x660MW		Remarks for Delay (If any)
		Original (Scheduled) Date of Completion	Actual/* Anticipated Date of Completion	
1	COMPLETION OF BOILER FOUNDATION	25/11/2019	Act: 15/11/2019	
2	START OF BOILER ERECTION	30/11/2019	Act: 22/11/2019	
3	BOILER DRUM LIFTING	NA	NA	Supercritical Technology
4	BOILER CEILING GIRDER LIFTING COMPLETION	30/06/2020	Act: 20/01/2021	
5	BOILER HYDRO TEST (DRAINABLE) COMPLETION	31/05/2021	Act: 04/11/2022	
6	BOILER HYDRO TEST (NON-DRAINABLE) COMPLETION	10/11/2021	Act: 28/03/2023	
7	BOILER LIGHT UP	30/11/2021	Act: 30/03/2023	
8	CHEMICAL CLEANING COMPLETION	20/12/2021	Act: 30/06/2023	
9	STEAM BLOWING START	24/01/2022	Act: 13/09/2023	
10	STEAM BLOWING COMPLETION	19/02/2022	Act: 13/10/2023	
11	HP PIPING ERECTION START	11/05/2021	Act: 22/03/2021	
12	HP PIPING ERECTION COMPLETION	25/04/2022	Act:30.09.2024	
13	CONDENSER ERECTION START	31/10/2020	Act: 30/03/2022	
14	TG ERECTION START	30/11/2020	Act: 03/03/2022	
15	TG BOX UP	30/11/2021	Act: 10/04/2023	
16	START OF OIL FLUSHING	04/12/2021	Act: June -2023	
17	ROLLING & SYNC.	31/03/2022	Act: 17/01/2024	
18	FULL LOAD	30/04/2022	Act: 20/02/2025	
19	TRIAL RUN	31/05/2022	Act: May-2025	
20	COD	30/06/2022	Act: 22/02/2025	
21	PG TEST START AND COMPLETION	30/06/2022	Ant: Oct -25	
Other Details				
TOTAL EXPENDITURE UPTO JUNE-2025 from inception: Rs. 5437.76 Cr.				
EXPENDITURE OF CURRENT MONTH (FOR WHICH PROGRESS DATA IS BEING PROVIDED): Rs. 10.5 Cr.				
TOTAL EXPENDITURE TILL DATE (From Inception): Rs. 5437.76 Cr.				
Note: Projects to ensure that financial data needs to be in line with other portals such as NIP portal.				
LAND POSSESSION DETAILS: (Details about land area still to be acquired): - Nil (Required land area fully occupied)				
REASONS OF DELAY (BTG&BOP, mention separately): 1) Due to Covid-19 pandemic, 2) Inability of subcontractors to continue the works due to steel & other consumables rate rise heavily 3) Unresolved issue of demand of price variation to civil & mechanical subcontractors by M/s. BHEL thereby frequent stoppage of works by them. 4) Inadequate deployment of manpower by M/s BHEL & sub-contractors.5) Deformation observed in spiral water wall.				
CRITICAL AREA/ ASSSISTANCE REQUIRED:				
Change (if Any) regarding Clearances, PPA, Fuel Supply or any other matter provided in static data (provided already) or otherwise needs to be intimated immediately in this column here.				
NOTE:- The Total expenditure given is excluding contractual retentions to M/s. BHEL				

Table-I

CSR Works Under 1X 660 MW Project at Bhusawal

CSR Works In Phase- I

Sr. No.	Name of Work and Village	PO No.	Sanctioned Amount In Lakhs	PO Amount In Lakhs Including GST	Work Executed Amt. in Lakhs Including GST	Status of work
1	Work for Concrete approach/internal roads & road side drain under CSR at Duskheda Tal.Raver at BTPS, Deepnagar.	4500120369	21.46	21.02	20.9626	Work completion Dtd. 05/09/2022 & Handed Over To Grampanchayat
2	Work for Concrete approach/internal roads & road side drain under CSR at Fekari Tal.Bhusawal at BTPS,Deepnagar.	4500120367	21.44	22.52	22.4527	Work completion Dtd. 30/11/2022 & Handed Over To Grampanchayat
3	Work for Concrete approach/internal roads & road side drain under CSR at Ganulheda, Tal. Raver at BTPS, Deepnagar.	4500124703	19.17	18.21	18.1807	Work completion Dtd. 26/05/2023 & Handed Over To Grampanchayat
4	Work for Concrete approach/internal roads & road side drain under CSR at Jaadgaon Tal. Bhusawal.	4500120238	22.22	21.69	21.5728	Work completion Dtd. 24/01/2022 & Handed Over To Grampanchayat
5	Work for Concrete approach/internal roads & road side drain under CSR at Kaapil Nagar Tal.Bhusawal at BTPS,Deepnagar.	4500120340	25.40	24.2	23.9764	Work completion Dtd. 15/09/2022 & Handed Over To Grampanchayat
6	Work for Concrete approach/internal roads & road side drain Under CSR at Kaswa Tal,Bhusawal at BTPS,Deepnagar.	4500121331	23.65	23.53	23.4498	Work completion Dtd. 04/02/2023 & Handed Over To Grampanchayat
7	Work for Concrete approach/internal roads & road side drain under CSR at Kathora BK., Tal. Bhusawal.	4500119917	19.50	19.72	19.6335	Work completion Dtd. 01/03/2023 & Handed Over To Grampanchayat
8	Work for Concrete approach/internal roads & road side drain under CSR at Kathora Kh., Tal. Bhusawal at BTPS, Deepnagar	4500119918	23.49	23.76	23.6891	Work completion Dtd. 12/02/2023 & Handed Over To Grampanchayat
9	Work for Concrete approach/internal roads & road side drain Under CSR at Manyarkhede Tal.Bhusawal at BTPS,Deepnagar.	4500120237	22.81	22	21.9012	Work completion Dtd. 24/12/2022 & Handed Over To Grampanchayat
10	Work for Concrete approach/internal roads & road side drain under CSR at Nimbhora Bk. Tal.Bhusawal at BTPS,Deepnagar.	4500121324	25.42	25.14	19.871	Work completion Dtd. 10/01/2023 & Handed Over To Grampanchayat
11	Work for Concrete approach/internal roads & road side drain under CSR at Phulgaon Tal.Bhusawal at BTPS,Deepnagar.	4500120338	22.49	21.45	21.3224	Work completion Dtd. 26/02/2023 & Handed Over To Grampanchayat

Sr. No.	Name of Work and Village	PO No.	Sanctioned Amount In Lakhs	PO Amount In Lakhs Including GST	Work Executed Amt. in Lakhs including GST	Status of work
12	Work for Concrete approach/internal roads & road side drain under CSR at Raipur Tal.Raver at BTPS,Deepnagar.	4500120302	26.53	26.26	26.1971	Work completion Dtd. 27/02/2023 & Handed Over To Grampanchayat
13	Work for Concrete approach/internal roads & road side drain under CSR at Rangaon., Tal. Raver.	4500120300	19.20	18.58	18.4322	Work completion Dtd. 10/01/2023 & Handed Over To Grampanchayat
14	Work for Concrete approach/internal roads & road side drain under CSR at Sakari.	4500120305	22.15	21.38	21.2918	Work completion Dtd. 05/09/2022 & Handed Over To Grampanchayat
15	Work for Concrete approach/internal roads & road side drain under CSR at Sudgaon, Tal. Raver.	4500120368	22.49	22.02	21.982	Work completion Dtd. 17/02/2023 & Handed Over To Grampanchayat
16	Work for Concrete approach/internal roads & road side drain under CSR at Velhala Tal. Bhusawal.	4500120239	23.03	21.91	21.8084	Work completion Dtd. 10/08/2022 & Handed Over To Grampanchayat
17	Work for Concrete approach/internal roads & road side drain under CSR at Pimprisekam.	4500120303	11.88	11.67	11.65	Work completion Dtd. 21/03/2023 & Handed Over To Grampanchayat
	Total Rs.		372.40	365.06	358.3737	
	Rs. Say		3.72 crs.	3.65 Crs.	3.5837 Crs.	

Table- III			
CSR Works Under 1X 660 MW Project at Bhusawal			
CSR Works Proposed in Phase-III			
Sr. No.	Name of Work and Village	Sanctioned Amount Incl. GST In Crs.	Status of Work
1	Phase-III - Work of providing drinking water facility through pipeline from WTP of 210 MW to ESR at Fulgaon & Pimprisekam village under CSR scheme.	5.75	work in Progress
Including GST in Rs.			

Table- IV				
CSR Works Under 1X 660 MW Project at Bhusawal				
CSR Proposed Works In Phase-IV				
Sr. No.	Name of Village	Name of Work and Village	Sanctioned Amount In Lakhs Incl. GST	Status
1	Pimprisekam	Construction of new school building at Pimprisekam under CSR activity (Estimated Ammount Rs.8409291.00). Amt Without GST 6805825.00 Amt With GST 8030874.00	84.09	Work in progress
2	Udali Bk.	Construction of community Hall at Udali Bk. under CSR (Estimated Ammount Rs.13581003)	135.81	Work in progress
3	Anjansonde	Work for Concrete approach/internal roads under CSR at Anjansonde, Ta. Bhusawal.	18.90	Work in progress
4	Duskheda	Work for Concrete approach/internal roads under CSR at Duskheda Tal. Raver.	18.03	Work in progress
5	Fekari	Construction of concrete approach/ Internal road under CSR at Fekari Tal. Bhusawal.	17.55	Draft PO prepared
6	Gahukheda	Work for Concrete approach/internal roads under CSR at Gahukheda Tal. Raver.	16.68	Draft PO prepared
7	Jadgaon	Work for Concrete road side drain under CSR at Jadgaon, Ta. Bhusawal.	16.68	Work will be start soon
8	Kandari	Work of paving blocks under CSR at Kandari,Tal. Bhusawal.	17.74	Work will be start soon
9	Nimbhora Bk.	Construction of wall compound to Z.P. school & Grampanchyat office at Nimbhora Bk. Under CSR activity.	29.59	work in Progress
10	Pimprisekam	Construction of RCC drain at Pimprisekam Under CSR activity.	37.74	Work will be start soon
11	Kapilnagar	Construction of wall compound to Z.P. school at Kapilnagar Under CSR activity.	19.40	work in Progress
15	Manyarkheda	1) Work for Concrete road side drain under CSR at Manyarkheda, Ta. Bhusawal.	10.38	Work will be start soon
		2) Work for Chain link fencing around Z. P. School building under CSR at Manyarkheda Tal. Bhusawal.	5.95	Work is Completed, Bill In Process
17	Raipur	1) Providing chain link fencing around Z.P. School Building at Raipur under CSR Tal. Raver.	5.41	Work will be start soon
		2) work for Concrete approach/internal roads & road side drain under CSR at Raipur, Tal. Raver.	9.67	Work will be start soon
18	Rangaon	Work for Concrete approach/internal roads under CSR at Rangaon., Tal. Raver.	16.43	Work is Completed
20	Sudgaon	Work for Concrete approach/internal roads under CSR at Sudgaon Tal. Raver.	17.27	Draft PO prepared
21	Taskheda	1) Work for Chain link fencing around Z. P. School building under CSR at Taskheda Tal. Raver.	1.96	Work is Completed, Bill In Process
		2) Work for Concrete approach/internal roads under CSR at Taskheda, Ta. Raver.	14.05	Work will be start soon
			493.33	

Table- V

CSR Works Under 1X 660 MW Project at Bhusawal

CSR Proposed Works In Phase-V

Sr. No.	Name of Village	Name of Work and Village	Sanctioned Amount In Lakhs Incl. GST	Remark
1	Fulgaon	Work of concrete road side drain under CSR at Fulgaon Tal. Bhusawal.	17.68	Work will be start soon
2	Kathora Bk.	Work for Concrete approach/ internal roads under CSR at Kathora Bk., Tal. Bhusawal.	17.31	Work will be start soon
3	Sakari	Work of concrete road side drain under CSR at Sakari Tal. Bhusawal.	18.89	Tenderizationis in Progress. Refloated & under Scrutinity.
4	Velhalla	Work for Concrete approach/ internal roads and road side drain under CSR at Velhalla Tal. Bhusawal.	19.66	Work will be start soon
5	Hatnur	Work for Concrete approach/internal roads & road side drain under CSR at Hatnur, Ta. Bhusawal.	18.87	Work will be start soon
6	Savtar	Work for Concrete approach/internal roads & road side drain under CSR at Savtar, Ta. Bhusawal.	12.67	Work is Completed, Bill In Process
7	Nimbhora Kh.	Work for Concrete approach/internal roads & road side drain under CSR at Nimbhora Kh., Ta. Bhusawal.	12.67	Work is Completed, Bill In Process
8	Sakari Shivar	Work for Concrete approach/internal roads & road side drain under CSR at Sakari Shivar Ta. Bhusawal.	86.04	Work will be start soon
9	Kandari Shivar	Work for Concrete approach/internal roads & road side drain under CSR Kandari Shivar, Ta. Bhusawal.	89.06	Draft PO prepared
10	Kathora Kh.	Work for Concrete approach/internal roads under CSR at Kathora Kh., Ta. Bhusawal.	17.31	Work will be start soon
11	Khadka	Work of construction of community hall at Gat No. 49/2+3/AOP and 136 at Khadka, Tal. Bhusawal under CSR Scheme, Deepnagar, Bhusawal.	55.03	Tenderizationis in Progress. Refloated & under Scrutinity.
12	Velhalla	Work of renovation and modification existing 1000 LPH community water purification plants (ATM) to village Velhala, Tal. Bhusawal under CSR activity.	3.54	Work is completed
Balance (PH-IV) Including GST in Rs.			369.27	

Table- VI				
CSR Works Under 1X 660 MW Project at Bhusawal				
CSR Proposed Works				
Sr. No.	Name of Village	Name of Work and Village	Amount Proposed In Rs.	Remark
1	Velhalla	Providing consultancy services for ultra-filtration water treatment plant at Velhala village & feasibility analysis of execution of Pimprisekam pipeline up to village Kathora Bk. & Kathora Kh. Under CSR activity, at Deepnagar, Bhusawal.	354000.00	Work will be start Soon
2	Nimbhora Kh.	Work for Suply murum of Z.P. School building Nimbhora Bk. under CSR , Tal. Bhusawal.	329884.34	Work will be start Soon
		Balance (PH-IV) Including GST in Rs.	683884.34	



कम सं. / SL NO.: 485 A 48458

विश्रीमती / बीएआरसी वाशी कॉम्प्लेक्स,
BRIT/BAHO Vashi Complex,
सेक्टर-20, वाशी / Sec-20, Vashi,
नवी मुंबई / Navi Mumbai-400 703
www.britatom.gov.in

TC-6665

भारत सरकार / GOVERNMENT OF INDIA

परमाणु ऊर्जा विभाग / DEPARTMENT OF ATOMIC ENERGY

विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड / BOARD OF RADIATION & ISOTOPE TECHNOLOGY

रेडियोसक्रियता परीक्षण प्रमाण-पत्र / RADIOACTIVITY TEST CERTIFICATE

PAGE 1 OF 1

RADIOANALYTICAL LABORATORY

Ref: BRIT/RAL/D/1205-16/MISC/1122-33/19-20

JUNE 04, 2020

TO
M/S. MAHARASHTRA STATE POWER GENERATION COMPANY LTD.,
BHUSAWAL THERMAL POWER STATION
DEEPNAGAR, TAL - BHUSAWAL
DIST. JALGAON (M.S.) PIN - 425307

This is regarding the COAL, FLY ASH & BOTTOM ASH samples sent by you on vide letter ref. no. BTPS/CE/ENV/0454 dated 13.03.2020 for radioactivity analysis with the following details:

SAMPLE DESCRIPTION : 1. COAL SAMPLE
2. FLY ASH SAMPLE
3. BOTTOM ASH SAMPLE

QUANTITY : 500 GMS EACH IN DRY POWDER

SOURCE OF SAMPLING : PREMISES OF MAHARASHTRA STATE POWER GENERATION CO. LTD., JALGAON

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

SR. NO.	SAMPLE	U-238 (Bq/Kg)	Th-232 (Bq/Kg)	Ra-226 (Bq/Kg)	K-40 (Bq/Kg)
1	COAL SAMPLE	104.4 ± 10.3	70.4 ± 9.8	81.3 ± 9.1	222 ± 14.3
2	FLY ASH SAMPLE	172 ± 13.3	128.6 ± 12.0	181.6 ± 13.9	355.5 ± 6.7
3	BOTTOM ASH SAMPLE	95.7 ± 9.8	101.5 ± 13.9	90.7 ± 9.9	295.7 ± 15.5

Date of receipt of sample : 20.03.2020

Date of completion of test : 29.05.2020

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

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

Checked by:

Authorised Signatory:

****End of Report****

एन जयचंदन / N. Jayachandran
बमारी अधिकारी / Officer-in-Charge
विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड
Board of Radiation & Isotope Technology,
सेक्टर-20, वाशी मुंबई / Vashi Complex,
Navi Mumbai-400 703

सीएसआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान



CSIR-Central Institute of Mining and Fuel Research

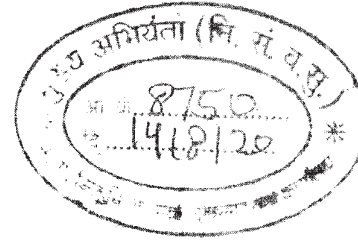
(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826 015, Jharkhand, India
An ISO 9001 Certified Institute

II/TR/20-21/UT/011

Letter No. : II/TR/20-21/LTR-17

Date : 30.07.2020

To,



Chief Engineer (Gen. O&M)

ETPS, Deepnagar

Bhusawal Thermal Power Station

Maharashtra State Power Generation Co. Ltd.

Dist - Jalgaon (M.S.)

Pin- 425307

Subject- Test Report of Heavy Metals

Dear Sir,

With reference to your letter no. BTPS/CE/Env./No. 0453, Dated: 13.03.2020, we are sending the test report for the heavy metal test as requested by you.

You are requested to kindly find the Test Report attached with this letter.

Thanks & Regards

Your's Faithfully

Dr. Rajesh Kumar

प्रधान / HEAD

इन्डस्ट्री इन्टरफेस / INDUSTRY INTERFACE
सीएसआईआर-सीआईएमएफ / CSIR-CIMFR

Chief Engineer	Dv. CE
SE (MM)	SE (AHP)
SE (GP)	SE (EM)
SE (Co-Ord)	SE (Civil)
SE (CHP)	Steno
EE (M.S. 'A')	EE (Safety)
CM (HR)	Sr. M. (F&A)
W. O. / S. O. / M. O.	

Environment Section E

HQ : Dhanbad - ☎: +91-326-2296023, 2296006 (O) ☎: +91-326-2296025 EPABX : +91-326-2296012/6013/6027/6028
E-mail : director@cimfr.nic.in/drpsingh@cimfr.nic.in, pradeep.cimfr@yahoo.com, Digwadih Campus : ☎+91-326-2381111
Research Centres : Bilaspur : ☎+91-775-2271450, Nagpur : Unit - I - ☎ +91-712-2510604, Unit - II - ☎ 2510390
Ranchi : ☎ +91-651-2461392, Roorkee : ☎ +91-1332-275998
Website: www.cimfr.nic.in

सीआईआर-केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बरवा रोड, धनबाद - 826 015, झारखण्ड, भारत
एक आई एस ओ 9001 प्रमाणित संस्थान



CSIR-Central Institute of Mining and Fuel Research

(Council of Scientific and Industrial Research)
Barwa Road, Dhanbad - 826 015, Jharkhand, India
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II/TR/20-21/UT/011

REPORT ON ANALYSIS



Dated: 02.07.2020

To
Chief Engineer (Gen. O&M)
BTPS, Deepnagar
Bhusawal Thermal Power Station
Maharashtra State Power Generation Co. Ltd.
Deepnagar, Tal.-Bhusawal
Dist- Jalgaon (M.S.)
Pin- 425307

Ref. No: BTPS/CE/Env./No. 0453 Dated: - 13.03.2020

Sampling not done by CIMFR

CIMFR Sample No	Details of Sample (As Stated)	Hg (µg/kg)	As (µg/g)	Cr (µg/g)	Pb (µg/g)
Inor114/2020	Coal Sample	121	0.72	202	7.82
Inor115/2020	BottomAsh	38	0.6	ND	ND
Inor116/2020	Fly Ash	106	0.42	ND	ND

ND = Not Detected

प्रधान/HEAD

इन्डस्ट्री इन्टरफेस/INDUSTRY INTERFAC:
सीएसआईआर-सीआईएमएफआर/CSIR-CIMFR

HQ : Dhanbad - ☎: +91-326-2296023, 2296006 (O) ☎: +91-326-2296025 EPABX : +91-326-2296012/6013/6027/6028
E-mail : director@cimfr.nic.in/drpk Singh@cimfr.nic.in, pradeep.cimfr@yahoo.com, Digwadih Campus : ☎+91-326-2381111
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Ranchi : ☎ +91-651-2461392, Roorkee : ☎ +91-1332-275998
Website: www.cimfr.nic.in